Electricity Industry Participation Code 2010

Part 15
Reconciliation

Contents

15.1 Contents of this Part

This Part provides for the following:

(a) the improvement of information about **electricity** conveyed as more **volume information** becomes available over time:

(b) the correction of information to remedy errors in information provided:

(c) how **reconciliation participants** must gather, store and provide information about **electricity** conveyed:

(d) how **reconciliation participants** must prepare and provide **submission information**:

(da) how **dispatchable load purchasers** must collect **volume information** in accordance with Schedule 15.2:

(e) how the **reconciliation manager** must calculate responsibility for **electricity** among **reconciliation participants**:

(f) how the **reconciliation manager** must pass information to the **clearing manager**, for the calculation of amounts owing under Part 14:

(g) obligations of the **reconciliation manager** to pass the information to **reconciliation participants**, the **registry manager** and the **Authority**:

(h) requirements for the creation, approval and maintenance of **profiles**:

(i) requirements for **audits**, approvals and **certifications**.

Compare: Electricity Governance Rules 2003 rule 1 part J

Clause 15.1(da): inserted, on 15 May 2014, by clause 95 of the Electricity Industry Participation (Modified Dispatchable Demand) Code Amendment 2013.

Clause 15.1(f): amended, on 24 March 2015, by clause 21 of the Electricity Industry Participation (Settlement and Prudential Security) Code Amendment 2013.

Clause 15.1(g): amended, on 5 October 2017, by clause 512 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

Clause 15.1(i): amended, on 1 June 2017, by clause 23 of the Electricity Industry Participation Code Amendment (Requirements and Processes for Audits) 2016.

15.2 Requirement to provide complete and accurate information

(1) A **participant** must take all practicable steps to ensure that information that the **participant** is required to provide to any person under this Part is—

(a) complete and accurate; and

(b) not misleading or deceptive; and

(c) not likely to mislead or deceive.

(2) If a **participant** becomes aware that the information the **participant** provided under this Part does not comply with subclause (1)(a) to (c), even if the **participant** has taken all practicable steps to ensure that the information complies, the **participant** must, as soon as practicable, provide such further information as is necessary to ensure that the information complies with subclause (1)(a) to (c).

Compare: Electricity Governance Rules 2003 rule 1A part J

Clause 15.2(2): substituted, on 19 December 2014, by clause 39 of the Electricity Industry Participation Code Amendment (Minor Code Amendments) (No 3) 2014.

15.3 Provision of trading information at point of connection to network

(1) Unless a notice under clause 15.13 is in force, a **trader** must give the **reconciliation manager** a notice that complies with this clause at least 5 **business days** before the **trader**—

(a) commences trading **electricity** at a **point of connection** using a **profile** with a **profile** code other than HHR or RPS or UML or EG1 or PV1; or

(b) ceases trading **electricity** at a **point of connection** using a **profile** with a **profile** code other than HHR or RPS or UML or EG1 or PV1.

(2) A person giving a notice must ensure that the notice complies with any procedures or other requirements specified by the **reconciliation manager**.

(3) The **reconciliation manager** must give a copy of every notice to the **clearing manager** and **system operator** no later than 1 **business day** after receiving the notice.

Compare: Electricity Governance Rules 2003 rule 3 part J
Clause 15.3: amended, on 5 October 2017, by clause 513 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

Provision of information to the reconciliation manager

15.4 Submission information to be delivered for reconciliation

(1) Each **reconciliation participant** must, by 1600 hours on the 4th **business day** of each **reconciliation period**, ensure that **submission information** has been delivered 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.

(2) Each **reconciliation participant** must, by 1600 hours on the 13th **business day** of each **reconciliation period**, ensure that **submission information** has been delivered to the **reconciliation manager** for all **points of connection** for which the **reconciliation participant** is recorded in the **registry** as trading **electricity** during any **consumption period** being reconciled in accordance with clauses 15.27 and 15.28, and in respect of which the **reconciliation participant** has obtained revised **submission information**, in accordance with Schedule 15.3.

Compare: Electricity Governance Rules 2003 rules 4.1.1 and 4.1.2 part J
Clause 15.4(1): amended, on 1 November 2018, by clause 114 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2018.

15.5 Preparing and submitting submission information

(1) In preparing and submitting **submission information**, a **reconciliation participant** must ensure that **volume information** for each **ICP** is allocated to the **NSP** indicated by the data in the **registry** for the relevant **consumption period** at the time the **reconciliation participant** assembles the **submission information**.

(2) Each **reconciliation participant** must derive **volume information** in accordance with Schedule 15.2.

(3) If a notice under clause 15.13 is in force for an **embedded generating station** in relation to a **point of connection**, a **reconciliation participant** who trades at the **point of connection** is not required to comply with clause 15.4 or this clause in relation to **electricity** generated by the **embedded generating station** to which the notice relates.

Compare: Electricity Governance Rules 2003 rules 4.1.3 and 4.1.4 part J
Clause 15.5(1) and (3): amended, on 5 October 2017, by clause 514(a) and (b) of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.
Clause 15.5(2): substituted, on 15 May 2014, by clause 96 of the Electricity Industry Participation (Modified Dispatchable Demand) Code Amendment 2013.

Clause 15.5(3): amended, on 21 September 2012, by clause 37 of the Electricity Industry Participation (Minor Amendments) Code Amendment 2012.

15.5A Dispatchable load purchaser must prepare dispatchable load information

(1) Each **dispatchable load purchaser** must prepare **dispatchable load information** using **volume information** prepared in accordance with Schedule 15.2.

(2) If clause 15.5B applies to a **dispatch-capable load station's metering installation**, the **dispatchable load purchaser** responsible for the **dispatch-capable load station** must comply with clause 15.5B in relation to the **dispatch-capable load station**.

Clause 15.5A: inserted, on 15 May 2014, by clause 97 of the Electricity Industry Participation (Modified Dispatchable Demand) Code Amendment 2013.
Clause 15.5A(1): amended, on 1 February 2016, by clause 94(1) of the Electricity Industry Participation Code Amendment (Code Review Programme) 2015.
Clause 15.5A(2): substituted, on 1 February 2016, by clause 94(2) of the Electricity Industry Participation Code Amendment (Code Review Programme) 2015.

15.5B Deriving volume information if metering installation is within premises that are connected to a point of connection

(1) This clause applies if a **dispatch-capable load station's metering installation** is not at a **point of connection** but is located within premises that are directly connected to a **point of connection.**

(2) If this clause applies, the **dispatchable load purchaser** responsible for the **dispatch-capable load station** must prepare **dispatchable load information** using **volume information** prepared in accordance with Schedule 15.2 and derived from the **raw meter data—**

(a) obtained from the **metering installation**; and

(b) that the **dispatchable load purchaser** has adjusted, using an accurate **compensation factor**, to compensate for internal site **losses** between the **metering installation** and—

(i) if the premises are directly connected to a **point of connection** to the **grid**, the **point of connection** to the **grid**; or

(ii) if the premises are directly connected to a **point of connection** to a **local network**, the **point of connection** to the **local network**; or

(iii) if the premises are directly connected to a **point of connection** to an **embedded network**, the **point of connection** to the **embedded network**.

(3) For the purpose of this clause, a **dispatchable load purchaser** must have a **certified metering installation** for each of its **dispatch-capable load stations**.

Clause 15.5B: inserted, on 15 May 2014, by clause 97 of the Electricity Industry Participation (Modified Dispatchable Demand) Code Amendment 2013.
Clause 15.5B: amended, on 23 February 2015, by clause 75 of the Electricity Industry Participation Code Amendment (Distributed Generation) 2014.
Clause 15.5B(1) and (2)(b): amended, on 5 October 2017, by clause 515 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.
Clause 15.5B(2): amended, on 1 February 2016, by clause 95(a) and (b) of the Electricity Industry Participation Code Amendment (Code Review Programme) 2015.

15.5C Aggregating and rounding dispatchable load information

(1) When preparing **dispatchable load information**, a **dispatchable load purchaser** must—

(a) aggregate **volume information** to the following level:

(i) **NSP** code:

(ii) **dispatch-capable load station identifier**:

(iii) **loss category** code:
(iv) **trading period**; and

(b) round the aggregated **volume information—**
(i) to 2 decimal places; and
(ii) so that if the digit to the right of the second decimal place is—
(A) greater than or equal to 5, the second digit is rounded up; or
(B) less than 5, the second digit is unchanged.

(2) When aggregating **volume information** for a **dispatch-capable load station** to the **NSP**, the **dispatchable load purchaser** must use the **NSP** code as shown in the **registry** at the time the **volume information** is derived.

Clause 15.5C: inserted, on 15 May 2014, by clause 97 of the Electricity Industry Participation (Modified Dispatchable Demand) Code Amendment 2013.
Clause 15.5C(2): amended, on 5 October 2017, by clause 516 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

15.5D Dispatchable load information to be delivered to reconciliation manager

(1) Each **dispatchable load purchaser** must provide to the **reconciliation manager—**
(a) **dispatchable load information** for each **GXP** at which the **dispatchable load purchaser** has purchased **electricity** for a **dispatch-capable load station** during the **consumption period** immediately before each **reconciliation period**; and
(b) if the **dispatchable load purchaser** knows that **dispatchable load information** previously provided has changed, revised **dispatchable load information** for the **consumption period** for which the **dispatchable load information** was initially provided.

(2) Each **dispatchable load purchaser** must provide—
(a) the information described in subclause (1)(a) by 1600 hours on the 4th **business day** of each **reconciliation period**; and
(b) the information described in subclause (1)(b) by 1600 hours on the 13th **business day** of each **reconciliation period**.

Clause 15.5D: inserted, on 15 May 2014, by clause 97 of the Electricity Industry Participation (Modified Dispatchable Demand) Code Amendment 2013.

Additional retailer and direct purchaser information

15.6 Retailer and direct purchaser ICP days information

(1) 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—
(a) **submission information** for the immediately preceding **consumption period**, by 1600 hours on the 4th **business day** of each **reconciliation period**; and
(b) revised **submission information** provided in accordance with clause 15.4(2), by 1600 hours on the 13th **business day** of each **reconciliation period**.

(2) The **retailer** or **direct purchaser** must calculate the **ICP days** information in subclause (1) using the data contained in the **retailer's** or **direct purchaser's** reconciliation system when it aggregates **volume information** for **ICPs** into **submission information**.

Compare: Electricity Governance Rules 2003 rule 4.2.1 part J

15.7 Retailer electricity supplied information

Each **retailer** must deliver to the **reconciliation manager** the **retailer's** total monthly quantity of **electricity supplied** for each **NSP**, aggregated by invoice month, for which the **retailer** has provided **submission information** to the **reconciliation manager**, including revised **submission information** for that period as non **loss** adjusted values in respect of—

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

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

Compare: Electricity Governance Rules 2003 rule 4.2.2 part J

15.8 Retailer and direct purchaser half hourly metered ICPs monthly kWh information

Each **retailer** and **direct purchaser** (excluding **direct consumers**) must deliver to the **reconciliation manager** the **retailer's** or **direct purchaser's** total monthly quantity of **electricity supplied** for each **half hourly** metered **ICP** for which the **retailer** or **direct purchaser** has provided **submission information** to the **reconciliation manager**, including—

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

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

Compare: Electricity Governance Rules 2003 rule 4.2.3 part J

NSP information

15.9 Grid owner volume information

Each **grid owner** must deliver to the **reconciliation manager**, for each **point of connection** for all of its **GXPs**, the following:

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

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

Compare: Electricity Governance Rules 2003 rule 4.3.1 part J

15.10 Participants to provide NSP submission information

A **participant** must provide the following information to the **reconciliation manager** for each **NSP** for which the **participant** has given a notice under clause 25(1) of Schedule 11.1:

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

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

Compare: Electricity Governance Rules 2003 rule 4.3.2 part J
Clause 15.10 heading: substituted, on 19 December 2014, by clause 40 of the Electricity Industry Participation Code Amendment (Minor Code Amendments) (No 3) 2014.

Clause 15.10: amended, on 15 May 2014, by clause 58 of the Electricity Industry Participation (Minor Code Amendments) Code Amendment 2014.
Clause 15.10: amended, on 5 October 2017, by clause 517 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

15.11 Grid connected generator

Each **generator** who has a **generating station** or **generating unit** with a **point of connection** to the **grid** must deliver to the **reconciliation manager** for each of its **points of connection—**

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

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

Compare: Electricity Governance Rules 2003 rule 4.3.3 part J

15.12 Accuracy of submitted information

If a **reconciliation participant** submits information in accordance with this Code, and the **reconciliation participant** subsequently obtains more accurate information, the **reconciliation participant** must provide the most accurate information 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.

Compare: Electricity Governance Rules 2003 rule 4.4 part J
Clause 15.12: amended, on 15 May 2014, by clause 98 of the Electricity Industry Participation (Modified Dispatchable Demand) Code Amendment 2013.

15.13 Notice by embedded generators

An **embedded generator** must give a notice to the **reconciliation manager** for an **embedded generating station** in relation to a **point of connection** for the purposes of clauses 15.3 and 15.5(3) if the **embedded generator** will not receive payment from the **clearing manager** or any other person for any **electricity** generated by the relevant **embedded generation station** through the **point of connection** to which the notice relates.

Compare: Electricity Governance Rules 2003 rule 4A part J
Clause 15.13 Heading: amended, on 5 October 2017, by clause 518(1) of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.
Clause 15.13: amended, on 5 October 2017, by clause 518(2) of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

15.14 Notice of changes to the grid

(1) Each **grid owner** must give written notice to the **reconciliation manager**, in accordance with any procedures or other requirements reasonably specified by the **reconciliation manager** from time to time, of any changes that the **grid owner** intends to make to the **grid** that will affect reconciliation.

(2) The **grid owner** must give the notice at least 1 month before the effective date of the intended change.

(3) No later than 1 **business day** after receipt of the notice, the **reconciliation manager** must give a copy of the notice to the **extended reserve manager**, the **clearing manager**, and the **Authority**.

(4) Each **grid owner** must give notice of an intended change to an existing **point of connection** to the **grid** or a new **point of connection** to the **grid** to be **commissioned**.

Compare: Electricity Governance Rules 2003 rule 5 part J
Clause 15.14 Heading: amended, on 5 October 2017, by clause 519(1) of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.
Clause 15.14: amended, on 5 October 2017, by clause 519(2) of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.
Clause 15.14(3): amended, on 19 January 2017, by clause 16 of the Electricity Industry Participation Code Amendment (Extended Reserve) 2016.

Notice of outage constraints or alternative supply

Cross Heading: amended, on 5 October 2017, by clause 520 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

15.15 Notice of points of connection subject to outages or alternative supply

No later than 2 hours after **publication** of **final prices** for all **trading periods** in a **consumption period**,—

(a) the **system operator** must give written notice to the **reconciliation manager** of the following:
  - (i) each **point of connection** to the **grid** that had no load or generation connected to it in the modelling system in the **consumption period**:
  - (ii) in relation to each **point of connection** referred to in subparagraph (i), the **trading periods** in the **consumption period** during which the **point of connection** to the **grid** had no load or generation connected to it in the modelling system; and

(b) each **grid owner** must give written notice to the **reconciliation manager** of the following:
  - (i) each **point of connection** to the **grid** that was supplied from an alternative **point of connection** in the **consumption period**:
  - (ii) in relation to each **point of connection** referred to in subparagraph (i), the **trading periods** in the **consumption period** during which the **point of connection** to the **grid** was supplied from an alternative **point of connection**.

Compare: Electricity Governance Rules 2003 rule 6.1 part J
Clause 15.15 Heading: amended, on 5 October 2017, by clause 521(1) of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.
Clause 15.15: substituted, on 13 June 2013, by clause 5 of the Electricity Industry Participation (Information Flows) Code Amendment 2013.
Clause 15.15: amended, on 5 October 2017, by clause 521(2) of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

15.16 Balancing area NSP grouping changes

If an **NSP** has been affected by an **outage constraint**, and the **reconciliation manager** has determined the notice it receives in accordance with clause 24 of Schedule 11.1 is not compliant with that clause, the **reconciliation manager** must, no later than 10 **business days** after the date on which it determines the notice is not compliant, effect, in consultation with the relevant **distributor**, any changes that are, in the **reconciliation manager's** opinion, necessary to **balancing area NSP** groupings that are to be used during the **outage constraint**.

Compare: Electricity Governance Rules 2003 rule 6.2 part J

Clause 15.16: amended, on 5 October 2017, by clause 522 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

15.17 Submission information to be reviewed in the case of an outage constraint

In the case of an **outage constraint**, the **reconciliation manager** must**—**

(a) review the **submission information** in accordance with a notice received in accordance with clause 15.15 and satisfy itself that the **submission information** is consistent with the occurrence of the stated **outage constraint**; and

(b) reconcile the **submission information** for the affected **NSP** within the **balancing area** identified in accordance with clause 15.15 for the **trading periods** during which the **outage constraint** applied; and

(c) as soon as reasonably practicable, but no later than 2 **business days** after **publication** of **final prices**, give written notice to any **reconciliation participants** who were affected by the **outage constraint** affecting the **NSPs**, of the **trading periods** in the prior **consumption period** during which the **outage constraint** applied, and any changes to **balancing area NSP** groupings made in accordance with clause 15.16; and

(d) if a **reconciliation participant's submission information** has been affected by an **outage constraint** in a **consumption period**, and the **reconciliation participant** disputes or queries, in accordance with clause 15.24, the change to **balancing area NSP** groupings made in accordance with clause 15.16, the **reconciliation manager** must, no later than 10 **business days** after it determines that the notice it receives in accordance with clause 24 of Schedule 11.1 is not compliant, in consultation with the **distributor**, **generator** or **purchaser** concerned, assess whether a different **balancing area NSP** grouping would be more appropriate in the circumstances of the particular **outage constraint**. The **reconciliation manager** may change the alternative **balancing area NSP** grouping for the particular **outage constraint** and, if the alternative **balancing area NSP** grouping is changed, the **reconciliation manager** must update the information changed in accordance with clause 15.16 as necessary.

Compare: Electricity Governance Rules 2003 rule 6.3 part J
Clause 15.17(c): amended, on 13 June 2013, by clause 6 of the Electricity Industry Participation (Information Flows) Code Amendment 2013.
Clause 15.17(c) and (d): amended, on 5 October 2017, by clause 523(a) and (b) of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

15.18 Reconciliation manager may request additional information

For the purpose of carrying out its role in accordance with this Code, the **reconciliation manager** may, in respect of a **consumption period**, give notice to a **reconciliation participant** that it requires such additional information from the **reconciliation participant** as the **reconciliation manager** reasonably requires, and the **reconciliation participant** must, as soon as practicable, provide such information to the **reconciliation manager**.

Compare: Electricity Governance Rules 2003 rule 7 part J

15.19 Seasonal adjustment and profiling

(1) The **reconciliation manager** must process **submission information** derived from non **half hour volume information** using a **profile** to allocate the non **half hour submission information** to **trading periods** in accordance with Schedule 15.4.

(2) **Profiles** must be established and changed (if necessary) in accordance with Schedule 15.5.

(3) For each reconciliation revision, the **reconciliation manager** must**—**

  (a) subject to paragraph (c), recalculate the **seasonal adjustment shape** for each reconciliation revision cycle; and

  (b) reconcile **submission information** using the latest **profile** shape published, and the most recently supplied **profile** information; and

  (c) recalculate the residual **profile** shape and any shapes approved as **NSP** derived **profile** shapes under clauses 19 to 24 of Schedule 15.5 for each reconciliation revision cycle and use the shape to allocate non **half hour** data across the **trading periods**, in accordance with Schedule 15.5; and

  (d) not recalculate the **seasonal adjustment shape** after the month 7 reconciliation revision.

(4) Subclause (3)(d) does not prevent the **reconciliation manager** from recalculating the **seasonal adjustment shape** following the month 7 reconciliation revision if necessary to resolve a dispute under clauses 14.25 or 15.29, or to correct information under clauses 15.21 to 15.26.

Compare: Electricity Governance Rules 2003 rule 8 part J
Clause 15.19(4): amended, on 21 September 2012, by clause 38 of the Electricity Industry Participation (Minor Amendments) Code Amendment 2012.
Clause 15.19(4): amended, on 24 March 2015, by clause 22 of the Electricity Industry Participation (Settlement and Prudential Security) Code Amendment 2013.

15.20 Calculation and allocation of unaccounted for electricity

The **reconciliation manager** must, in accordance with Schedule 15.4,**—**

  (a) calculate the **scorecard rating** of each **retailer**; and

  (b) calculate the **unaccounted for electricity**; and

  (c) allocate the **unaccounted for electricity** to, and balance, the total **electricity supplied**, for each **NSP**.

Compare: Electricity Governance Rules 2003 rule 9 part J

Reconciliation manager processes dispatchable load information and provides it to clearing manager

Cross Heading: inserted, on 15 May 2014, by clause 99 of the Electricity Industry Participation (Modified Dispatchable Demand) Code Amendment 2013.

15.20A Reconciliation manager to update revised dispatchable load information

(1) This clause applies to any revised **dispatchable load information** provided under clause 15.5D(1)(b).

(2) The **reconciliation manager** must,**—**

  (a) if the **dispatchable load information** to which this clause applies relates to 1 or more **consumption periods** being 1, 3, 7, or 14 months before the current

reconciliation period, conduct a further update for each applicable **consumption period**; or

(b) if the **dispatchable load information** to which this clause applies relates to a **consumption period** other than the **consumption periods** set out in paragraph (a),—

(i) store the **dispatchable load information** until the **consumption period** becomes 1 of the **consumption periods** set out in paragraph (a); and

(ii) conduct a further update under paragraph (a).

(3) The **reconciliation manager** must not update revised **dispatchable load information** for a **consumption period** if 14 months have elapsed since the end of the **consumption period**.

(4) Subclause (3) does not prevent the correction of information under clauses 14.28, 15.26(2), or 15.29.

Clauses 15.20A: inserted, on 15 May 2014, by clause 99 of the Electricity Industry Participation (Modified Dispatchable Demand) Code Amendment 2013.
Clause 15.20A(4): amended, on 24 March 2015, by clause 23 of the Electricity Industry Participation (Settlement and Prudential Security) Code Amendment 2013.

15.20B Reconciliation manager loss adjusts and summarises dispatchable load information

(1) The **reconciliation manager** must apply **loss factors** to **dispatchable load information** received under clause 15.5D—

(a) for each **trading period**; and

(b) using the **loss category** codes advised by the **dispatchable load purchaser** when submitting **dispatchable load information** under clause 15.5D.

(2) After applying **loss factors** under subclause (1), the **reconciliation manager** must summarise—

(a) into 1 file for each **consumption period**, **dispatchable load information** received under clause 15.5D(1)(a); and

(b) into 1 file for each **consumption period**, **dispatchable load information** received under clause 15.5D(1)(b) and updated under clause 15.20A.

(3) The **Authority** may direct the **reconciliation manager** to apply specified values for **loss factors** for each **loss category** for a **reconciliation period** for which the **registry manager** does not provide the **reconciliation manager** with the **loss factors** for each **loss category** in accordance with clause 11.26(b).

(4) If the **Authority** makes a direction under subclause (3), the **reconciliation manager** must apply the values as **loss factors** to the relevant **dispatchable load information** for all **reconciliation periods** during which the direction applies.

Clause 15.20B: inserted, on 15 May 2014, by clause 99 of the Electricity Industry Participation (Modified Dispatchable Demand) Code Amendment 2013.
Clause 15.20B(3): amended, on 5 October 2017, by clause 524 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

15.20C Reconciliation manager to provide loss adjusted and summarised dispatchable load information to clearing manager

The **reconciliation manager** must provide to the **clearing manager—**

(a) the information described in clause 15.20B(2)(a) by 1600 hours on the 7th **business day** of each **reconciliation period**; and

(b) the information described in clause 15.20B(2)(b) by 1200 hours on the last **business day** of each **reconciliation period**.

Clause 15.20C: inserted, on 15 May 2014, by clause 99 of the Electricity Industry Participation (Modified Dispatchable Demand) Code Amendment 2013.

15.20D Reconciliation manager to provide loss adjusted and summarised dispatchable load information to dispatchable load purchasers

At the same time the **reconciliation manager** provides the information described in clause 15.20C to the **clearing manager**, the **reconciliation manager** must provide each **dispatchable load purchaser** with the part of the information that relates to the **dispatchable load purchaser**.

Clause 15.20D: inserted, on 15 May 2014, by clause 99 of the Electricity Industry Participation (Modified Dispatchable Demand) Code Amendment 2013.

Reconciliation information produced by reconciliation manager

15.21 Providing information specific to reconciliation participants

The **reconciliation manager** must provide information specific to each **reconciliation participant** and the **clearing manager** in accordance with Schedule 15.4.

Compare: Electricity Governance Rules 2003 rule 10.1 part J

15.22 Providing information to reconciliation participants

The **reconciliation manager** must provide to a **reconciliation participant** the information it has concerning the quantity of **electricity** conveyed at an **NSP** for each **consumption period**, by a time agreed between the **reconciliation participant** and the **reconciliation manager** (or if no such time can be agreed, by such time as determined by the **Authority**), if**—**

(a) the **reconciliation participant** has requested the information; and

(b) the **reconciliation participant** has purchased or sold **electricity** at the **NSP** during the **consumption period** or, in the case of a **network** owner, has a liability as a transporter of **electricity** in relation to the **NSP**; and

(c) the **reconciliation participant** meets the **reconciliation manager's** reasonable costs of providing the information; and

(d) the **reconciliation participant** ensures that all information received in accordance with this clause is kept and maintained confidential to the employees of the **reconciliation participant** who are required to have access to the information to enable the **reconciliation participant** to identify errors in the **reconciliation information** produced for the **NSP**; and

(e) the **reconciliation participant** ensures that all information received in accordance with this clause is not used for any purpose other than enabling the **reconciliation participant** to identify errors in the **submission information** submitted for the **NSP** or, in the case of any **network** owner, other than for a legitimate purpose directly related to the **network** owner's liability as a transporter of **electricity** in relation to that **NSP**; and

(f) the **reconciliation participant** implements and maintains best practice internal procedures to meet its obligations in accordance with this clause.

Compare: Electricity Governance Rules 2003 rule 10.2 part J
Clause 15.22(e): amended, on 5 October 2017, by clause 525 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

15.23 Reconciliation information is not final

The **reconciliation information** provided in accordance with clauses 15.21 and 15.22 is subject to assessment in accordance with clauses 15.24 to 15.26.

Compare: Electricity Governance Rules 2003 rule 10.3 part J

15.24 Reconciliation information checked

(1) The **reconciliation participant** must check the accuracy of the **reconciliation information** provided by the **reconciliation manager** under clauses 15.21 and 15.22.

(2) The **reconciliation participant** may dispute the **volume information** on which the **reconciliation information** provided by the **reconciliation manager** under clauses 15.21 and 15.22 is based in accordance with clause 15.29.

Compare: Electricity Governance Rules 2003 rules 10.4 and 10.4A part J

15.25 Reconciliation manager must assess information not supplied

(1) If a **reconciliation participant** fails to provide any information to the **reconciliation manager** that the **reconciliation participant** is required to provide under this Part, the **reconciliation manager** must take all reasonable steps necessary to acquire or estimate the information, and in the case of missing **trader** data the **reconciliation manager** must—

(a) estimate a **purchaser's volume information** by applying the **ICP day** scaling factor in accordance with Schedule 15.4; and

(b) estimate a **generator's volume information** by using an **estimated reading**.

(2) Subclause (1) does not apply to information that the **reconciliation manager** is directed by the **Authority** to correct under clause 15.26(2).

Compare: Electricity Governance Rules 2003 rules 10.5 and 10.5A part J

15.26 Reconciliation manager to correct information

(1) If the **reconciliation manager** has, in accordance with clause 15.25(1), acquired or estimated information, or is unable to provide **reconciliation information**, it must, to the extent it is reasonable, attempt to subsequently establish the correct **reconciliation information**, provide the updated **reconciliation information** to the **clearing manager** and distribute the information to the **reconciliation participants** entitled to it in accordance with this Code.

(2) If the **reconciliation manager** considers that information provided by a **reconciliation participant** or a **service provider** under this Part is incorrect, the **reconciliation manager** must refer the issue to the **Authority**, and, if directed by the **Authority** to do so, take all reasonable steps to correct the information.

(3) A **reconciliation participant** or **service provider** must provide any information to the **reconciliation manager** that the **reconciliation manager** requires to correct information under subclause (2).

(4) If the **reconciliation manager** has corrected information under subclause (2), the **reconciliation manager** must provide the corrected information to the **clearing manager** and the **reconciliation participants** who are entitled to the information under this Code.

(5) The **reconciliation manager** must not correct information later than 24 months after the date on which information about an amount owing to which the incorrect information relates (if any) has been advised under Part 14.

Compare: Electricity Governance Rules 2003 rules 10.6 to 10.10 part J
Clause 15.26(5): amended, on 24 March 2015, by clause 24 of the Electricity Industry Participation (Settlement and Prudential Security) Code Amendment 2013.

Revisions

15.27 Reconciliation manager must reconcile revised information

(1) If the **reconciliation manager** receives revised **NSP** information or **submission information** that has been supplied to it since the previous reconciliation calculation in accordance with clauses 15.4(2) or 15.12, the **reconciliation manager** must reconcile the information in accordance with the following procedure:

- (a) if the **submission information** received relates to 1 or more **consumption periods** being 1, 3, 7, or 14 months before the current **reconciliation period**, a further reconciliation must be conducted for that **consumption period** or those **consumption periods**:
- (b) if the **NSP** information or **submission information** relates to any other **consumption period**, the **reconciliation manager** must store the information and wait until the **consumption period** becomes 1 of the **consumption periods** described in paragraph (a) before conducting a further reconciliation.

(2) The **reconciliation manager** must not reconcile revised **NSP** or **submission information** arising after month 14.

(3) Subclause (2) does not prevent the correction of information under clauses 14.28, 15.26(2) or 15.29.

Compare: Electricity Governance Rules 2003 rules 11.1 to 11.2A part J
Clause 15.27(3): amended, on 24 March 2015, by clause 25 of the Electricity Industry Participation (Settlement and Prudential Security) Code Amendment 2013.

15.28 Transitional provisions concerning revisions

(1) In this clause—

- (a) "transitional revisions" means any revision carried out by the **reconciliation manager** in accordance with this clause, for **any reconciliation period** that includes a **trading period** that occurred before 1 May 2008; and
- (b) "incumbent **retailer**" means, for each **balancing area**, the relevant **retailer** to be set out in the list of **NSPs** by **balancing area** and their corresponding **retailers**, **published** from time to time by the **reconciliation manager**, in accordance with subclause (3).

(2) The intent of this clause is—

- (a) as far as practicable, to preserve the effect of the reconciliation provisions concerning revisions that were in effect immediately before 1 May 2008, for all transitional revisions; and
- (b) to clarify that **volume information** and **submission information** for all transitional revisions (except as provided in this clause) must be submitted by **reconciliation participants** in accordance with this Part; and

(c) to clarify the application of certain clauses concerning disputes that existed before 1 May 2008.

(3) The **reconciliation manager** must **publish** a list of the incumbent **retailers** finalised under rule 11.4.3.2 of part J of the **rules** until all transitional revisions are completed.

(4) Despite anything in this Code—

(a) to avoid doubt, clause 8 of Schedule 15.3 applies to **submission information** in relation to all transitional revisions; and

(b) each **reconciliation participant**, including each incumbent **retailer**, must submit the required **submission information** relating to all transitional revisions in accordance with clause 15.4(2); and

(c) if the **submission information** to be **supplied** for a transitional revision is the first such submission after 1 May 2008, the **reconciliation participant** must provide a full data set as if it were an initial submission in accordance with clause 15.4(1); and

(d) in recognition of the fact that incumbent **retailers** have not, before 1 May 2008, been required to submit the **submission information** referred to in paragraph (b), the **certification** and **audit** requirements of Schedule 15.1 (required for activities in accordance with clauses 2 to 8 and 11 of Schedule 15.3, and clause 17 of Schedule 15.4), do not apply in relation to the non **half-hour metering information** required to be submitted by incumbent **retailers** to the **reconciliation manager** for transitional revisions.

(5) Despite anything in this Code, all transitional revisions must be carried out by the **reconciliation manager** in accordance with this Code, subject to the following:

(a) for the purposes of clause 7 of Schedule 15.4, the **ICP** scaling factor is 1; and

(b) for the purposes of clauses 18(1)(b) and 19 of Schedule 15.4 the **scorecard rating** (SC_{ri}) for each **retailer** (other than the incumbent **retailer**) is 1; and

(c) for the purposes of clause 19 of Schedule 15.4, at each **NSP** the market share proportion (MS_{Ri}) for the incumbent **retailer** is 1, and, for all other **retailers**, is 0.

(6) Despite anything in this Code, all disputes concerning **metering installations** or **consumption information** in relation to transitional revisions—

(a) that existed before 1 May 2008 are not affected by the coming into effect of part J of the **rules** and this Part; and

(b) must be commenced no later than 2 years after the date of issue of any invoice to which the disputed information relates.

(7) Despite anything in this Code—

(a) as soon as practicable after 16 October 2008, the **reconciliation manager** must publish 1 **seasonal adjustment shape** for each **balancing area** that existed at the beginning of the 1st **trading period** of May 2008; and

(b) the **reconciliation manager** must not publish any further **seasonal adjustment shapes** for the **consumption periods** for which transitional revisions are required; and

(c) no later than 5 **business days** after the date on which those **seasonal adjustment shapes** are published, each **reconciliation participant** must provide **submission information** to the **reconciliation manager** based on those **seasonal adjustment shapes** for the months of February to July 2008; and

(d) as soon as practicable after the expiry of the time referred to in paragraph (c) the **reconciliation manager** must complete revisions using that **submission information** for the months of February 2008 to July 2008; and

(e) each **reconciliation participant** must continue to use the **seasonal adjustment shapes** published by the **reconciliation manager** under paragraph (a) for all subsequent transitional revisions for the period for which transitional revisions are required.

Compare: Electricity Governance Rules 2003 rule 11.4 part J

15.29 Volume information disputes

(1) A **reconciliation participant** may commence a dispute relating to **volume information** by notice in writing to the **reconciliation manager**.

(2) A **reconciliation participant** may not give written notice of a dispute under subclause (1) if information about an amount owing based on the **volume information** has been advised under Part 14.

(3) The **reconciliation manager** must give written notice to the **Authority** and all **participants** affected by the dispute no later than 1 **business day** after receiving notice of the dispute under subclause (1).

(4) On receiving a notice of a dispute under subclause (3), the **Authority** may direct that no further action be taken in respect of the dispute.

(5) If the **Authority** gives a direction under subclause (4), subclauses (6) to (13) cease to apply to the dispute. However, a direction under subclause (4) does not affect the validity of a **washup** conducted under clauses subpart 6 of Part 14 before the direction was given.

(6) The disputing **reconciliation participant** and the **reconciliation manager** must use reasonable endeavours to resolve the dispute.

(7) A dispute does not excuse anyone from complying with this Code.

(8) **Participants** must continue to use disputed **volume information** as if it were not in dispute while the dispute is being resolved.

(9) If a dispute is not resolved within 15 **business days** after the date on which the **reconciliation manager** received notice of the dispute under subclause (1), the disputing **reconciliation participant** or the **reconciliation manager** may refer the dispute to the **Rulings Panel** for resolution under the **Act**.

(10) The **Rulings Panel** may make such determination as it thinks fit.

(11) The **Rulings Panel** must give written notice of its determination to the disputing **reconciliation participant** and affected **participants**.

(12) If the dispute is resolved by the parties to the dispute agreeing, or the **Rulings Panel** determining, that the **volume information** is incorrect, the **reconciliation manager** must correct the **volume information** as follows:

(a) if a revised **seasonal adjustment shape** must be issued in order for the **volume information** to be corrected**—**

(i) the **reconciliation manager** must provide each **reconciliation participant** whose **submission information** is required to be corrected with a revised **seasonal adjustment shape**; and

(ii) each **reconciliation participant** must provide corrected **submission information** to the **reconciliation manager** no later than 4 **business days** after being provided with the revised **seasonal adjustment shape**:

(b) if a revised **seasonal adjustment shape** does not need to be issued in order for the **volume information** to be corrected, each **reconciliation participant** whose **volume information** or **dispatchable load information** is required to be corrected must provide corrected relevant information to the **reconciliation manager** no later than 4 **business days** after receiving notice of the resolution of the dispute.

(13) The **reconciliation manager** must provide the corrected **volume information** to the **clearing manager**.

(14) *[Revoked]*

Compare: Electricity Governance Rules 2003 rule 12 part J
Clause 15.29(2): amended, on 24 March 2015, by clause 26(a) of the Electricity Industry Participation (Settlement and Prudential Security) Code Amendment 2013.
Clause 15.29(2): amended, on 5 October 2017, by clause 526(a) of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.
Clause 15.29(3): replaced, on 5 October 2017, by clause 526(b) of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.
Clause 15.29(4): amended, on 5 October 2017, by clause 526(c) of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.
Clause 15.29(5): amended, on 24 March 2015, by clause 26(b) of the Electricity Industry Participation (Settlement and Prudential Security) Code Amendment 2013.
Clause 15.29(5): amended, on 24 March 2015, by clause 13(1) of the Electricity Industry Participation Code Amendment (Late and Revised Data) 2015.
Clause 15.29(9): amended, on 5 October 2017, by clause 526(d) of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.
Clause 15.29(11): amended, on 5 October 2017, by clause 526(e) of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.
Clause 15.29(12): amended, on 5 October 2017, by clause 526(f) of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.
Clause 15.29(12)(b): amended, on 15 May 2014, by clause 59 of the Electricity Industry Participation (Minor Code Amendments) Code Amendment 2014.
Clause 15.29(12)(b): amended, on 19 September 2014, by clause 5 of the Electricity Industry Participation Code Amendment (Minor Code Amendments) (No 2) 2014.
Clause 15.29(14): amended, on 24 March 2015, by clause 26(c) of the Electricity Industry Participation (Settlement and Prudential Security) Code Amendment 2013.
Clause 15.29(14): revoked, on 24 March 2015, by clause 13(2) of the Electricity Industry Participation Code Amendment (Late and Revised Data) 2015.

Reporting obligations of the reconciliation manager

15.30 *[Revoked]*

Compare: Electricity Governance Rules 2003 rule 13.1 part J
Clause 15.30: revoked, on 1 November 2018, by clause 115 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2018.

15.31 Right to information concerning reconciliation manager's actions

(1) A **reconciliation participant** may, by giving written notice to the **reconciliation manager**, request further information related to**—**

(a) any alleged breach of this Code by the **reconciliation manager**:
(b) any alleged breach of this Part by a **reconciliation participant**, if the alleged breach has materially affected the **reconciliation participant** requesting the information.

(2) The **reconciliation manager** must, no later than 10 **business days** after receiving such a request, provide the requested information to the **reconciliation participant**, provided that the information does not include any information that is confidential in respect of any other person.

Compare: Electricity Governance Rules 2003 rule 13.2 part J
Clause 15.31(1): replaced, on 1 November 2018, by clause 116 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2018.

15.32 Reconciliation reports

The **reconciliation manager** must report to the **Authority** and each **reconciliation participant**, the information determined during the reconciliation process as described in clauses 24 to 28 of Schedule 15.4.

Compare: Electricity Governance Rules 2003 rule 13.3 part J

15.33 *[Revoked]*

Compare: Electricity Governance Rules 2003 rule 14 part J
Clause 15.33: amended, on 15 May 2014, by clause 60 of the Electricity Industry Participation (Minor Code Amendments) Code Amendment 2014.
Clause 15.33: amended, on 1 February 2016, by clause 96 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2015.
Clause 15.33: revoked, on 1 November 2018, by clause 117 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2018.

15.34 Use of agents by reconciliation participants

(1) A **reconciliation participant** who has obligations under this Part may discharge those obligations by way of an agent.

(2) A **reconciliation participant** who utilises an agent to discharge an obligation under this Code remains responsible and liable for, and is not in any way released from, that obligation.

(3) A **reconciliation participant** must not assert, against anyone, that it is not responsible or liable for its obligations because the **reconciliation participant's** agent has done or not done something or has failed to meet a relevant standard.

Compare: Electricity Governance Rules 2003 rule 15 part J

15.35 Provision of information

(1) If an obligation exists to provide information in accordance with this Part, a **participant** must deliver that information to the required person within the timeframe specified in this Code, or, in the absence of any such timeframe, within any timeframe the **Authority** specifies in writing.

(2) Such information must be delivered in the format determined from time to time by the **Authority**.

(3) Unless otherwise specified in this Part, information that must be provided under this Part by the **registry manager** or to the **registry manager**, must be provided using the **registry**.

Compare: Electricity Governance Rules 2003 rule 16 part J
Clause 15.35(1): amended, on 5 October 2017, by clause 527(a) of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.
Clause 15.35(3): inserted, on 5 October 2017, by clause 527(b) of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

15.36 New Zealand Daylight Time adjustment techniques

(1) **Submission information** provided to, and **reconciliation information** provided by, the **reconciliation manager** must, if applicable, be adjusted for **NZDT** using the technique set out in subclause (3) specified by the **Authority**.

(2) Any information exchanged between **participants** that contains **trading period** specific data must, if applicable, be adjusted for **NZDT** in accordance with subclause (3).

(3) A daylight savings adjustment must be made by using the "**trading period** run on technique", which requires that daylight saving adjustment periods are allocated as consecutive **trading periods** within the relevant day, in the sequence that they occur.

(4) If no adjustment is made in accordance with subclause (3) to information exchanged between **reconciliation participants** that contains **trading period** specific data, the code "NZST" must be used within the data transfer file.

Compare: Electricity Governance Rules 2003 rule 17 part J
Clause 15.36(3): substituted, on 1 February 2016, by clause 97 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2015.

15.37 *[Revoked]*

Compare: Electricity Governance Rules 2003 rule 18 part J
Clause 15.37(1): substituted, on 1 February 2016, by clause 98(1) of the Electricity Industry Participation Code Amendment (Code Review Programme) 2015.
Clause 15.37(2): revoked, on 1 February 2016, by clause 98(2) of the Electricity Industry Participation Code Amendment (Code Review Programme) 2015.
Clause 15.37: revoked, on 1 June 2017, by clause 24 of the Electricity Industry Participation Code Amendment (Requirements and Processes for Audits) 2016.

15.37A Reconciliation participants and dispatchable load purchasers to arrange for regular audits

Each **reconciliation participant** and each **dispatchable load purchaser** must arrange to be **audited** regularly in accordance with Part 16A in respect of the **reconciliation participant's** or **dispatchable load purchaser's** obligations under this Part.

Clause 15.37A: inserted, on 1 June 2017, by clause 25 of the Electricity Industry Participation Code Amendment (Requirements and Processes for Audits) 2016.

15.37B Retailers to arrange for audits in respect of distributed unmetered load

Each **retailer** that is responsible for **distributed unmetered load** must arrange for an **audit** to be carried out in accordance with Part 16A in respect of the **distributed unmetered load** that verifies that**—**

(a) the **retailer's distributed unmetered load** database complies with clause 11 of Schedule 15.3; and

(b) the information recorded in the **retailer's distributed unmetered load** database is complete and accurate; and

(c) **volume information** for the **distributed unmetered load** is being calculated accurately and **profiles** have been correctly applied.

Clause 15.37B: inserted, on 1 June 2017, by clause 25 of the Electricity Industry Participation Code Amendment (Requirements and Processes for Audits) 2016.

15.37C Authority and participant requested audits

(1) The **Authority** may at any time carry out, or appoint an **auditor** to carry out, an **audit** of a **participant** in respect of the **participant's** obligations under this Part.

(2) If a **participant** considers that another **participant** may not have complied with this Part, the **participant** may request that the **Authority** carry out, or appoint an **auditor** to carry out, an **audit** of the other **participant**.

(3) Part 16A applies to an **audit** carried out under this clause.

Clause 15.37C: inserted, on 1 June 2017, by clause 25 of the Electricity Industry Participation Code Amendment (Requirements and Processes for Audits) 2016.

Certification

Cross heading Certification: inserted, on 15 May 2014, by clause 61 of the Electricity Industry Participation (Minor Code Amendments) Code Amendment 2014.

15.38 Functions requiring certification

(1) Subject to clauses 2A and 2B of Schedule 15.1, a **reconciliation participant** (except an **embedded generator** selling **electricity** directly to another **reconciliation participant**) must obtain and maintain **certification** in accordance with Schedule 15.1 in order to be permitted to perform, or to have performed by way of an agent or agents, any of the following functions in compliance with this Code:

(a) maintaining **registry** information and performing **ICP** switching (except if the maintenance of **registry** information is carried out by a **distributor** in accordance with Part 11):

(b) gathering and storing **raw meter data**:

(c) creating and managing (including validating, estimating, storing, correcting and archiving)**—**

(i) **half hour volume information**; or

(ii) non **half hour volume information**; or

(iii) **half hour** and non **half hour volume information**; or

(iv) **dispatchable load information**:

(d) delivery of:

(i) a report under clause 15.6 and the calculation of the number of **ICP days** detailed in the report:

(ii) **electricity supplied** information under clause 15.7:

(iii) information from **retailer** and **direct purchaser half hourly** metered **ICPs** under clause 15.8:

(da) *[Revoked]*

(db) *[Revoked]*

(e) provision of **submission information** for reconciliation:

(f) provision of **metering information** to the relevant **grid owner** in accordance with subpart 4 of Part 13.

(1A) A **dispatchable load purchaser** must obtain and maintain **certification** in accordance with Schedule 15.1 in order to be permitted to perform, or to have performed by way of an agent or agents, any of the following functions in compliance with this Code:

(a) gathering and storing **raw meter data**:

(b) creating and managing (including validating, estimating, storing, correcting, and archiving)**—**

(i) **half hour volume information**; or

(ii) non **half hour volume information**; or

(iii) **half hour** and non **half hour volume information**; or

(iv) **dispatchable load information**:

(c) providing **dispatchable load information**.

(1B) For the purposes of subclause (1A), each reference to a **reconciliation participant** in Schedule 15.1 is to be read as a reference to a **dispatchable load purchaser**.

(2) *[Revoked]*

Compare: Electricity Governance Rules 2003 rule 19 part J

Clause 15.38(1): amended, on 1 June 2017, by clause 26(1) of the Electricity Industry Participation Code Amendment (Requirements and Processes for Audits) 2016.

Clause 15.38(1)(a): amended, on 1 February 2016, by clause 99(1) of the Electricity Industry Participation Code Amendment (Code Review Programme) 2015.

Clause 15.38(1)(a) and (f): amended, on 1 November 2018, by clause 118(a) of the Electricity Industry Participation Code Amendment (Code Review Programme) 2018.

Clause 15.38(1)(c)(iv): inserted, on 15 May 2014, by clause 101(1) of the Electricity Industry Participation (Modified Dispatchable Demand) Code Amendment 2013.

Clause 15.38(1)(d): substituted, on 19 December 2014, by clause 41 of the Electricity Industry Participation Code Amendment (Minor Code Amendments) (No 3) 2014.

Clause 15.38(1)(d): substituted, on 1 February 2016, by clause 99(2) of the Electricity Industry Participation Code Amendment (Code Review Programme) 2015.

Clause 15.38(1)(da) and (db): inserted, on 19 December 2014, by clause 41 of the Electricity Industry Participation Code Amendment (Minor Code Amendments) (No 3) 2014.

Clause 15.38(1)(da) and (db): revoked, on 1 February 2016, by clause 99(3) of the Electricity Industry Participation Code Amendment (Code Review Programme) 2015.

Clause 15.38(1)(f): amended, on 1 February 2016, by clause 99(4) of the Electricity Industry Participation Code Amendment (Code Review Programme) 2015.

Clause 15.38(1A): inserted, on 15 May 2014, by clause 101(2) of the Electricity Industry Participation (Modified Dispatchable Demand) Code Amendment 2013.

Clause 15.38(1B): inserted, on 15 May 2014, by clause 62 of the Electricity Industry Participation (Minor Code Amendments) Code Amendment 2014.

Clause 15.38(2): substituted, on 1 February 2016, by clause 99(5) of the Electricity Industry Participation Code Amendment (Code Review Programme) 2015.

Clause 15.38(2): revoked, on 1 June 2017, by clause 26(2) of the Electricity Industry Participation Code Amendment (Requirements and Processes for Audits) 2016.

Participant identifiers

Cross heading Participant identifiers: inserted, on 15 May 2014, by clause 63 of the Electricity Industry Participation (Minor Code Amendments) Code Amendment 2014.

15.39 Participants must use participant identifiers

(1) Each **participant** must use its **participant identifier**, when required, to correctly identify that **participant's** information.

(2) A **participant** must apply to the **Authority** in the **prescribed form** for a **participant identifier** at least 5 **business days** before the **participant identifier** is required.

(3) The **Authority** may, by giving written notice to any **participant**, change the **participant identifier** for that **participant**. If the **Authority** does this, the new **participant identifier** for that **participant** will become effective from the date specified in the relevant notice.

Compare: Electricity Governance Rules 2003 rule 20 part J

Clause 15.39(3): amended, on 5 October 2017, by clause 528 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

Schedule 15.1 Certification processes

cl 15.38

Heading Schedule 15.1: amended, on 1 June 2017, by clause 27 of the Electricity Industry Participation Code Amendment (Requirements and Processes for Audits) 2016.

1 Contents of this Schedule

This Schedule sets out—

(a) *[Revoked]*

(b) the requirement for **reconciliation participants** to be **certified** to perform the functions specified in clause 15.38, and the process for obtaining and renewing that **certification.**

(c) *[Revoked]*

Compare: Electricity Governance Rules 2003 clause 1 schedule J1
Clause 1(a): revoked, on 1 June 2017, by clause 28(1) of the Electricity Industry Participation Code Amendment (Requirements and Processes for Audits) 2016.
Clause 1(b): amended, on 1 June 2017, by clause 28(2) of the Electricity Industry Participation Code Amendment (Requirements and Processes for Audits) 2016.
Clause 1(c): revoked, on 1 June 2017, by clause 28(1) of the Electricity Industry Participation Code Amendment (Requirements and Processes for Audits) 2016.

2 *[Revoked]*

Compare: Electricity Governance Rules 2003 clause 1A schedule J1
Clause 2: revoked, on 1 February 2016, by clause 100 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2015.

2A Requirement for certification

(1) Despite clause 15.38(1), a **reconciliation participant** that is required to obtain **certification** under clause 15.38 must obtain **certification** no later than,—

(a) in the case of a **reconciliation participant** that is recorded in the **registry** as being responsible for fewer than 100 **ICPs** of the kind described in subclause (2), 12 months after the **reconciliation participant** first performs a function specified in clause 15.38(1); or

(b) in every other case, the later of—

(i) 6 months after the date on which the **reconciliation participant** first performs a function specified in clause 15.38(1); or

(ii) the date on which the **reconciliation participant** is recorded in the **registry** as being responsible for 100 or more **ICPs** of the kind described in subclause (2).

(2) The kind of **ICP** referred to in subclause (1) is an **ICP** at which there is—

(a) 1 or more **category 1 metering installations** and no other kind of **metering installation**; and

(b) no **unmetered load**.

Clause 2A: inserted, on 1 June 2017, by clause 29 of the Electricity Industry Participation Code Amendment (Requirements and Processes for Audits) 2016.

2B Reconciliation participants to obtain Authority approval before performing certain functions

(1) A **reconciliation participant** that proposes to perform a function listed in clause 15.38(1) without obtaining **certification** (in reliance on clause 2A) must obtain the **Authority's** prior approval.

(2) The **Authority** must give its approval if it is satisfied, on the basis of information provided to it by the **reconciliation participant**, that the **reconciliation participant** complies with such of the requirements specified in subclause (3) as are relevant to the **reconciliation participant**.

(3) The requirements are that the **reconciliation participant** must—

(a) be capable of producing **submission information** accurately:

(b) be capable of performing the functions described in clause 15.38(1)(d):

(c) be capable of switching an **ICP** in accordance with Schedule 11.3:

(d) be capable of managing an **ICP** in accordance with Schedule 11.1:

(e) understand its obligations under this Code.

Clause 2B: inserted, on 1 June 2017, by clause 29 of the Electricity Industry Participation Code Amendment (Requirements and Processes for Audits) 2016.

3 Performance of reconciliation participant's obligations by agent

A **reconciliation participant** may perform any obligation under this Schedule by an agent, and for that purpose, every act or omission of a **reconciliation participant's** agent is deemed to be an act or omission of the **reconciliation participant**.

Compare: Electricity Governance Rules 2003 clause 1B schedule J1

4 Obtaining certification

(1) A **reconciliation participant** requiring **certification** to perform the functions specified in clause 15.38 must apply in writing to the **Authority** in the **prescribed form**, at least 2 months before the intended date of **certification**.

(2) The **reconciliation participant** must promptly provide such other information as the **Authority** may reasonably request.

(3) The **reconciliation participant** must indicate to the **Authority** the information gathering, processing and management functions it intends to perform and who it intends to use to perform those functions.

Compare: Electricity Governance Rules 2003 clauses 3.1 to 3.1B schedule J1

5 Granting certification

(1) The **Authority** must grant **certification** to a **reconciliation participant** only if—

(a) the **Authority** is satisfied, on the basis of an **audit** report provided to the **Authority** under Part 16A, that the **reconciliation participant** meets the requirements relevant to the functions specified in clause 15.38 for which the **reconciliation participant** is seeking **certification**.

(b) *[Revoked]*

(2) A **reconciliation participant** is responsible for appointing an **auditor** to undertake the **audit** required by subclause (1).

(3) *[Revoked]*

Compare: Electricity Governance Rules 2003 clause 3.2 schedule J1

Clause 5(1)(a): amended, on 1 June 2017, by clause 30(1)(a) and (b) of the Electricity Industry Participation Code Amendment (Requirements and Processes for Audits) 2016.
Clause 5(1)(b): revoked, on 1 June 2017, by clause 30(2) of the Electricity Industry Participation Code Amendment (Requirements and Processes for Audits) 2016.
Clause 5(3): revoked, on 1 June 2017, by clause 30(3) of the Electricity Industry Participation Code Amendment (Requirements and Processes for Audits) 2016.

6 Lists of certified reconciliation participants

The **Authority** must **publish**, and keep updated**—**

(a) a list of **certified reconciliation participants** that includes, for each **reconciliation participant**, the date on which the **certification** expires.

(b) *[Revoked]*

Compare: Electricity Governance Rules 2003 clause 3A schedule J1
Clause 6 Heading: amended, on 1 February 2016, by clause 101(1) of the Electricity Industry Participation Code Amendment (Code Review Programme) 2015.
Clause 6: amended, on 1 June 2017, by clause 31 of the Electricity Industry Participation Code Amendment (Requirements and Processes for Audits) 2016.
Clause 6: amended, on 5 October 2017, by clause 529 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.
Clause 6(a): amended, on 1 February 2016, by clause 101(2) of the Electricity Industry Participation Code Amendment (Code Review Programme) 2015.
Clause 6(b): revoked, on 1 February 2016, by clause 101(3) of the Electricity Industry Participation Code Amendment (Code Review Programme) 2015.

7 Renewal of certification

(1) **Certification** must not be granted for a term of more than 24 months.

(2) The **Authority** must renew a **reconciliation participant's certification** for a further term of not more than 24 months if the **Authority** is satisfied on the basis of an **audit** report provided to the **Authority** under Part 16A that the **reconciliation participant** continues to meet the requirements specified in clause 5.

Compare: Electricity Governance Rules 2003 clause 3B schedule J1
Clause 7: amended, on 1 June 2017, by clause 32(1) of the Electricity Industry Participation Code Amendment (Requirements and Processes for Audits) 2016.
Clause 7(2): amended, on 1 June 2017, by clause 32(2) of the Electricity Industry Participation Code Amendment (Requirements and Processes for Audits) 2016.

8 Changes that affect certification

(1) *[Revoked]*

(1A) If there is a material change to a **reconciliation participant's** systems or processes such that an **audit** is required under clause 16A.11, the **Authority** must, on receiving the **audit** report required by that clause, decide whether to continue the **reconciliation participant's certification**.

(2) The **Authority** must, by notice to the **reconciliation participant**, continue the **reconciliation participant's certification** if the **Authority** is satisfied that the **reconciliation participant** will continue to meet the requirements in clause 5 after the change has come into effect.

(3) A **reconciliation participant's certification** is revoked if**—**

(a) a **reconciliation participant** fails to provide an **audit** report to the **Authority** in accordance with clause 16A.11; or

(b) the **Authority** gives written notice to the **reconciliation participant** that the **Authority** is not satisfied that the **reconciliation participant** will continue to meet the requirements in clause 5 after the change has come into effect.

Compare: Electricity Governance Rules 2003 clause 3C schedule J1
Clause 8(1): revoked, on 1 June 2017, by clause 33(1) of the Electricity Industry Participation Code Amendment (Requirements and Processes for Audits) 2016.
Clause 8(1A): inserted, on 1 June 2017, by clause 33(2) of the Electricity Industry Participation Code Amendment (Requirements and Processes for Audits) 2016.
Clause 8(2): amended, on 1 June 2017, by clause 33(3) of the Electricity Industry Participation Code Amendment (Requirements and Processes for Audits) 2016.
Clause 8(3): amended, on 1 June 2017, by clause 33(4)(a) of the Electricity Industry Participation Code Amendment (Requirements and Processes for Audits) 2016.
Clause 8(3)(a): amended, on 1 June 2017, by clause 33(4)(b) of the Electricity Industry Participation Code Amendment (Requirements and Processes for Audits) 2016.
Clause 8(3)(b): amended, on 5 October 2017, by clause 530 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

8A *[Revoked]*

Clause 8A: inserted, on 24 May 2013, by clause 5 of the Electricity Industry Participation (Transitional Provisions for New Metering Arrangements) Code Amendment 2013.
Clause 8A(3): amended, on 15 May 2014, by clause 64 of the Electricity Industry Participation (Minor Code Amendments) Code Amendment 2014.
Clause 8A: revoked, on 1 June 2017, by clause 34 of the Electricity Industry Participation Code Amendment (Requirements and Processes for Audits) 2016.

9 *[Revoked]***.**

Compare: Electricity Governance Rules 2003 clause 5 Schedule J1
Clause 9(5): amended, on 29 August 2013, by clause 23 of the Electricity Industry Participation (Metering Arrangements) Code Amendment 2011.
Clause 9(7): amended, on 21 September 2012, by clause 39 of the Electricity Industry Participation (Minor Amendments) Code Amendment 2012.
Clause 9: revoked, on 1 June 2017, by clause 34 of the Electricity Industry Participation Code Amendment (Requirements and Processes for Audits) 2016.

10 *[Revoked]*

Compare: Electricity Governance Rules 2003 clause 6 schedule J1
Clause 10: revoked, on 1 June 2017, by clause 34 of the Electricity Industry Participation Code Amendment (Requirements and Processes for Audits) 2016.

11 *[Revoked]*

Compare: Electricity Governance Rules 2003 clause 6A schedule J1
Clause 11: revoked, on 1 June 2017, by clause 34 of the Electricity Industry Participation Code Amendment (Requirements and Processes for Audits) 2016.

12 *[Revoked]*

Compare: Electricity Governance Rules 2003 clauses 8.1 and 8.1A schedule J1
Clause 12: revoked, on 1 June 2017, by clause 34 of the Electricity Industry Participation Code Amendment (Requirements and Processes for Audits) 2016.

13 *[Revoked]*

Compare: Electricity Governance Rules 2003 clause 8.2 schedule J1
Clause 13: revoked, on 1 June 2017, by clause 34 of the Electricity Industry Participation Code Amendment (Requirements and Processes for Audits) 2016.

14 *[Revoked]*

Compare: Electricity Governance Rules 2003 clause 8.2A schedule J1
Clause 14: revoked, on 1 June 2017, by clause 34 of the Electricity Industry Participation Code Amendment (Requirements and Processes for Audits) 2016.

15 *[Revoked]*

Compare: Electricity Governance Rules 2003 clause 8.3 schedule J1

Clause 15: revoked, on 1 June 2017, by clause 34 of the Electricity Industry Participation Code Amendment (Requirements and Processes for Audits) 2016.

16 *[Revoked]*

Compare: Electricity Governance Rules 2003 clause 8.4 schedule J1

Clause 16: revoked, on 1 June 2017, by clause 34 of the Electricity Industry Participation Code Amendment (Requirements and Processes for Audits) 2016.

17 *[Revoked]*

Compare: Electricity Governance Rules 2003 clause 8.5 schedule J1

Clause 17: revoked, on 1 June 2017, by clause 34 of the Electricity Industry Participation Code Amendment (Requirements and Processes for Audits) 2016.

18 *[Revoked]*

Compare: Electricity Governance Rules 2003 clause 8.6 schedule J1

Clause 18: revoked, on 1 June 2017, by clause 34 of the Electricity Industry Participation Code Amendment (Requirements and Processes for Audits) 2016.

19 *[Revoked]*

Compare: Electricity Governance Rules 2003 clause 8.7 schedule J1

Clause 19: revoked, on 1 June 2017, by clause 34 of the Electricity Industry Participation Code Amendment (Requirements and Processes for Audits) 2016.

Schedule 15.2 Collection of volume information

cl 15.5

1 Contents of this Schedule

This Schedule establishes the required processes, in so far as they relate to the reconciliation process, for—

(a) collecting **raw meter data**, **interrogating meters**, and deriving **validated meter readings**; and

(b) creating **estimated readings** and **permanent estimates**; and

(c) deriving **volume information** from **validated meter readings**, **estimated readings**, and **permanent estimates**; and

(d) supporting data processing activities.

Compare: Electricity Governance Rules 2003 clause 1 schedule J2

2 Collection of raw meter data by certified reconciliation participant

(1) This clause applies to each **metering installation** for which a **metering equipment provider** is responsible, except for a **metering installation—**

(a) that only the **metering equipment provider** can electronically **interrogate**; or

(b) for which the **metering equipment provider** has an arrangement with the **reconciliation participant**, which prevents the **reconciliation participant** from electronically **interrogating** the **metering installation**.

(2) A **reconciliation participant** must obtain **raw meter data** used to determine **volume information—**

(a) from the **services access interface** of the **metering installation**; or

(b) if the **raw meter data** can only be obtained from the **metering equipment provider's back office**, from the **metering equipment provider**.

(3) A **reconciliation participant** must ensure that the **interrogation** cycle for each **metering installation** that it **interrogates** does not exceed the maximum **interrogation** cycle in the **registry**.

(4) A **reconciliation participant** must **interrogate** a **metering installation** at least once in each maximum **interrogation** cycle for the **metering installation**.

(5) A **reconciliation participant** must, when electronically **interrogating** a **metering installation**,—

(a) ensure that the **interrogation** and processing system electronically monitors and corrects its internal clocks against a time source with a verifiable standard at a frequency sufficient, but no longer than 1 week, to ensure the internal clock is accurate, when carrying out an **interrogation**, to within ±5 seconds of—

(i) **New Zealand standard time**; or

(ii) **New Zealand daylight time**; and

(b) compare the time on the internal clock of the **data storage device** with the time on the **interrogation** and processing system clock; and

(c) calculate the time error for the **data storage device**; and

(d) if the time error calculated under paragraph (c) is equal to or less than the applicable time error set out in Table 1, correct the clock of the **data storage device**; and

(e) if the time error calculated under paragraph (c) is greater than the applicable time error set out in Table 1,—

(i) correct the clock of the **data storage device**; and

(ii) compare the time of the clock with the time of the **interrogation** and processing system clock; and

(iii) correct any affected **raw meter data**; and

(f) download the **event log**.

(6) The **reconciliation participant** must record in the **interrogation** and processing system logs, the time, the date, and the extent of any change in the internal clock setting in the **metering installation**.

Table 1: Maximum permitted time errors

Metering installation category	**Half-hour metering installations** (seconds)	**Non half-hour metering installations** (seconds)
1	±30	±60
2	±10	±60
3	±10	NA
4	±10	NA
5	±5	NA

Compare: Electricity Governance Rules 2003 clause 2 schedule J2
Clause 2: substituted, on 29 August 2013, by clause 24 of the Electricity Industry Participation (Metering Arrangements) Code Amendment 2011.

3 Source of volume information

(1) A **meter reading** must, in accordance with the relevant **reconciliation participant's 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.

(2) A **validated meter reading** must be derived from a **meter reading**. A **meter reading** that is provided by a **consumer** may be used as a **validated meter reading** only if another set of **validated meter readings** that has not been provided by the **consumer** is used during the validation process specified in clauses 16 and 17.

(3) An **estimated reading** and a **permanent estimate** must be clearly identified as an estimate at source and in an exchange of metering data or **volume information** between **participants** (excluding the **reconciliation manager**).

(4) **Volume information** must be directly derived, in accordance with this Schedule, from—

(a) **validated meter readings**; or

(b) **estimated readings**; or

(c) **permanent estimates**.

(5) A **reconciliation participant** must ensure that all **raw meter data** used to derive **volume information** in accordance with this Schedule is not rounded or truncated from the stored data from the **metering installation.**

Compare: Electricity Governance Rules 2003 clause 3 schedule J2

Clause 3(5): inserted, on 1 February 2016, by clause 102 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2015.

4 Permanence for the purposes of reconciliation

(1) 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).

(2) 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**.

(3) 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.**

Compare: Electricity Governance Rules 2003 clause 4 schedule J2

Clause 4(2) and (3): replaced, on 1 February 2019, by clause 119(1) and (2) of the Electricity Industry Participation Code Amendment (Code Review Programme) 2018.

Meter interrogation for non half hour metering

5 Non half-hour metering information

A **reconciliation participant** must, when manually **interrogating** a **non half-hour metering installation**, if the relevant parts of the **metering installation** are visible and it is safe to do so,—

(a) obtain the **meter** register value; and

(b) ensure seals are present and intact; and

(c) check for phase failure if the **meter** supports it; and

(d) check for signs of tampering or damage; and

(e) check for electrically unsafe situations, where “electrically unsafe” has the meaning given to it in the Electricity (Safety) Regulations 2010.

Compare: Electricity Governance Rules 2003 clause 5.1 schedule J2

Clause 5: substituted, on 29 August 2013, by clause 25 of the Electricity Industry Participation (Metering Arrangements) Code Amendment 2011.

Clause 5(e): amended, on 5 October 2017, by clause 531 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

6 When non half hour meter readings apply

Non **half hour meter readings** are deemed to apply—

(a) if the non **half hour meter reading** is also a **switch event meter reading—**

(i) for the gaining **trader**, from 0000 hours on the day of the relevant **event date**; and

(ii) for the losing **trader**, at 2400 hours at the end of the day before the relevant **event date**; or

(b) in all other cases, from 0000 hours on the day after the last **meter interrogation** up to and including 2400 hours on the day of the **meter interrogation**.

Compare: Electricity Governance Rules 2003 clause 5.2 schedule J2
Clause 6: substituted, on 9 October 2015, by clause 27 of the Electricity Industry Participation Code Amendment (ICP Switching) 2014.

7 Non half hour meter reading during period of supply

(1) 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 it 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**.

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

Compare: Electricity Governance Rules 2003 clauses 5.3 and 5.3A schedule J2

8 Non half hour meter reading on 12 monthly basis

(1) Each **reconciliation participant** must ensure that, at least once every 12 months, a **validated meter reading** is obtained for every **meter** register for non **half hour** metered **ICPs** that the **reconciliation participant** trades continuously for each 12 month period. In carrying out this obligation—

(a) each **reconciliation participant** must report to the **Authority**, in relation to each **NSP**, the percentage of the **ICPs** from which **consumption information** was collected and reported into the reconciliation process in the previous 12 month period. This report must be submitted no later than 20 **business days** after the end of each month; and

(b) if the percentage reported in accordance with paragraph (a) is less than 100%, the **Authority** may, from time to time, require the **reconciliation participant** to explain why that level was not achieved and to describe the steps that are being taken to achieve a level of performance that, in the **Authority's** assessment, is reasonable.

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

Compare: Electricity Governance Rules 2003 clauses 5.4 and 5.4A schedule J2
Clause 8(1): amended, on 5 October 2017, by clause 532(a) and (b) of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

9 Non half hour meter reading every 4 months

(1) Each **reconciliation participant** must ensure, in relation to each **NSP**, that a **validated meter reading** is obtained, at least once every 4 months, for 90% of the non **half hour** metered **ICPs** at which the **reconciliation participant** trades continuously for each 4 months for which **consumption information** is required to be reported into the reconciliation process. In carrying out this obligation—

(a) each **reconciliation participant** must report to the **Authority** the percentage, in relation to each **NSP**, of the **ICPs** from which **consumption information** was collected and reported into the reconciliation process in the previous 4 month period. This report must be submitted no later than 20 **business days** after the end of each month; and

(b) if the percentage reported in accordance with paragraph (a) is less than 90% in relation to any **NSP**, the **Authority** may, from time to time, require the **reconciliation participant** to explain why that level was not achieved and to describe the steps that are being taken to achieve acceptable performance.

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

(3) The **reconciliation participant** must report to the **Authority** monthly on a rolling 4 month basis the percentage of non **half hour meter interrogations** within that period.

Compare: Electricity Governance Rules 2003 clauses 5.5 and 5.5A schedule J2
Clause 9(1) and (3): amended, on 5 October 2017, by clause 533 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

10 Interrogation log

To verify the accuracy of **raw meter data** collected during **interrogation** of non **half hour metering**, a log must be produced consisting of the following as a minimum:

(a) the means to establish the identity of the individual **meter** reader:

(b) the **ICP identifier**, and the **meter** and register identification:

(c) the method being used for this **interrogation** and the device ID of equipment being used for **interrogation** of the **meter**:

(d) the date and time of the **meter interrogation**.

Compare: Electricity Governance Rules 2003 clause 5.6 schedule J2

11 Metering installation that is electronically interrogated

(1) A **reconciliation participant** must, as required under clause 2(2), obtain **raw meter data** from the **services access interface** for an electronically **interrogated metering installation**. This may be carried out through the use of portable devices or remotely by the use of a recognised communications medium.

(2) **Raw meter data** obtained by the electronic **interrogation** of a **metering installation** must consist of the following as a minimum:

(a) the unique identifier of the **data storage device** in the **metering installation**:

(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**:

(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**:

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

(e) for all **metering information**, an **interrogation** log generated by the **interrogation software** to record details of all **interrogations**. The **reconciliation participant** responsible for collecting the data must peruse the **interrogation** log and take appropriate action if problems are apparent. Alternatively, this process may be an automated **software** function that flags exceptions.

(3) For the purposes of subclause (2)(e), the **interrogation** log must form part of the **interrogation** audit trail and must contain the following as a minimum:

(a) the date of **interrogation**:

(b) the time of commencement of **interrogation**:

(c) the operator identification (if available):

(d) the unique identifier of the **data storage device**:

(e) the time errors outside the range specified in Table 1 of clause 2:

(f) the method of **interrogation**:

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

Compare: Electricity Governance Rules 2003 clause 6.1 schedule J2
Clause 11: substituted, on 29 August 2013, by clause 26 of the Electricity Industry Participation (Metering Arrangements) Code Amendment 2011.

12 *[Revoked]*

Compare: Electricity Governance Rules 2003 clause 6.2 schedule J2
Clause 12 and Table 1: revoked, on 29 August 2013, by clause 27 of the Electricity Industry Participation (Metering Arrangements) Code Amendment 2011

13 Trading period

The **trading period** duration, which is normally 30 minutes, must be within ±0.1% (± 2 seconds).

Compare: Electricity Governance Rules 2003 clause 6.3 schedule J2

14 Quantification error

[Revoked]

Compare: Electricity Governance Rules 2003 clause 6.4 schedule J2
Clause 14: amended, on 21 September 2012, by clause 40 of the Electricity Industry Participation (Minor Amendments) Code Amendment 2012.
Clause 14: amended, on 29 August 2013, by clause 28 of the Electricity Industry Participation (Metering Arrangements) Code Amendment 2011.
Clause 14: revoked, on 1 February 2016, by clause 103 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2015.

15 Half hour estimates

(1) If a **reconciliation participant** is unable to **interrogate** an electronically **interrogated metering installation** before the deadline for providing **submission information** or **dispatchable load information**, the **reconciliation participant** must submit to the **reconciliation manager** its 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**.

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

Compare: Electricity Governance Rules 2003 clause 6.5 schedule J2
Clause 15(1): amended, on 29 August 2013, by clause 29 of the Electricity Industry Participation (Metering Arrangements) Code Amendment 2011.
Clause 15(1): amended, on 15 May 2014, by clause 102 of the Electricity Industry Participation (Modified Dispatchable Demand) Code Amendment 2013.

Validation

16 Non half-hour meter readings and estimated readings

(1) All non **half hour meter readings** and **estimated readings** must be checked for validity by the relevant **reconciliation participant** after each **interrogation**.

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

- (a) confirmation that the **meter reading** or **estimated reading** relates to the correct **ICP**, **meter**, and register:
- (b) checks for invalid dates and times:
- (c) confirmation that the **meter reading** or **estimated reading** lies within an acceptable range compared with the expected pattern, previous pattern or trend:
- (d) confirmation that there is no corruption of the data, including unexpected 0 values.

Compare: Electricity Governance Rules 2003 clause 7.1 schedule J2

17 Electronic meter readings and estimated readings

(1) All **meter readings** obtained by electronic **interrogation** and **estimated readings** must be checked for validity by the relevant **reconciliation participant**.

(2) Each validity check of a **meter reading** obtained by electronic **interrogation** and each **estimated reading** 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 the data can be used for any purpose under this Code.

(3) *[Revoked]*

(4) Each validity check of a **meter reading** obtained by electronic **interrogation** or an **estimated reading** must include the following:

- (a) checks for missing data:
- (b) checks for invalid dates and times;
- (c) checks of unexpected 0 values:
- (d) comparison with expected or previous flow patterns:
- (e) comparison of **meter readings** with data on any **data storage device** registers that are available:
- (f) a review of **meter** and **data storage device** event log. Any event that could have affected the integrity of **metering data** must be investigated.

Compare: Electricity Governance Rules 2003 clause 7.2 schedule J2
Clause 17 Heading: amended, on 29 August 2013, by clause 15 of the Electricity Industry Participation (Metering Arrangements) Code Amendment 2013.
Clause 17(1) and (2): substituted, on 29 August 2013, by clause 30(a) of the Electricity Industry Participation (Metering Arrangements) Code Amendment 2011.
Clause 17(3): revoked, on 29 August 2013, by clause 30(b) of the Electricity Industry Participation (Metering Arrangements) Code Amendment 2011.
Clause 17(4): amended, on 29 August 2013, by clause 30(c) of the Electricity Industry Participation (Metering Arrangements) Code Amendment 2011.

Clause 17(4): amended, on 29 August 2013, by clause 9 of the Electricity Industry Participation (Metering Arrangements) Code Amendment 2011, Amendment 2013 (No 2)
Clause 17(4)(f): amended, on 15 May 2014, by clause 65 of the Electricity Industry Participation (Minor Code Amendments) Code Amendment 2014.

18 Archiving and storing of raw meter data

(1) A **reconciliation participant** who is responsible for **interrogating** a **metering installation** under this Part must archive all **raw meter data** downloaded or collected, and any changes to the **raw meter data**, for not less than 48 months in accordance with clause 8(6) of Schedule 10.6 with all necessary amendments.

(2) Each **reconciliation participant** must ensure that procedures are in place to ensure that **raw meter data** for which it is responsible cannot be accessed by unauthorised personnel.

(3) Each **reconciliation participant** must ensure that **meter readings** cannot be modified without an audit trail being created.

Compare: Electricity Governance Rules 2003 clause 8 schedule J2
Clause 18(1): substituted, on 29 August 2013, by clause 31 of the Electricity Industry Participation (Metering Arrangements) Code Amendment 2011.

19 Correction of meter readings

(1) If a **reconciliation participant** detects errors while validating non **half hour meter readings**, the **reconciliation participant** must—

  (a) confirm the original **meter reading** by carrying out another **meter reading**; and

  (b) if the second **meter reading** confirms that the original **meter reading** is erroneous, replace the original **meter reading** with the second **meter reading** (even if the second **meter reading** is at a different date).

(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—

  (a) substitute the original **meter reading** with an **estimated reading** that is marked as an estimate; and

  (b) subsequently replace the **estimated reading** in accordance with clause 4(2).

(2) If a **reconciliation participant** detects errors while validating **half-hour meter readings**, the **reconciliation participant** must correct the **meter readings** as follows:

  (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

  (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.

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

(4) In correcting a **meter reading** in accordance with this clause, a **reconciliation participant** must not overwrite the **raw meter data**. If the **raw meter data** and the **meter readings** are the same, the **reconciliation participant** must use the processing or data correction application to—
  (a) make an automatic secure backup of the affected data; and
  (b) archive the affected data.

(5) If a **reconciliation participant** corrects or alters data under this clause, the **reconciliation participant** must generate and archive a journal that contains the following information:
  (a) the date of the correction or alteration; and
  (b) the time of the correction or alteration; and
  (c) the operator identifier for the person within the **reconciliation participant** who made the correction or alteration; and
  (d) the **half hour meter reading** data or the non **half hour meter reading** data corrected or altered, and the total difference in volume of such corrected or altered data; and
  (e) the technique used to arrive at the corrected data; and
  (f) the reason for the correction or alteration.

Compare: Electricity Governance Rules 2003 clause 9 schedule J2
Clause 19(2): amended, on 29 August 2013, by clause 32 of the Electricity Industry Participation (Metering Arrangements) Code Amendment 2011.
Clause 19: replaced, on 1 November 2018, by clause 120 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2018.

20 Data transmission

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

Compare: Electricity Governance Rules 2003 clause 10 schedule J2

21 Audit trails

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

(2) The audit trail must—
  (a) include details of information—
    (i) provided to and received from the **registry manager**; and
    (ii) provided to and received from the **reconciliation manager**; and
    (iii) provided and received from other **reconciliation participants** and their agents; and
  (b) cover all **raw meter data** and any changes to the **raw meter data** archived under clause 18.

(3) Logs of communications and processing activities must form part of the audit trail, including if automated processes are in operation.

(4) Logs must be printed and filed as hard copy or maintained as data files, in a secure form, along with other archived information, and must include (at a minimum) the following:

(a) an activity identifier; and

(b) the date and time of the activity; and

(c) the operator identifier for the person within the **reconciliation participant** who performed the activity.

(5) A **reconciliation participant** must collect all relevant data used by the **reconciliation participant** to determine **profile** data, including external control equipment operation logs, and archive that data in accordance with clause 18.

Compare: Electricity Governance Rules 2003 clause 11.1 to 11.3 schedule J2

Clause 21(2)(a)(i): amended, on 5 October 2017, by clause 534 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

Clause 21(2)(a)(i): amended, on 1 November 2018, by clause 121(1) of the Electricity Industry Participation Code Amendment (Code Review Programme) 2018.

Clause 21(2)(b): substituted, on 29 August 2013, by clause 33(a) of the Electricity Industry Participation (Metering Arrangements) Code Amendment 2011.

Clause 21(4): amended, on 1 November 2018, by clause 121(2) of the Electricity Industry Participation Code Amendment (Code Review Programme) 2018.

Clause 21(5): amended, on 29 August 2013, by clause 33(b) of the Electricity Industry Participation (Metering Arrangements) Code Amendment 2011.

22 *[Revoked]*

Compare: Electricity Governance Rules 2003 clause 11.4 schedule J2

Clause 22: revoked, on 1 November 2018, by clause 122 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2018.

Schedule 15.3 — cl 15.4
Calculation and provision of submission information

1 Contents of this schedule

This Schedule provides for—

(a) the processing of **raw meter data** and supporting information to create **submission information**; and

(b) the delivery of **submission information** to the **reconciliation manager**.

Compare: Electricity Governance Rules 2003 clause 1 schedule J3

Creation of submission information

2 Reconciliation participants to prepare information

(1) If a **reconciliation participant** is required to prepare **submission information** for an **NSP** for the relevant **consumption period** in accordance with this Code, the **submission information** for each **ICP** about which information is provided under clause 11.7(2)—

(aa) must comprise all **volume information** for the **ICP**:

(a) must comprise **half hour volume information** for the total metered quantity of **electricity** for each category 3 or higher **metering installation**:

(ab) must not comprise **half hour volume information** for a **non half-hour metering installation**:

(ac) must comprise either **half hour volume information** or non **half hour volume information** for the total metered quantity of **electricity** for each **metering installation** that—

(i) is a **category 1 metering installation** or **category 2 metering installation**; and

(ii) is a **half-hour metering installation**:

(ad) must comprise non **half hour volume information** calculated under clauses 4 to 6 (as applicable) for the total metered quantity of **electricity** for each **metering installation** that—

(i) is a **category 1 metering installation** or **category 2 metering installation**; and

(ii) contains only non **half-hour metering**:

(ae) if a **metering installation** is a **category 1 metering installation** or **category 2 metering installation**, and the **metering installation** contains **half-hour metering** and **non half-hour metering**, may comprise—

(i) a combination of—

(A) **half hour volume information** for the **half-hour metering**; and

(B) non **half hour volume information** calculated under clauses 4 to 6 (as applicable) for the **non half-hour metering**; or

(ii) non **half hour volume information** for the total metered quantity of **electricity** for the **metering installation**:

(b) *[Revoked]*

(c) must include **unmetered load** quantities for each **ICP** that has **unmetered load** associated with it, which must be 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.

(1A) However, a **reconciliation participant** need not comply with subclause (1)(a) to (ae) if—

(a) the **reconciliation participant** is using a **profile** approved in accordance with Schedule 15.5; and

(b) the approved **profile** allows the **reconciliation participant** to prepare **submission information** that does not comply with subclause (1)(a) to (ae); and

(c) the **reconciliation participant** complies with the **submission information** requirements set out in the approved **profile**.

(2) To create non **half hour submission information**, a **reconciliation participant** must only use information that is dependent on a **control device** if—

(a) the **certification** of the **control device** is recorded in the **registry**; or

(b) the **metering installation** in which the **control device** is located is an **interim certified metering installation**.

(3) To create **submission information** for a **point of connection** for which it is responsible, a **reconciliation participant** must use **volume information** from each **metering installation** for the **point of connection**.

(4) For the purposes of subclause (3), the **reconciliation participant** must calculate the **volume information** by applying to the **raw meter data** obtained from each **metering installation**—

(a) for each **ICP**, the **compensation factor** recorded in the **registry** for the **metering installation**; or

(b) for each **NSP**, the **compensation factor** recorded in the **metering installation's** most recent **certification report**.

Compare: Electricity Governance Rules 2003 clause 2.1 schedule J3
Clause 2: substituted, on 29 August 2013, by clause 34 of the Electricity Industry Participation (Metering Arrangements) Code Amendment 2011.
Clause 2(1): amended, on 1 November 2018, by clause 123(1) of the Electricity Industry Participation Code Amendment (Code Review Programme) 2018.
Clause 2(1)(aa): inserted, on 1 November 2018, by clause 123(2) of the Electricity Industry Participation Code Amendment (Code Review Programme) 2018.
Clause 2(1)(a): replaced, on 1 November 2018, by clause 123(3) of the Electricity Industry Participation Code Amendment (Code Review Programme) 2018.
Clause 2(1)(ab)-(ae): inserted, on 1 November 2018, by clause 123(3) of the Electricity Industry Participation Code Amendment (Code Review Programme) 2018.
Clause 2(1)(b): revoked, on 1 November 2018, by clause 123(4) of the Electricity Industry Participation Code Amendment (Code Review Programme) 2018.
Clause 2(1)(c): amended, on 15 May 2014, by clause 66 of the Electricity Industry Participation (Minor Code Amendments) Code Amendment 2014.
Clause 2(1)(c): amended, on 1 November 2018, by clause 123(5) of the Electricity Industry Participation Code Amendment (Code Review Programme) 2018.
Clause 2(1A): inserted, on 1 November 2018, by clause 123(6) of the Electricity Industry Participation Code Amendment (Code Review Programme) 2018.
Clause 2(3): replaced, on 1 November 2018, by clause 123(7) of the Electricity Industry Participation Code Amendment (Code Review Programme) 2018.

3 Historical estimates and forward estimates

(1) Each **reconciliation participant** must, for each **ICP** that has a non **half hour metering installation**, allocate **volume information** derived from **validated meter readings**, **estimated readings** or **permanent estimates**, to **consumption periods** using the

techniques described in this clause to create **historical estimates** and **forward estimates**.

(2) Each estimate that is a **forward estimate** or an **historical estimate**, must be clearly identified as such.

(3) If a **validated meter reading** is not available for the purpose of clauses 4 and 5, a **permanent estimate** may be used in place of a **validated meter reading**.

Compare: Electricity Governance Rules 2003 clause 2.2 schedule J3

4 Historical estimates with seasonal adjustment

The methodology that must be used by each **reconciliation participant** to prepare an **historic estimate** of **volume information** for each **ICP** when the relevant **seasonal adjustment shape** is available, is as follows:

(a) if the period between any 2 consecutive **validated meter readings** encompasses an entire **consumption period**, an **historical estimate** must be prepared in accordance with the following formula:

$$HE_{ICP} = kWh_p \times A / B$$

where

HE_{ICP} is the quantity of **electricity** allocated to a **consumption period** for an **ICP**

kWh_P is the difference in kWh between the last **validated meter reading** before the **consumption period** and the 1st **validated meter reading** after the **consumption period**

A is the sum of the **seasonal adjustment shape** values for the **consumption period**

B is the sum of the **seasonal adjustment shape** values for the same time period as is covered by kWh_P as published by the **reconciliation manager**:

(b) if the period between any 2 consecutive **validated meter readings** encompasses the 1st part of a **consumption period** and the period between the 2nd **validated meter reading** and the subsequent **validated meter reading** encompasses the rest of that **consumption period**, an **historical estimate** must be prepared in accordance with the following formula:

$$HE_{ICP} = kWh_{P1} \times A_1 / B_1 + kWh_{P2} \times A_2 / B_2$$

where

HE_{ICP} is the quantity of **electricity** allocated to a **consumption period** for an **ICP**

kWh_{P1} is the difference in kWh between the last **validated meter reading** before the **consumption period** and the **validated meter reading** during the **consumption period**

A_1 is the sum of the **seasonal adjustment shape** values for the relevant days in the 1st part of the **consumption period**

B_1 is the sum of the **seasonal adjustment shape** values for the same time period as is covered by kWh_{P1}

kWh_{P2} is the difference in kWh between the first **validated meter reading** during the **consumption period** and the 1st **validated meter reading** after the **consumption period**

A_2 is the sum of the **seasonal adjustment shape** values for the relevant days in the latter part of the **consumption period**

B_2 is the sum of the **seasonal adjustment shape** values for the same time period as is covered by kWh_{P2}.

Compare: Electricity Governance Rules 2003 clauses 2.2.1 schedule J3

5 Historical estimates without seasonal adjustment

If a **seasonal adjustment shape** is not available, either due to timing (for the provision of **submission information** by the 4th **business day** of each **reconciliation period**) or for any other reason, 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—

(a) within the **consumption period**; and

(b) within the period covered by kWh_{Px}.

Compare: Electricity Governance Rules 2003 clause 2.2.2 schedule J3

6 Forward estimates

(1) A **forward estimate** is an estimation of the total quantity of **electricity** that flowed through an **ICP** during all or part of a **consumption period**.

(2) A **forward estimate** may be used only for a period for which an **historical estimate** cannot be calculated.

(3) The methodology used for calculating a **forward estimate** may be determined at the discretion of the **reconciliation participant**, and only if the **reconciliation participant** ensures that the accuracy of its initial **submission information** against each subsequent revision cycle **submission information** for each **balancing area** is within the percentage of error specified and **published**, from time to time, by the **Authority**.

Compare: Electricity Governance Rules 2003 clause 2.2.3 schedule J3

7 Compulsory meter reading after profile change

(1) If a **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.

(2) The **reconciliation participant** must use the **volume information** from that **validated meter reading** or **permanent estimate** to calculate the relevant **historical estimates** of each **profile** for that **meter**.

Compare: Electricity Governance Rules 2003 clause 2.2.4 schedule J3

8 Provision of submission information to reconciliation manager

(1) For each **metering installation** for which it is responsible that is category 3 or higher, a **reconciliation participant** must provide **half hour submission information** to the **reconciliation manager**.

(2) For each **half-hour metering installation** for which it is responsible that is a **category 1 metering installation** or **category 2 metering installation**, a **reconciliation participant** must provide to the **reconciliation manager—**

(a) **half hour submission information**; or

(b) non **half hour submission information**; or

(c) a combination of **half hour submission information** and non **half hour submission information** if—

(i) the **half-hour metering installation** contains a combination of **half-hour metering** and non **half-hour metering**; and

(ii) clause 2(1)(ae) of this Schedule 15.3 applies.

(3) For each non **half-hour metering installation** for which it is responsible, a **reconciliation participant** must provide non **half hour submission information** to the **reconciliation manager**.

(4) However, a **reconciliation participant** need not comply with subclause (2) and subclause (3) if—

(a) the **reconciliation participant** is using a **profile** approved in accordance in Schedule 15.5; and

(b) the approved **profile** allows the **reconciliation participant** to provide **half hour submission information** from a non **half-hour metering installation**; and

(c) the **reconciliation participant** provides **submission information** that complies with the requirements set out in the approved **profile**.

(5) For any **unmetered load** at an **ICP** for which it is responsible, regardless of the category of any **metering installation** at the **ICP**, a **reconciliation participant** must provide non **half hour submission information** to the **reconciliation manager** unless—

(a) the **Authority** has approved a **profile** for the **unmetered load** that allows the **reconciliation participant** to provide **half hour submission information** to the **reconciliation manager** for the **unmetered load**; and

(b) the **reconciliation participant** provides **half hour submission information** in accordance with the **profile**.

(6) The **half hour submission information** that a **reconciliation participant** submits under subclause (1), subclause (2), or subclause (4) must be **volume information** aggregated to the following levels:

(a) **NSP** code:
(b) **reconciliation type**:
(c) **profile**:
(d) **loss category** code:
(e) flow direction:
(f) dedicated **NSP**:
(g) **trading period**.

(7) The non **half hour submission information** that a **reconciliation participant** submits under subclause (2), subclause (3), and subclause (5) must be **volume information** aggregated to the following levels:
(a) **NSP** code:
(b) **reconciliation type**:
(c) **profile**:
(d) **loss category** code:
(e) flow direction:
(f) dedicated **NSP**:
(g) **consumption period** or day.

Compare: Electricity Governance Rules 2003 clause 3 schedule J3
Clause 8: replaced, on 1 November 2018, by clause 124 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2018.

9 Rounding of submission information

If **submission information** aggregated by a **reconciliation participant** under clause 8 is specified to more than 2 decimal places, the **reconciliation participant** must round the **submission information—**
(a) to 2 decimal places; and
(b) so that if the 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.

Compare: Electricity Governance Rules 2003 clause 3A schedule J3
Clause 9: amended, on 1 February 2016, by clause 104 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2015.

10 Reporting requirements

(1) By 1600 hours on the 13th **business day** of each **reconciliation period**, each **reconciliation participant** must report to the **reconciliation manager** the proportion of **historical estimates** per **NSP** contained within its non **half hour submission information**.

(2) By 1200 hours on the last **business day** of each **reconciliation period**, the **reconciliation manager** must provide to the **Authority** a report of the proportion of **historical estimates** per **NSP**, per **reconciliation participant** being used to create non **half hour consumption information** in respect of each **consumption period** being reconciled, and the **Authority** must publish the information.

(3) The proportion of **submission information** per **retailer** per **NSP** that is comprised of **historical estimates** must, unless **exceptional circumstances** exist, be—
(a) at least 80% for revised data provided at the month 3 revision; and
(b) at least 90% for revised data provided at the month 7 revision; and

(c) 100% for revised data provided at the month 14 revision.

Compare: Electricity Governance Rules 2003 clause 4 schedule J3

11 Distributed unmetered load database

(1) A **retailer** must ensure that an up-to-date database is maintained for each type of **distributed unmetered load** for which it is responsible. The methodology for deriving **submission information** in the database must comply with Schedule 15.5.

(2) The database must contain at a minimum—

(a) each **ICP identifier** for which the **retailer** is responsible, and to which **distributed unmetered load** is **electrically connected**; and

(aa) the item or items of **distributed unmetered load** associated with each **ICP identifier**; and

(b) the location of each item; and

(c) a description of load type for each item, including any assumptions made in the assessment of its capacity; and

(d) the capacity of each item in watts.

(2A) Each **retailer** must ensure that each item of **distributed unmetered load** for which the **retailer** is responsible is recorded in the database in accordance with this clause.

(3) The database must track the time of additions and changes in a way that enables the total load in kW to be retrospectively derived for any day.

(4) The database must incorporate an audit trail of all additions and changes identifying the before and after values for changes, date and time of the change or addition, and the person making the change or addition.

(5) *[Revoked]*

Compare: Electricity Governance Rules 2003 clause 5 schedule J3

Clause 11(2)(a): amended, on 19 December 2014, by clause 42 of the Electricity Industry Participation Code Amendment (Minor Code Amendments) (No 3) 2014.

Clause 11(2)(a): inserted, on 1 June 2017, by clause 35(1)(a) of the Electricity Industry Participation Code Amendment (Requirements and Processes for Audits) 2016.

Clause 11(2)(a): amended, on 5 October 2017, by clause 535 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

Clause 11(2)(b): amended, on 1 June 2017, by clause 35(1)(b) of the Electricity Industry Participation Code Amendment (Requirements and Processes for Audits) 2016.

Clause 11(2)(c): amended, on 1 June 2017, by clause 35(1)(c) of the Electricity Industry Participation Code Amendment (Requirements and Processes for Audits) 2016.

Clause 11(2)(d): amended, on 1 June 2017, by clause 35(1)(d) of the Electricity Industry Participation Code Amendment (Requirements and Processes for Audits) 2016.

Clause 11(2A): inserted, on 1 June 2017, by clause 35(2) of the Electricity Industry Participation Code Amendment (Requirements and Processes for Audits) 2016.

Clause 11(5): revoked, on 1 June 2017, by clause 35(3) of the Electricity Industry Participation Code Amendment (Requirements and Processes for Audits) 2016.

Schedule 15.4
Reconciliation procedures

cls 15.19, 15.20 and 15.21

1 Contents of this Schedule

This Schedule relates to the parts of the reconciliation process performed by the **reconciliation manager** during each **reconciliation period** and for relevant **consumption periods** in accordance with the revision cycle. The following steps comprise the reconciliation process. The requirements of each of these steps are detailed in the remainder of this Schedule. The steps are that the **reconciliation manager** must—

(a) adjust **submission information** by **ICP days** scaling; and
(b) apply **loss factors** to **submission information** for **half hour** metered **ICPs** that have been adjusted for **ICP days**; and
(c) **profile** non **half hour submission information** into **trading periods**; and
(d) apply **loss factors** to **submission information** for non **half hour** metered **ICPs** that have been adjusted for **ICP days**; and
(e) calculate **unaccounted for electricity** for each **balancing area**; and
(f) allocate consumed **electricity** and **unaccounted for electricity** to **purchasers**; and
(g) allocate generated **electricity** to **generators**; and
(h) produce reports.

Compare: Electricity Governance Rules 2003 clause 1 schedule J4

2 Overview of key reconciliation events

Each **reconciliation participant** must comply with the timing requirements summarised below:

Timing	*Reconciliation process*	*Revisions cycles*
Commencement of the 1st day of the **reconciliation period**	Beginning of **reconciliation period**.	Beginning of **reconciliation period**.
By 1600 hours on the 4th **business day** of the **reconciliation period**	The **registry manager** must make available, and the **reconciliation manager** must procure, **ICP days**, **loss factor** and **balancing area** and **half hour ICP identifiers** information, in accordance with clauses 11.24 to 11.27. Each **reconciliation participant** must submit to the **reconciliation manager** **submission information**, **retailer** information and	

Timing	***Reconciliation process***	***Revisions cycles***
	NSP information, in accordance with clauses 15.4 to 15.12.	
By 1600 hours on the 7th **business day** of the **reconciliation period**	The **reconciliation manager** must complete a reconciliation of the **submission information** provided by **participants** and the **grid owner** in accordance with this Schedule, and must make **reconciliation information** available to each **reconciliation participant** who submitted the **submission information** to which it relates, and the **clearing manager** for settlement.	
From the 8th **business day** of the **reconciliation period**	Each **reconciliation participant** must seek to resolve all inaccuracies and disputes concerning the **reconciliation information**.	
By 1600 hours on the 13th **business day** of the **reconciliation period**		Each **reconciliation participant** must submit to the **reconciliation manager** revised **submission information**, **retailer** information and **NSP** information in accordance with clauses 15.4 to 15.12, 15.27, and 15.28, and clause 10 of Schedule 15.3. The **registry manager** must make available and the **reconciliation manager** must procure revised **ICP days**, **loss factor**, **balancing area** and **half hour ICP identifiers** information, in accordance with clauses 11.24 to 11.27, and clause 10 of Schedule 15.3.

Timing	*Reconciliation process*	*Revisions cycles*
By 1200 hours on the last **business day** of the **reconciliation period**		The **reconciliation manager** must distribute revised **reconciliation information** to the entitled **reconciliation participants** and the **clearing manager**, in accordance with clause 28 of this Schedule.

Compare: Electricity Governance Rules 2003 clause 2 schedule J4
Clause 2 Rows 2 and 5 of Table: amended, on 5 October 2017, by clause 536 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

3 Calculation by difference for embedded networks

(1) A **trader** may by written notice to the **reconciliation manager** designate an **ICP** on an **embedded network** for which the **volume information** is to be calculated by difference.

(2) A **trader** must give notice under subclause (1) at least 5 **business days** before the designation of the **ICP** takes effect.

(3) Not more than 1 **ICP** on an **embedded network** may be designated at any time.

(4) The **reconciliation manager** must calculate the **volume information** by **trading period** for an **ICP** to which a designation relates using the following formula:

$$i - x = a$$

where

i is the loss adjusted quantity of **electricity** injected into the **embedded network** derived from **NSP** and **submission information**

x is the loss adjusted quantity of **electricity** leaving the **embedded network** derived from **NSP** and **submission information**

a is the differenced **volume information** for the **ICP** to which the designation relates.

(5) The **reconciliation manager** must allocate the **volume information** calculated under subclause (4) to the **ICP** to which the designation relates.

(6) A **trader** may, by written notice to the **reconciliation manager**, revoke a designation made under subclause (1).

Compare: Electricity Governance Rules 2003 clause 3 schedule J4

4 Calculation by difference for local networks

(1) A **trader** may apply to the **Authority** for the **Authority** to designate part of a **local network** for which the **volume information** is to be calculated by difference.

(2) A **trader** must give notice under subclause (1) at least 10 **business days** before the date the **trader** intends the designation to take effect.

(3) The **trader** must comply with any requirements specified by the **reconciliation manager** within 5 **business days** of receiving notice of the requirements.

(4) If the **Authority** grants a designation, the **reconciliation manager** must calculate the **volume information** by **trading period** for an **ICP** to which the designation relates using the following formula:

$$i - x = a$$

where

i is the loss adjusted quantity of **electricity** injected into the **local network** derived from **NSP** and **submission information**

x is the loss adjusted quantity of **electricity** leaving the **local network** derived from **NSP** and **submission information**

a is the differenced **volume information** for the **ICP** to which the designation relates.

(5) The **reconciliation manager** must allocate the **volume information** calculated under subclause (4) to the **trader** who applied for the designation under subclause (1).

(6) The **Authority** may revoke the approval of a designation granted under subclause (1).

Compare: Electricity Governance Rules 2003 clause 3A schedule J4
Clause 4(3): amended, on 5 October 2017, by clause 537 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

5 ICP days scaling of submission information excluding embedded generation information

ICP scaling must be used to adjust each **retailer's submission information** (excluding **embedded generator** information) by a factor determined by the number of **ICP days** submitted for reconciliation compared to the number of **ICP days** recorded in the **registry**.

Compare: Electricity Governance Rules 2003 clause 4 schedule J4

6 ICP days information

(1) Each **retailer** and each **direct purchaser** (excluding **direct consumers**) must deliver to the **reconciliation manager**, in accordance with clause 15.6, the number of **half hour** and non **half hour ICP days** for the **NSPs** that are recorded in the **registry** as consuming **electricity** at any time during the relevant **consumption period**, upon which the **retailer's** or **direct purchaser's submission information** is based.

(2) The **registry manager** must deliver to the **reconciliation manager**, in accordance with clauses 11.24 to 11.27, the number of **half hour** and non **half hour ICP days** per **NSP** each **retailer** and **direct purchaser** (excluding **direct consumers**) is responsible for during each **consumption period**.

Compare: Electricity Governance Rules 2003 clause 4.1 schedule J4
Clause 6: amended, on 5 October 2017, by clause 538 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

7 ICP scaling factor calculation

(1) The **reconciliation manager** must, using the **retailer** and **direct purchaser** reported **ICP days** and **registry** reported **ICP days**, calculate **ICP day** scaling factors separately in respect of non **half hour** and **half hour** metered **ICPs** according to the following formula:

$$ICP_{SF} = ICPD_{REG} / ICPD_{RTLR}$$

where

ICP_{SF}	is the **ICP** scaling factor
$ICPD_{REG}$	is the number of **ICP days** for that **retailer** per **balancing area** as reported by the **registry manager**
$ICPD_{RTLR}$	is the number of **ICP days** for that **retailer** for that **balancing area** as reported by each **retailer**

provided that if—

(a) the **ICP** scaling factor is calculated to be less than 1, it must, for the purposes of this clause, be deemed to be 1; and

(b) the **ICP** scaling factor is calculated to be greater than 1, it must not exceed a figure nominated and published from time to time by the **Authority**.

(2) The **ICP days** scaling factor for **direct consumers** must be 1.

(3) If the **ICP days** value reported by a **retailer** or a **direct purchaser** in respect of a **balancing area** is 0, or if data is not supplied, but in each case the corresponding **ICP days** value from the **registry manager** is not 0, the **reconciliation manager** must add to that **retailer's submission information** for that **consumption period** an amount (designated $SI_{ICPD\text{-}ADD}$) that is equal to—

(a) 25 kWh per **ICP day**, in respect of non **half hour ICPs**; and

(b) 40 kWh per **trading period** per **ICP day**, in respect of **half hour ICPs**.

(4) The relevant number of **ICP days** is the value reported by the **registry manager**.

(5) The **reconciliation manager** must, when processing 0 **ICP days** information, and if data is not supplied, use default values for **profile**, and **loss category** code, as determined by the **Authority** from time to time.

Compare: Electricity Governance Rules 2003 clause 4.2 schedule J4
Clause 7(1), (3) and (4): amended, on 5 October 2017, by clause 539 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

8 ICP days scaling of submission information (excluding embedded generator information)

(1) The **reconciliation manager** must separately apply the **ICP** scaling factors and any additional amount calculated in clause 7 to the reported **half hour** and non **half hour submission information** (excluding **embedded generator** information) of each **retailer** or **direct purchaser** (excluding **direct consumers**) so as to scale up the

submission information in proportion to any under submission by the **retailer** or **direct purchaser**.

(2) The **ICP** scaling factor and any amount calculated in accordance with clause 7 must be applied to the **submission information** according to the following formula:

$$SI_{ICPD\text{-}ADJ} = (SI \times ICP_{SF}) + SI_{ICPD\text{-}ADD}$$

where

$SI_{ICPD\text{-}ADJ}$ is **submission information** adjusted for **ICP days**

SI is the amount of **electricity** reported as part of that **retailer's** or **direct purchaser's submission information**

ICP_{SF} is the **ICP** scaling factor determined in accordance with clause 7

$SI_{ICPD\text{-}ADD}$ is the default **ICP** 0 days volume defined under clause 7(3).

Compare: Electricity Governance Rules 2003 clause 4.3 schedule J4

9 Calculate residual non half hour profile shape

The **reconciliation manager** must calculate the residual **profile** shape for each **balancing area** in accordance with Schedule 15.5.

Compare: Electricity Governance Rules 2003 clause 5 schedule J4

Convert non half hour quantities using profiles

10 Allocation by profile

If **submission information** is submitted as non **half hour** quantities to be allocated to **trading periods** by **profile** shape, the **reconciliation manager** must use the appropriate shape for the **profile** code contained in the **submission information**, if**—**

(a) the **profile** code has been approved by the **Authority** in accordance with Schedule 15.5; and

(b) the **profile owner** has given written notice to the **reconciliation manager** of the approved **profile** code; and

(c) the **profile owner** has authorised the **reconciliation participant** to use the approved **profile** code.

Compare: Electricity Governance Rules 2003 clause 6.1 schedule J4
Clause 10(a) and (b): amended, on 5 October 2017, by clause 540 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

11 Profile shapes or operation logs

If an engineered, statistically sampled or recorded **profile** forms part of the **submission information**, the shape file or operation logs associated with the **profile** must be provided to the **reconciliation manager** by the **reconciliation participant** authorised by the **profile owner** to use that **profile** for each relevant **NSP** in respect of the prior **consumption period** in accordance with clauses 15.4 to 15.12.

Compare: Electricity Governance Rules 2003 clause 6.2 schedule J4

12 Application of profile shapes

The **reconciliation manager** must calculate the **trading period** information by applying the **profile** shape for the **profile** code specified in the submission file provided by the **reconciliation participant** if—

(a) the **profile** code has been approved by the **Authority** in accordance with Schedule 15.5; and

(b) the **profile owner** has given written notice to the **reconciliation manager** of the approved **profile** code, and the **profile owner** has authorised the **reconciliation participant** to use the approved **profile** code; and

(c) if a **balancing area** shape is required as part of the **profile**, the initial residual or final residual **profile** shape as defined in Schedule 15.5 must be used.

Compare: Electricity Governance Rules 2003 clause 6.3 schedule J4
Clause 12(a) and (b): amended, on 5 October 2017, by clause 541 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

13 Balancing area derived profiles approved in accordance with Appendix 1 of Schedule 15.5

The **reconciliation manager** must calculate the **trading period** information by applying the **balancing area** derived **profile** code specified in the submission file provided by the **reconciliation participant**, if—

(a) the **profile** code has been approved by the **Authority** for use as a **balancing area** derived **profile** in accordance with Schedule 15.5; and

(b) the **profile owner** has given written notice to the **reconciliation manager** of the approved **profile** code, and that the **profile owner** has authorised the **reconciliation participant** to use the approved **profile** code; and

(c) if the **Authority** has not approved the **profile** code, or submitted the **profile** to the **reconciliation manager** in accordance with clause 12(1) of Appendix 1 of Schedule 15.5, the **reconciliation manager** must use the final residual **profile** shape as defined in Schedule 15.5.

Compare: Electricity Governance Rules 2003 clause 6.4 schedule J4
Clause 13(a) and (b): amended, on 5 October 2017, by clause 542(a) and (b) of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.
Clause 13(c): replaced, on 5 October 2017, by clause 542(c) of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

14 Invalid submission information

If invalid **submission information** is submitted, and the **reconciliation manager** cannot obtain corrected information within a reasonable time period from the **reconciliation participant**, the **reconciliation manager** must—

(a) use the default values specified in this Code (if any); or

(b) if the default values described in paragraph (a) do not exist, use the default values specified by the **Authority** (if any); or

(c) if the default values described in paragraph (b) do not exist, temporarily replace the invalid data with an estimate.

Compare: Electricity Governance Rules 2003 clause 6.5 schedule J4

15 Loss factors

(1) The **Authority** may, from time to time, direct the **reconciliation manager** to apply certain values for **loss factors** for each **loss category** for a **reconciliation period** for which the **registry manager** does not, for whatever reason, provide the **reconciliation manager** with the **loss factors** for each **loss category** in accordance with clause 11.26(b).

(2) If the **Authority** makes such a direction, the **reconciliation manager** must, after adjustment for **ICP days** scaling and the application of **profiles**, apply such **loss factors** to all **submission information** for all **reconciliation periods** during which the **Authority's** direction is current.

(3) The **reconciliation manager** must apply **loss factors** to **submission information** in respect of each **embedded network** and **interconnection point**, and **submission information** in respect of parent **networks** for the appropriate **reconciliation period**.

Compare: Electricity Governance Rules 2003 clause 7 schedule J4

Clause 15(1): amended, on 5 October 2017, by clause 543 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

16 Calculation of unaccounted for electricity

(1) The **reconciliation manager** must calculate the **unaccounted for electricity** for each **balancing area** for each **trading period** in accordance with the following formula after all relevant quantities have been loss adjusted and scaled for **ICP days**:

$$\mathrm{UFE}_{BA} = \mathrm{TOT}_{BA} - \mathrm{Q}_{BA\text{-}EN}$$

where

UFE_{BA}	is the **unaccounted for electricity** for each **balancing area** for the relevant **trading period**
TOT_{BA}	is the net total of all **electricity** injected into the **balancing area** less all **electricity** leaving the **balancing area** as measured at— (a) the **NSPs** in respect of the **balancing area**; and (b) the **ICPs** for any **embedded generators electrically connected** to the **balancing area**
$\mathrm{Q}_{BA\text{-}EN}$	is all **electricity** conveyed to **consumers** connected to the **balancing area**, being the sum of the consumption parts of **submission information**, adjusted for **losses** and **ICP days**.

(2) The **reconciliation manager** must calculate the **UFE** factor in respect of each **balancing area** for each **trading period** as follows:

$$\mathrm{UFE\ Factor}_{BA} = \mathrm{TOT}_{BA} / \mathrm{Q}_{ICPD\text{-}LA}$$

where

$\mathrm{UFE\ Factor}_{BA}$	is the **unaccounted for electricity** factor in respect of each **balancing area** for each **trading period**

$Q_{ICPD\text{-}LA}$ is all **electricity** conveyed to **consumers** and **embedded networks** connected to the **balancing area**, being the sum of the consumption parts of **submission information**, adjusted for **losses** and **ICP days**

TOT_{BA} has the meaning given to it in subclause (1).

Compare: Electricity Governance Rules 2003 clause 8 schedule J4

Clause 16(1) definition of $Q_{BA\text{-}EN}$: amended, on 15 May 2014, by clause 67(a) of the Electricity Industry Participation (Minor Code Amendments) Code Amendment 2014.

Clause 16(2) definition of $Q_{ICPD\text{-}LA}$: amended, on 15 May 2014, by clause 67(b) of the Electricity Industry Participation (Minor Code Amendments) Code Amendment 2014.

Clause 16(1) and (2): amended, on 23 February 2015, by clause 75 of the Electricity Industry Participation Code Amendment (Distributed Generation) 2014.

Clause 16(1) and (2): amended, on 5 October 2017, by clause 544 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

17 Scorecard rating

(1) The **reconciliation manager** must rate each **retailer** relative to all other **retailers** using a **scorecard rating**. The numerical scores must be determined in accordance with this clause and clause 18 and used to weight the portion of **unaccounted for electricity** to be allocated to each **retailer**.

(2) Each **retailer** must provide to the **reconciliation manager**, in accordance with clause 15.7, the quantity of **electricity supplied**.

(3) The **reconciliation manager** must allocate **electricity supplied** quantities, to **reconciliation periods** for reporting and calculation purposes and in the event of unusual circumstances that must have been approved beforehand in writing by the **Authority**, re-allocate quantities on a reasonable basis to reflect the month(s) of actual usage.

Compare: Electricity Governance Rules 2003 clause 9.1 schedule J4

18 Calculation of scorecard rating

(1) The **reconciliation manager** must calculate, **publish** and apply the **scorecard rating** for each **retailer** as follows:

(a) the **scorecard rating** for each **retailer** must be calculated and **published** by the **reconciliation manager** in respect of each **reconciliation period** from which the **reconciliation manager** processes **submission information**, but must only be applied in respect of the 7 and 14 month revisions:

(b) the **scorecard rating** for each **retailer** for each **balancing area** (SC_{Ri}) must, subject to subclause (4), be calculated according to the following formula (provided that if the **scorecard rating** is calculated through the application of the formula to be less than 1, then SC_{Ri} is set to 1):

$$SC_{Ri} = AES_{Ri} / (ACI_{Ri} \times SC_{Thres})$$

where

SC_{Ri} SC is the **scorecard rating** and the subscript "Ri" is a **retailer**, for each **consumption period** and each **balancing area**

AES_{Ri} is the sum of the **electricity** supplied quantities for the 12 months up to and including the month of the relevant **consumption period**

ACI_{Ri} is the sum of the **submission information** quantities (**ICP days** adjusted but non **loss** adjusted) for the 12 months up to and including the month before the relevant **consumption period**

SC_{Thres} is the scorecard threshold (that allows for a degree of expected misalignment between the annualised **electricity supplied** and **submission information** quantities) and has the value specified by the **Authority** from time to time:

(c) in all cases, the latest **electricity supplied** and **submission information** quantities submitted to the **reconciliation manager** by the **retailer** must be used.

(2) The **scorecard rating** for each **retailer** must be set to 1.25 if the **retailer** has not provided the **reconciliation manager** with any of the required information.

(3) Despite subclauses (1) and (2), the **scorecard rating** for **direct consumers** and **direct purchasers** must be 1.

(4) Despite anything else in this Code, the **scorecard rating** must be set to 1 until such time as the **Authority** gives written notice to **participants** that the **scorecard rating** will be calculated and applied in accordance with this clause.

Compare: Electricity Governance Rules 2003 clauses 9.2 and 9.3 schedule J4
Clause 18(4): amended, on 5 October 2017, by clause 545 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

19 Calculation of unaccounted for electricity

The **reconciliation manager** must apportion **unaccounted for electricity** to each **retailer** and **direct purchaser** at each **NSP** and for each **trading period** using the following formulae:

$$UFE_{Ri} = UFE_{BA} \text{ x } AF_{Ri}$$

$$AF_{Ri} = \frac{(SC_{Ri} \text{ x } MS_{Ri})}{\text{sum}(SC_{R1} \text{ x } MS_{R1, \ldots,} SC_{Rn} \text{ x } MS_{Rn})}$$

$$MS_{Ri} = Q_{ICPD\text{-}LA\ Ri} / \text{sum}(Q_{ICPD\text{-}LA\ 1,\ \ldots,}\ Q_{ICPD\text{-}LA\ n})$$

where, for each **trading period**

UFE_{Ri} is the quantity of **unaccounted for electricity** to be allocated to each **retailer** or **direct purchaser**

UFE_{BA} is the quantity of **unaccounted for electricity** for each **balancing area** calculated by the **reconciliation manager** in accordance with clause 16(1)

$Q_{ICPD\text{-}LA\ Ri}$ is the quantity of **electricity** attributed to each **retailer** or **direct purchaser**, which has been adjusted for **losses** and **ICP days** at each **NSP**, determined by the **reconciliation manager** from that **retailer's** or **direct purchaser's submission information**

AF_{Ri} is the **unaccounted for electricity** allocation factor, expressed as a fractional number (not less than 0 or greater than 1), for each **retailer** or **direct purchaser** at each **NSP**, determined by the **reconciliation manager**

MS_{Ri} is the market share proportion, expressed as a fractional number (not less than 0 or greater than 1), for each **retailer** or **direct purchaser** at each **NSP** to be determined by the **reconciliation manager** from all **submission information** at that **NSP**

and, for each **consumption period**

SC_{Ri} is the **scorecard rating** for each **retailer** or **direct purchaser** for each **balancing area** determined by the **reconciliation manager** in accordance with clauses 17 and 18.

Compare: Electricity Governance Rules 2003 clause 10.1 schedule J4

20 Allocation of unaccounted for electricity

The **reconciliation manager** must add each **retailer's** or **direct purchaser's** share of **unaccounted for electricity** to the previously calculated **ICP days** and **loss** adjusted **submission information** at each **NSP** for each **trading period** using the following formula:

$$Q_{ILU\ Ri} = \quad Q_{ICPD\text{-}LA\ Ri} + UFE_{Ri}$$

where, for each **trading period**

$Q_{ILU\ Ri}$ is the quantity of **electricity** to be attributed to each **retailer** or **direct purchaser** that has been **ICP days** scaled, and **loss** adjusted and is **UFE** inclusive

$Q_{ICPD\text{-}LA\ Ri}$ and UFE_{Ri} have the meaning given to them in clause 19.

Compare: Electricity Governance Rules 2003 clause 10.2 schedule J4

21 Parent network UFE allocated to embedded networks

A portion of the **UFE** from the **balancing area** to which an **embedded network** is connected must be allocated by the **reconciliation manager** to each **reconciliation participant** trading on the **embedded network**. The quantity of **UFE** to be allocated by the **reconciliation manager** to the **embedded network** must be allocated in proportion to the ratio of the **embedded network's**, and upstream **balancing area's**, **submission information** quantities (that have been adjusted for **losses** and **ICP days**).

Compare: Electricity Governance Rules 2003 clause 11 schedule J4

Clause 21: amended, on 23 February 2015, by clause 75 of the Electricity Industry Participation Code Amendment (Distributed Generation) 2014.
Clause 21: amended, on 5 October 2017, by clause 546 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

22 Balancing

The **reconciliation manager** must balance the **UFE** inclusive, **ICP days** and loss adjusted **submission information** so that the sum of each **reconciliation participant's** quantities equals each **NSP** metered quantity during each **trading period**. The following process must be used by the **reconciliation manager**:

(a) for each **retailer** or **direct purchaser**, at each **NSP**, any quantities that have been designated as being attributable to a specific **NSP** within the **balancing area** must be separated off from the remaining non-dedicated quantity and remain allocated to the specific **NSP**. If the sum of each **retailer's** dedicated-**NSP** quantities exceeds the amount of **electricity** conveyed at the **NSP** in any **trading period**, the **NSP** total must be apportioned to the relevant **retailers** or **direct purchasers** in proportion to their dedicated-**NSP** quantities. The net quantities of non-dedicated **electricity** at each **NSP** must be determined by subtracting the dedicated quantities from the **NSP** totals:

(b) the **NSPs** within a **balancing area** that have been over-allocated **electricity** must be identified by comparing the sum of the non-dedicated quantities for each **retailer** and **direct purchaser** with the net **NSP** quantity. The non-dedicated quantities for each **retailer** and **direct purchaser** at each over-allocated **NSP** must be adjusted in order to achieve balance as follows:

$$Q_{BAL\ NSPx\ Ri} = \frac{Q_{ILUN\ NSPx\ Ri} \ \text{x}\ TOT_{ND\ NSPx}}{\text{sum}(Q_{ILUN\ NSPx\ R1}, \ldots, Q_{ILUN\ NSPx\ Rn})}$$

where

$Q_{BAL\ NSPx\ Ri}$ is the quantity of fully adjusted, non dedicated **electricity** per **NSP** allocated to each **retailer** and **direct purchaser** after balancing to match the **NSP** total

$Q_{ILUN\ NSPx\ Ri}$ is the quantity of non-dedicated **electricity** per **NSP** attributed to each **retailer** and **direct purchaser**, which has been adjusted for **losses** and **ICP days**, and is **UFE** inclusive

$TOT_{ND\ NSPx}$ is the quantity of non-dedicated **electricity** conveyed at the **NSP** (after allowing for relevant **balancing area** injection and extraction quantities):

(c) the **reconciliation manager** must identify the quantities of **electricity** by which the over-allocated **NSPs** have been reduced, by **retailer** and by **direct purchaser**, and re-allocate to the corresponding under-allocated **NSPs** within the **balancing area** using the following formulae:

(i) calculate the previously over-allocated quantity per **retailer** and **direct purchaser** per **balancing area** as follows:

$Q_{OVER\ Ri}$ = sum($Q_{ILUN\ NSP1\ Ri}$ - $Q_{BAL\ NSP1\ Ri}$, ………., $Q_{ILUN\ NSPn\ Ri}$ - $Q_{BAL\ NSPn\ Ri}$)

where

$Q_{OVER\ Ri}$ is the sum, over all **NSPs** in the **balancing area** that are over-allocated per **retailer** and **direct purchaser**, of the differences between the pre- and post-adjusted quantities in paragraph (b); and

$Q_{ILUN\ NSP1\ Ri}$ and $Q_{BAL\ NSP1\ Ri}$ have the meaning given to them in paragraph (b):

(ii) determine the proportions by which the over-allocated quantity must be allocated to the under-allocated **NSPs**, per **retailer** and **direct purchaser**, in order to ensure that the sum of all **reconciliation participants'** totals balance, after re-allocation, to the **NSP** totals as follows:

$PR_{NSP\ x}$ = ($TOT_{ND\ NSP\ x}$ – sum($Q_{ILUN\ NSPx\ R1\ \ldots\ QILUN\ NSPx\ Rn}$)) / $Q_{OVER\ BA}$

where

$PR_{NSP\ x}$ is the proportion by which the over-allocated quantity must be allocated to the under-allocated **NSPs**, per **retailer** and **direct purchaser**

$Q_{OVER\ BA}$ is the sum of all over-allocated quantities for all **retailers** and **direct purchasers** for all over-allocated **NSPs** in the relevant **balancing area**

$TOT_{ND\ NSPx}$ and $Q_{ILUN\ NSPx\ R1}$ have the meaning given to them in paragraph (b):

(iii) allocate the over-allocated quantities to each **retailer** and **direct purchaser** at each under-allocated **NSP** as follows:

$Q_{BAL\ NSPx\ Ri}$ = $Q_{OVER\ Ri}$ x $PR_{NSP\ Rx}$ + $Q_{ILUN\ NSPx\ Ri}$

where

$Q_{BAL\ NSPx\ Ri}$ is the over-allocated quantities of **electricity** attributed to each **retailer** and **direct purchaser** at each under-allocated **NSP**;

$Q_{OVER\ Ri}$ has the meaning given to it in subparagraph (i)

$Q_{ILUN\ NSPx\ Ri}$ has the meaning given to it in paragraph (b); and

$PR_{NSP\ Rx}$ has the meaning given to it in subparagraph (ii).

Compare: Electricity Governance Rules 2003 clause 12 schedule J4

Clause 22: amended, on 15 May 2014, by clause 68 of the Electricity Industry Participation (Minor Code Amendments) Code Amendment 2014.

23 Final quantities

The **reconciliation manager** must determine the final quantities of **electricity** to be purchased by each **reconciliation participant** by adding the dedicated and non-dedicated, balanced quantities using the following formula:

$$Q_{TOT\ Ri} = Q_{BAL\ NSPx\ Ri} + Q_{DED\ Ri}$$

where

$Q_{TOT\ Ri}$	is the final quantity of **electricity** to be purchased by each **reconciliation participant** determined by adding the dedicated and non-dedicated balanced quantities
$Q_{BAL\ NSPx\ Ri}$	has the meaning given to it in clause 22(c)(iii)
$Q_{DED\ Ri}$	are the quantities of **electricity** to be purchased by each **reconciliation participant** for dedicated quantities.

Compare: Electricity Governance Rules 2003 clause 13 schedule J4

24 Reconciliation manager reporting requirements

The **reconciliation manager** must provide the information specified in clauses 25 to 27 to those **reconciliation participants**, **participants** and the **Authority** listed in those clauses, in respect of the prior **consumption period**, by 1600 hours on the 7th **business day** of each **reconciliation period**, and in respect of revisions in accordance with clauses 15.27 and 15.28 by 1200 hours on the last **business day** of each **reconciliation period**.

Compare: Electricity Governance Rules 2003 clause 14 schedule J4

25 Retailer and direct purchaser reports

The **reconciliation manager** must make the following reports available to each relevant **retailer** and **direct purchaser** trading on the **network**:

(a) the **reconciliation manager** must produce 3 reports of the **UFE** factors for each **NSP** per **retailer** and **direct purchaser**, being—
  (i) 1 report by **trading period**; and
  (ii) 1 report by **consumption period**; and
  (iii) 1 report issued monthly in respect of the immediately preceding 12 **consumption periods**:

(b) the **reconciliation manager** must report to each **retailer** and **direct purchaser** the **retailer's** and **direct purchaser's** own scorecard and market share proportions for each **NSP**:

(c) the **reconciliation manager** must report the non **half hour** and **half hour ICP days** scaling factor for each **NSP** and each **retailer** and **direct purchaser**:

(d) the **reconciliation manager** must report to each **retailer** and **direct purchaser** the **retailer's** and **direct purchaser's** monthly totals for **half hour** metered **ICPs** as supplied by that **retailer** and **direct purchaser** in accordance with clause 15.8, for which **submission information** has not been received within the time required by this Code:

(e) the **reconciliation manager** must report to each **retailer** and **direct purchaser** the **retailer's** and **direct purchaser's** number of **ICP days** for which **submission information** has not been received within the time required by this Code, separately for non **half hour** and **half hour meter** types:

(f) the **reconciliation manager** must report all **half hourly** metered **ICPs** that have switched **retailer** and **direct purchaser** in the previous 2 months and for which consumption has changed by a percentage determined by the **Authority**.

Compare: Electricity Governance Rules 2003 clause 14.1 schedule J4

26 Distributor reports

The **reconciliation manager** must forward a report to each **distributor** that includes the following information:

(a) **electricity** traded for each **trader** trading on the **distributor's network**:

(b) **electricity supplied** information for each **trader** trading on the **distributor's network**:

(c) **submission information** for each **trader** trading on the **distributor's network**.

Compare: Electricity Governance Rules 2003 clause 14.2 schedule J4

27 Surveillance reports

The **reconciliation manager** must make the following reports available to the **Authority** and all **participants**:

(a) reports by **retailers** and **direct purchasers** for the total **unaccounted for electricity** for each **NSP**:

(b) reports by **retailers** for each **balancing area** of the variation between **electricity supplied** as reported by **retailers** (in accordance with clause 17) and **submission information** submitted for reconciliation by **retailers**:

(c) summary reports of all **half hour** metered connections for which **submission information** has not been received within the time required by this Code:

(d) summary reports by **retailers** and **direct purchasers** separately for non **half hour** and **half hour**, of all **ICP days** for which **reconciliation information** has not been received within the time required by this Code:

(e) reports for each **balancing area** for the difference between the daily average non **half hour** kWh submitted by each **retailer** and **direct purchaser** per **NSP**, and the daily average non **half hour** kWh submitted by all **retailers** and **direct purchasers** per **NSP**:

(f) separate reports for non **half hour** and **half hour submission information** detailing the difference between the quantity of **electricity** in initial and the quantity of **electricity** in each subsequent **submission information** submission for each **NSP** and each **retailer** and **direct purchaser**.

Compare: Electricity Governance Rules 2003 clause 14.3 schedule J4

Clause 27(c): amended, on 23 February 2015, by clause 75 of the Electricity Industry Participation Code Amendment (Distributed Generation) 2014.
Clause 27(c): amended, on 5 October 2017, by clause 547 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

28 Provision of reconciliation information

The **reconciliation manager** must provide the following information to the **clearing manager** and those **participants** listed below, and in the case of paragraph (f), to the **Authority**, in respect of the prior **consumption period**, by 1600 hours on the 7th **business day** of each **reconciliation period**, and in respect of revisions in accordance with clauses 15.27 and 15.28 by 1200 hours on the last **business day** of each **reconciliation period**. These reports must be in the format, and contain the information determined by the **Authority**. The reports are—

(a) to each **generator** or **purchaser**, the **reconciliation information** applying to that **generator** or **purchaser**, to enable the **generator** or **purchaser** to verify its **reconciliation information**; and

(b) to each **grid owner**, such information as is required by that **grid owner** to calculate its charges; and

(c) to the **clearing manager**, the **reconciliation information** (including all amounts derived by the **reconciliation manager** in accordance with clause 20) applying to each **participant** to enable the **clearing manager** to calculate the amounts owing by the **clearing manager** to each **participant** and by each **participant** to the **clearing manager**; and

(d) to each **retailer** and **direct purchaser**, the calculated daily **seasonal adjustment shape** related to any **point of connection** for which the **retailer** and **direct purchaser** is trading; and

(e) to each **retailer**, **generator**, and **direct purchaser**, the **reconciliation manager** must **publish half hour profile** shape data for **profiles**; and

(f) to the **Authority**, the **reconciliation manager** must provide the report prepared by the **reconciliation manager** referred to in clause 10 of Schedule 15.3; and

(g) to the **extended reserve manager**, the **reconciliation information** applying to each **participant** to enable the **extended reserve manager** to carry out and manage its procurement process.

Clause 28: amended, on 19 January 2017, by clause 17(1) of the Electricity Industry Participation Code Amendment (Extended Reserve) 2016.
Clause 28(c): amended, on 24 March 2015, by clause 27 of the Electricity Industry Participation (Settlement and Prudential Security) Code Amendment 2013.
Clause 28(f): amended, on 19 January 2017, by clause 17(2) of the Electricity Industry Participation Code Amendment (Extended Reserve) 2016.
Clause 28(g): inserted, on 19 January 2017, by clause 17(3) of the Electricity Industry Participation Code Amendment (Extended Reserve) 2016.

29 Extended reserve manager use of reconciliation information

The **extended reserve manager** must not **publish** or otherwise make available any **reconciliation information** provided to it under clause 28 that identifies any **retailer**, **purchaser**, or **generator**.

Clause 29: inserted, on 19 January 2017, by clause 18 of the Electricity Industry Participation Code Amendment (Extended Reserve) 2016.

Schedule 15.5 Profile administration

cl 15.19

1 Contents of this Schedule

This Schedule (including the appendices) contains the requirements for the production of **profiles** that must be used for **electricity** trading if a **metering installation** or **unmetered load** meets the eligibility criteria described in this Schedule.

Compare: Electricity Governance Rules 2003 clause 1 schedule J5

2 Departure from requirements

The **Authority** may approve situations that depart from the requirements of this Schedule if it is satisfied that such departure would have minimal adverse effects on each **participant**.

Compare: Electricity Governance Rules 2003 clause 2 schedule J5
Clause 2: amended, on 5 October 2017, by clause 548 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

3 Load switching

If load switching information is required from the operation log of an external control system, such as a **SCADA** or ripple injection control system, the relevant **reconciliation participant** must ensure that the information, for the immediately preceding **consumption period**, is available by 1600 hours on the 4th **business day** of each month.

Compare: Electricity Governance Rules 2003 clause 3.1 schedule J5

4 Non metering information

A **reconciliation participant** using a **profile** must ensure that all non-**metering information**, such as external control equipment operation logs, used in the determination of **profile** data, is archived in accordance with clause 18 of Schedule 15.2.

Compare: Electricity Governance Rules 2003 clause 3.2 schedule J5
Clause 4: amended, on 29 August 2013, by clause 35 of the Electricity Industry Participation (Metering Arrangements) Code Amendment 2011.

5 Profile population

Each **reconciliation participant** who uses a **profile** must keep a current **profile population** list for each month the **profile** is in use. This will form a part of the audit trail of how **profiles** are applied.

Compare: Electricity Governance Rules 2003 clause 3.3 schedule J5

6 Details of profile approved for use

(1) Each **profile owner** must keep a full copy of all of the details of each **profile** approved for use.

(2) The details must be kept in accordance with clause 18 of Schedule 15.2 for **audit** purposes.

Compare: Electricity Governance Rules 2003 clause 3.4 schedule J5

Clause 6(2): amended, on 29 August 2013, by clause 36 of the Electricity Industry Participation (Metering Arrangements) Code Amendment 2011.

7 Multiple meter registers

If a **metering installation** has multiple **meters** or **meters** with multiple registers, a **reconciliation participant** may choose to have each **meter** or **meter** register treated as 1 of the **profiles** described in Appendix 1.

Compare: Electricity Governance Rules 2003 clause 3.5 schedule J5

8 New profiles

Each new **profile** must be developed in accordance with this Schedule.

Compare: Electricity Governance Rules 2003 clause 3.6 schedule J5

9 Accuracy of clocks

External or internal clocks used for switching of **meter** registers must have a time-keeping accuracy of better than 60 seconds per month. The current time indicated by each clock must be checked for accuracy at least once per year, and corrected as necessary.

Compare: Electricity Governance Rules 2003 clause 3.7 schedule J5

10 Subtractive metering

If a **metering installation** includes subtractive metering, each **participant** must derive the appropriate net consumptions.

Compare: Electricity Governance Rules 2003 clause 3.8 schedule J5

11 Change of profile

(1) A **profile owner** may apply to the **Authority** to change a **profile**.

(2) An application must contain—

- (a) the **profile** code for the **profile** to which the proposed change relates; and
- (b) details of the proposed change.

(3) The **Authority** must not approve an application unless the **Authority** is satisfied that the requirements in clause 20 (for **NSP** derived **profiles**), and clauses 25 and 27 (for statistically sampled engineered **profiles**), with all necessary modifications, have been met.

(4) The **Authority** must advise the **profile applicant** if the application has been approved or rejected, or of additional steps that must be completed before the application can be considered, no later than 15 **business days** after receipt of the application.

Compare: Electricity Governance Rules 2003 clause 3A schedule J5
Clause 11: amended, on 5 October 2017, by clause 549 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

12 Approved profile classes

(1) Approved **profile classes** are described in Appendix 1.

(2) Each **reconciliation participant** must, with the exception of **profile classes** 1.4 and 1.5, apply to use specific **profiles** within those **profile classes** in accordance with clauses 19 to 34.

Compare: Electricity Governance Rules 2003 clause 4 schedule J5

13 Allocation and storage of profile codes

(1) The **Authority** must determine the **profile** code for an approved **profile** in accordance with this clause.

(2) **Profile class** 1.4 and 1.5 each have a single approved **profile** code, being—

(a) the **profile** code for the single approved **profile** in **profile class** 1.4 is RPS; and

(b) the **profile** code for the single approved **profile** in **profile class** 1.5 is UML.

(3) **Profile class** 2.5 has 2 approved **profile** codes, being**—**

(a) the **profile** code for the approved **profile** in **profile class** 2.5.1 non **half hour** photovoltaic embedded generation, is PV1; and

(b) the **profile** code for the approved **profile** in **profile class** 2.5.2 other non **half hour** embedded generation, is EG1.

(4) **Profile class** 1.7 has a single approved **profile** being, for differenced load, DFP.

(5) The **Authority** must **publish** the following information for all approved **profiles** in the following format:

profile reference:	the unique reference under which the **profile** is allocated and stored	
profile class:	refer to Appendix 1	
characteristics:	type(s) of **meter(s)**:	A – None
		B – Single register
		C – Multi-register
	type(s) of load(s)	D – Controlled
		E – Uncontrolled
description:	a brief description of the type of **consumer** or **embedded generator** to whom the **profile** applies.	

Compare: Electricity Governance Rules 2003 clause 5 schedule J5

Clause 13(1) and (5): amended, on 5 October 2017, by clause 550 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

14 Calculate residual non half hour profile shapes

The **reconciliation manager** must calculate, **half hour** by **half hour**, a residual **profile** shape for each **balancing area** that must be used to allocate non **half hour submission information** (after adjustment for **losses** and **ICP days**) to **trading periods** in accordance with clauses 15 to 18.

Compare: Electricity Governance Rules 2003 clause 6 schedule J5

15 Determine total balancing area load

(1) This calculation determines the total **electricity** consumption inside a **balancing area** by summing all of the injection into a **balancing area** and subtracting the extraction out of the **balancing area**. In this case, injection is defined as **electricity** entering (E_i) the **balancing area** and includes flows from **embedded generators**, or any other **network** (including **embedded networks** or the **grid**). Similarly, extraction is defined as the flows of **electricity** leaving (L_i) the **balancing area**, to other **networks**.

(2) The process in subclause (1) must be carried out for each **trading period** and for each **balancing area** within which there is non **half hour** metered **electricity** to be reconciled by following the procedure below:

$$TOT_{BA} = \underbrace{(E_{GD} + E_{LN} + E_{EN})}_{\text{Sum of energy flow entering the balancing area}} - \underbrace{(L_{GD} + L_{LN} + L_{EN})}_{\text{Sum of energy flow leaving the balancing area}} + \underbrace{(E_{EG})}_{\text{Sum of generation injection entering the balancing area}}$$

where

TOT_{BA} is the total quantity of **electricity** consumed within the **balancing area**, measured as being the sum of flows injected into the **balancing area** less flows out to any **embedded network** or to another **electrically connected network**

E_{GD} is the quantity of **electricity** entering the **balancing area**, as measured by the **grid NSP metering installation** for the **balancing area**

E_{LN} is the quantity of **electricity**, entering the **balancing area** through an **interconnection point** from another **network**, as measured by the **NSP metering installation** (which has been adjusted for **losses**)

L_{GD} is the quantity of **electricity** leaving the **balancing area**, as measured by the **grid NSP metering installation** for the **balancing area**

E_{EN} is the quantity of **electricity** entering the **balancing area** from an **embedded network**, as measured by the **NSP** gateway **metering installation** for the **embedded network**

E_{EG} is the quantity of **electricity** entering the **balancing area** from an **embedded generator electrically connected** to the **network**, (which may either be **half hour** or non **half hour** metered), as measured by the **NSP metering installation**

$L_{\mathbf{LN}}$ is the quantity of **electricity**, leaving the **balancing area** through an **interconnection point** to another **network**, as measured by the **NSP metering installation** (which has been adjusted for **losses**)

$L_{\mathbf{EN}}$ is the quantity of **electricity**, leaving the **balancing area** to an **embedded network,** as measured by the **NSP** gateway **metering installation** for the **embedded network**.

Compare: Electricity Governance Rules 2003 clause 6.1 schedule J5
Clause 15: amended, on 23 February 2015, by clause 75 of the Electricity Industry Participation Code Amendment (Distributed Generation) 2014.
Clause 15(2): amended, on 5 October 2017, by clause 551 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

16 Calculate total non half hour shape

(1) Using the total **balancing area** quantities determined in accordance with clause 15 and the **reconciliation participants' half hour submission information** (that has been

adjusted for **losses** and **ICP days**), the **reconciliation manager** must calculate, for each **trading period**, a total **profile** shape representing the aggregated consumption of all non **half hour** metered **electricity** for each **balancing area** by following the procedure below:

$$NHH_{Tot} = \underbrace{TOT_{BA}}_{\text{Sum of HHR metered consumption internal to the network area}} - HHR_{M}$$

where

NHH_{Tot} is the total quantity of non **half hour** metered **electricity** consumed in a **balancing area** provided that if the calculated quantity is less than 0, the quantity must, for the purposes of this clause, be deemed to be 0

TOT_{BA} is the total quantity of **electricity** consumed within the **balancing area**, determined in accordance with clause 15

HHR_{M} is the total quantity of consumed **electricity** which is calculated from all **reconciliation participants' half hour submission information** (which has been adjusted for **losses** and **ICP days**).

(2) The volumes described in subclause (1) must not be **published** and are a process step only.

Compare: Electricity Governance Rules 2003 clause 6.2 schedule J5

17 Calculate initial residual profile shape and seasonal adjustment shape

(1) Using the resultant NHH_{Tot} quantities from the calculation in clause 16, the **reconciliation manager** must calculate, for each **trading period**, **half hour** by **half hour**, the initial residual **profile** shape for each **balancing area** by following the procedure below:

$$GXP_{Init} = \underbrace{NHH_{Tot}}_{\substack{\text{Sum of independently}\\ \text{shaped, non half hour}\\ \text{profiled consumption}\\ \text{internal to the network area}}} - (Pr_{ENG} + Pr_{STAT})$$

where

GXP_{Init} is the Initial Residual **Profile**. This is the remaining total quantity of **electricity** for each **half hour** that represents the shape-dependent balance of the non **half hour** consumption within a **balancing area.** This set of values, calculated for each **trading period**, is the initial residual **profile** for each **NSP** within the **balancing area**

NHH_{Tot} is as determined in clause 16

Pr_{ENG} is the quantity of consumed **electricity** for each **trading period** that is in accordance with the approved engineered **profile**, calculated from the **reconciliation participant submission information** adjusted for **ICP days** and after application of **loss factors**

Pr_{STAT} is the quantity of consumed **electricity** for each **trading period** that is in accordance with the approved statistically sampled **profile**, calculated from the **reconciliation participant submission information** adjusted for **ICP days** and after the application of **loss factors**.

(2) The GXP_{Init} values must be used by the **reconciliation manager** to allocate non **half hour submission information** to **trading periods** for each **reconciliation participant** that uses a **profile** that specifies the use of the initial residual **profile** shape at the **NSP**.

(3) The **reconciliation manager** must aggregate those **trading period** volumes into daily totals for each **profile** at the **NSP**, and those daily totals must be **published** by the **reconciliation manager** as the **seasonal adjustment shape**.

Compare: Electricity Governance Rules 2003 clause 6.3 schedule J5
Clause 17(2): amended, on 15 May 2014, by clause 69 of the Electricity Industry Participation (Minor Code Amendments) Code Amendment 2014.

18 Calculate final residual profile shape

(1) Using the resultant GXP_{Init} quantity from the calculation in clause 17, the **reconciliation manager** must calculate, for each **trading period**, the final residual **profile** shape for each **balancing area** by following the procedure below:

$$GXP_{Res} = GXP_{Init} - (\underbrace{PrSh_1 + \ldots. + PrSh_n}_{\text{Sum of non half hour dependently shaped profiles internal to network area}})$$

where

GXP_{Res} is the Final Residual **Profile** (which is given the code “RPS”). This is the remaining quantity of **electricity** for each **trading period** that represents the shape dependent balance of the non **half hour** load within a **balancing area**. The monthly file of this consumption, calculated for each **trading period**, is the final residual **profile** for each **NSP** within the **balancing area**

GXP_{Init} is as determined in clause 17

$PrSh_X$ is the quantity of consumed **electricity** for each **trading period** which is in accordance with the approved shape dependent **profile** calculated from the **reconciliation participant** loss and **ICP days** adjusted **submission information**.

(2) The GXP_{Res} values in subclause (1) must be used by the **reconciliation manager** to allocate non **half hour submission information** to **trading periods** for each **reconciliation participant** who uses a **profile** that specifies the use of the residual **half hour** shape at the **NSP**, for each **trading period** of the **reconciliation period**.

Compare: Electricity Governance Rules 2003 clause 6.4 schedule J5
Clause 18(2): amended, on 15 May 2014, by clause 70 of the Electricity Industry Participation (Minor Code Amendments) Code Amendment 2014.

New NSP derived profiles

19 Applications

(1) An application to introduce a new **NSP** derived **profile** must be submitted to the **Authority**, who must either advise the **profile applicant** of further actions, or must approve or reject the application no later than 15 **business days** after its receipt.

(2) Each application must contain the following—

(a) a **profile** description:

(b) a suggested **profile** code:

(c) a **profile class** in accordance with Appendix 1:

(d) the criteria applied by the **profile applicant** to allocate **ICP identifiers** in the **profile**:

(e) a description of the methodology for compiling **submission information** and **profile** shapes:

(f) details of dynamics derived from sources external to the **metering installation** (including without limitation **SCADA** and ripple control) if appropriate.

Compare: Electricity Governance Rules 2003 clause 7.1 schedule J5
Clause 19(1): amended, on 5 October 2017, by clause 552 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

20 Assessment

Before approving a **profile**, the **Authority** must be satisfied that—

(a) there are clear criteria applied by the **reconciliation participant** to allocate **ICP identifiers** in the **profile**; and

(b) there are no obvious flaws in the methodology for compiling **submission information** and **profile** shapes; and

(c) the **reconciliation manager** is able to incorporate the **profile** into the reconciliation process; and

(d) the proposed **profile** is not at variance with existing **profiles** for like populations.

Compare: Electricity Governance Rules 2003 clause 7.2 schedule J5
Clause 20: amended, on 5 October 2017, by clause 553 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

21 Ownership

For the purposes of this Schedule, a **profile applicant** must become the **profile owner** once the application is approved. If the **profile applicant** is not a legal entity, a legal entity must be nominated by the **profile applicant** to be the **profile owner**.

Compare: Electricity Governance Rules 2003 clause 7.3 schedule J5

22 Withdrawal of applications

If an application is withdrawn by a **profile applicant** at any time following the **declaration date**, but before approval, the **Authority** must advise all **participants**.

Compare: Electricity Governance Rules 2003 clause 7.4 schedule J5
Clause 22: amended, on 5 October 2017, by clause 554 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

23 Rejected applications

If an application is rejected, the **Authority** must provide to the **profile applicant** a detailed explanation of why the application was rejected, together with actions required for a reconsideration of the application.

Compare: Electricity Governance Rules 2003 clause 7.5 schedule J5
Clause 23: amended, on 5 October 2017, by clause 555 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

24 Use of approved profiles

(1) A **profile** must not be used for reconciliation until it is approved by the **Authority** in accordance with clauses 19 and 20. The use of a **profile** must be effective from a date decided by the **Authority**, but not earlier than the 1st day of the month following the **declaration date**.

(2) A **reconciliation participant** who wishes to reconcile its **ICP identifiers** using an existing **profile** must first gain the approval of the **profile owner**.

Compare: Electricity Governance Rules 2003 clause 7.6 schedule J5

Clause 24(1): amended, on 5 October 2017, by clause 556 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

New statistically sampled/engineered profiles

25 Technical requirements

A new **profile** must be based on a process of statistical sampling carried out in accordance with the guidelines contained in the appendices to this Schedule, or derived using recognised engineering principles, or derived from **NSP profiles**.

Compare: Electricity Governance Rules 2003 clause 8.1 schedule J5

26 Applications

(1) An application to introduce a new **profile** must be submitted to the **Authority**, who must either advise the **profile applicant** of further actions, or approve or reject the application in writing no later than 15 **business days** after its receipt. Each application must contain the following:

(a) a **profile** description:

(b) a suggested **profile** code:

(c) a **profile class** in accordance with Appendix 1:

(d) the size of the **profile population** and a list that uniquely identifies each member of the **profile population**:

(e) the criteria applied by the **reconciliation participant** to allocate **ICP identifiers** to the **profile**:

(f) a description of the methodology for compiling **submission information** and **profile** shapes:

(g) details of dynamics derived from sources external to the **metering installation** (including without limitation **SCADA** and ripple control) if appropriate:

(h) details of any **half-hour metering** as a control or source of input data to the **profile**:

(i) statistical or engineering data that supports the proposed **profile** shape.

(2) The **profile applicant** must supply any analytical information relating to the application in the format required by the **Authority**.

Compare: Electricity Governance Rules 2003 clauses 8.2 and 8.2A schedule J5
Clause 26(1) and (2): amended, on 5 October 2017, by clause 557 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

27 Assessment

The **Authority** must be satisfied that—

(a) there are clear criteria applied by the **reconciliation participant** to allocate **profiles** to **ICP identifiers**; and

(b) there is an audit trail for the allocation of **profiles** to **ICP identifiers**; and

(c) there are no obvious flaws in the methodology for allocating **profiles** to **ICP identifiers**; and

(d) the **reconciliation manager** is able to incorporate the **profile** into the reconciliation process; and

(e) the proposed **profile** is not at variance with existing **profiles** for like populations.

Compare: Electricity Governance Rules 2003 clause 8.3 schedule J5
Clause 27: amended, on 5 October 2017, by clause 558 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

28 Sampling requirements

(1) Statistical samples must be drawn using the methodology described in Appendix 2. Sampling information must be taken from **fully certified metering installations**. An **interim certified metering installation** must not be used for this purpose.

(2) For **profiles** that require statistical sampling, the **Authority** must specify the **preliminary sample size** and draw a **preliminary sample** of **ICP identifiers** from the **profile population** list, or must accept appropriate sampling performed by the **profile applicant**. **Half hour** research **meters** must be, or must have been, installed and operated by the **profile applicant** for this **preliminary sample**. The **Authority** must require a minimum sampling period of 60 days, and not more than 12 months. The **Authority** may withdraw **ICP identifiers** from the **profile population** list if it can be shown by the **profile applicant** that those **ICP identifiers** are in sites that are difficult to meter.

(3) The average **unit cost** and standard deviation of the **unit cost** must be calculated using the 60 days or more of data obtained as described above. If the sample **co-efficient of variation** is less than or equal to the **profile acceptance limit** specified in Appendix 2, the size of the **profile sample** must be the **profile sample size**. The **Authority** must provide a standard set of synthetic price scenarios to determine the variability of **unit costs**.

(4) If the sample **co-efficient of variation** is more than the **profile acceptance limit**, the **Authority** can reject the application, or can require the **profile applicant** to supply additional information until the **Authority** is satisfied that there is no clear evidence to suggest the population **co-efficient of variation** exceeds the **profile acceptance limit**.

(5) If the **preliminary sample size** is less than the **profile sample size**, the **Authority** must draw an additional random sample. The size of the additional random sample must equal the shortfall.

(6) If the **profile sample size** is less than the **preliminary sample size**, the **preliminary sample** must become the **profile sample**.

Compare: Electricity Governance Rules 2003 clause 8.4 schedule J5
Clause 28(1): amended, on 29 August 2013, by clause 37 of the Electricity Industry Participation (Metering Arrangements) Code Amendment 2011.
Clause 28: amended, on 5 October 2017, by clause 559 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

29 Ownership

For the purposes of this Schedule, a **profile applicant** must become the **profile owner** once the application is approved. If the **profile applicant** is not a legal entity, a legal entity must be nominated to be the **profile owner**.

Compare: Electricity Governance Rules 2003 clause 8.5 schedule J5

30 Withdrawal of applications

If an application is withdrawn by a **profile applicant** at any time following the **declaration date**, but before approval, the **Authority** must advise all **participants**.

Compare: Electricity Governance Rules 2003 clause 8.6 schedule J5
Clause 30: amended, on 5 October 2017, by clause 560 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

31 Rejected applications

(1) If an application is rejected, the **Authority** must provide the **profile applicant** with a detailed explanation of why the application was rejected, together with actions required for a reconsideration of the application.

(2) If an application is rejected because the **coefficient of variation** is found to be too large, the **profile applicant** may resubmit the application with a refined **profile population**.

(3) The refined **profile population** must be a subset of the original population and must be made up of **ICP identifiers** that are more homogenous in their **unit costs** than those in the original **profile population**.

(4) Data collected from **half-hour metering** in the original preliminary sample may be re-used to constitute the refined **preliminary sample** as long as the data was collected from **ICP identifiers** that belong to the refined **profile population**.

(5) The **Authority** must determine if additional **ICP identifiers** are required to make up the refined **preliminary sample**.

Compare: Electricity Governance Rules 2003 clause 8.7 schedule J5
Clause 31(1) and (5): amended, on 5 October 2017, by clause 561 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

32 Use of approved profiles

(1) A **profile** must not be used for reconciliation until the **Authority** approves it. The use of a **profile** must be effective from a date decided by the **Authority**, but not earlier than the 1st day of the month following the **declaration date**. If an approved **profile** is used for reconciliation, every **ICP identifier** on the **profile population** list must be reconciled under that **profile**.

(2) A **reconciliation participant** who wishes to reconcile its eligible **ICP identifiers** using an existing **profile** must first gain the approval of the **profile owner**. **ICP identifiers** not already on the **profile population** list must be added to the list before the **profile** can be applied.

Compare: Electricity Governance Rules 2003 clause 8.8 schedule J5
Clause 32(1): amended, on 5 October 2017, by clause 562 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

33 Profile maintenance and changes

(1) The **profile sample** must be representative of the **profile population**. The **profile owner** must be responsible for maintaining a valid statistical sample which takes into account changes in the **profile population**.

(2) The **profile owner** must maintain a current **profile population** list. The **profile owner** must inform the **Authority** when an update is necessary (refer subclause (3)). The **profile population** list is subject to random **audit** by the **Authority** or its appointed **audit** agent.

(3) The **profile sample** must be updated when membership of the **profile population** has changed by more than 20% since the **sample date**. The **profile owner** must, no later than 10 **business days** after the **profile owner** becomes aware of such change in

membership, give written notice to the **Authority** of the changes in the **profile population** list. The **Authority** must determine, and give written notice to the **profile owner** of, any required modifications to the **profile sample**. The **profile owner** has 1 month from the date on which the **profile owner** receives the notice from the **Authority** to ensure that **certified half hour meters** are installed in the **metering installations** of these **ICP identifiers**, and that the **metering installations** are fully **certified**.

(4) If more than 5% of the **profile sample** has been lost or removed, the **profile owner** must submit to the **Authority** a list of **ICP identifiers** in the current **profile sample** who have been lost or removed from the **profile population** list. The **Authority** must draw **ICP identifiers** from the **profile population** list to replace those who are lost or removed from the **profile sample**. The **profile owner** must ensure that **certified half hour meters** are installed in the **metering installations** of these **ICP identifiers**, and that the **metering installations** are fully **certified**, no later than 1 month after the **Authority** issues its determination of the appropriate replacement **ICP identifiers**.

(5) The addition or removal of **ICP identifiers** to or from the **profile sample** must follow the procedures in Appendix 2.

(6) There must be at least 3 months between updates.

Compare: Electricity Governance Rules 2003 clauses 8.9.1 and 8.9.2 schedule J5
Clause 33(2) to (4): amended, on 5 October 2017, by clause 563 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

34 Exceptions to sampling methodology

The **Authority** may allow different sampling methodologies that are not described in this Schedule, only if—

(a) the methodology can, in the **Authority's** assessment, produce sample data that meets the precision standards specified under Appendix 2; and

(b) the **Authority** or its **audit** agent is satisfied that the methodology can be **audited** to the same degree of rigour as the sampling methodology outlined in Appendix 2; and

(c) following the **declaration date** but before approval, details of the shape of the proposed **profile** must be provided by the **profile owner** on a monthly basis to all **participants** trading on the affected **NSP(s)**. Use of such **profile** information is subject to clause 32. Following approval, such details must be provided to all **participants** by the **reconciliation manager**.

Compare: Electricity Governance Rules 2003 clause 8.9.3 schedule J5
Clause 34: amended, on 5 October 2017, by clause 564 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

35 Audits

(1) A **participant** may request the selective **audit** of any **participant's** compliance with this Schedule or the **participant's** application and use of any **profile**.

(2) The **Authority** or its agent must **audit** the application of all **profiles** in a random order at least once every 2 years by applying a selection process that the **Authority** determines.

(3) As a minimum, a **profile audit** must cover the following:

(a) the documents detailing the methodology of the **profile**:

(b) the application of dynamic and estimated elements of the **profile**:

(c) the **profile population** list.

Compare: Electricity Governance Rules 2003 clause 9 schedule J5
Clause 35(2): replaced, on 5 October 2017, by clause 565 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

36 Reviews

(1) The **Authority** must review the structure of every approved **profile** at least every 3 years.

(2) Each review must determine whether—

(a) the criteria for **profile** definition are still appropriate; and

(b) if applicable, the existing sample needs to be redrawn.

Compare: Electricity Governance Rules 2003 clause 10 schedule J5
Clause 36(1): amended, on 5 October 2017, by clause 566 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

37 Removal of profiles

(1) The **Authority** must immediately remove a **profile** that fails an **audit** from the list of approved **profiles** held by the **Authority**.

(2) A **participant** who includes in a **profile** an **ICP identifier** that is not of the classification contained in the **profile** documentation breaches this Code. All alleged breaches must be reported to the **Authority** and resolved in accordance with the **Act**.

(3) The **Authority** may remove a **profile**—

(a) at the request of the **profile owner** that introduced the **profile**; or

(b) for such other reasons that the **Authority** decides.

(4) A **profile owner** that makes a request to the **Authority** under subclause (3)(a) must—

(a) make the request in writing; and

(b) request the **profile's** removal be effective from the start of the **reconciliation period** immediately following the date on which the **Authority** receives the request.

(5) If the **Authority** removes a **profile**, the **Authority** must decide on the actions to be taken with respect to the **ICP identifiers** to which the **profile** applied.

Compare: Electricity Governance Rules 2003 clause 11 schedule J5
Clause 37(1): amended, on 5 October 2017, by clause 567(a) of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.
Clause 37(3) to (5): replaced, on 5 October 2017, by clause 567(b) of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

Appendix 1
Profile classes

1 Contents of this Appendix

This Appendix contains generic descriptions of **metering installations** to which particular **profile classes** may be assigned.

Compare: Electricity Governance Rules 2003 appendix 1 schedule J5

Participants NSP-derived profiles

2 Profile class 1.1 interval time of use meters

(1) **Meters** in the **profile class** 1.1 – interval time of use meter classification include the following:

(a) day-night two rate **meters**:

(b) night only **meters**:

(c) night only plus afternoon boost **meters**:

(d) 5 rate time of use **meters**.

(2) If register-switching is triggered by an external signal, such as a ripple relay, rather than by the **meter's** internal clock, data from the operation log of the equipment controlling the external signal must be used to provide the **profile** time period.

Compare: Electricity Governance Rules 2003 clause 1.1 appendix 1 schedule J5

3 Profile class 1.2 separately metered controlled load

(1) **Meters** in the **profile class** 1.2 separately metered controlled load classification include a separate **meter** for a ripple controlled water heater, which may be switched on and off at variable times of the day. The entire load recorded on this register must be available for control.

(2) Information from the operation logs of equipment controlling the connection of controllable loads must be used to determine the time period relating to them. If the controllable load component is not static, a calculation of the diversity of the load must be documented and applied.

(3) Other **meters** in the **metering installation** must be applied as per **profile class** 1.1 or 1.4, as appropriate.

Compare: Electricity Governance Rules 2003 clause 1.2 appendix 1 schedule J5
Clause 3(2): amended, on 23 February 2015, by clause 75 of the Electricity Industry Participation Code Amendment (Distributed Generation) 2014.
Clause 3(2): amended, on 5 October 2017, by clause 568 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

4 Profile class 1.3 non separately metered controlled load

(1) Installations in the **profile class** 1.3 classification non separately metered controlled load include a ripple controlled water heater but with only 1 **meter** measuring the whole installation including the water heater.

(2) The controlled load may be switched on and off at variable times of the day. In this case a proportion of the **profile** (kWh) must be applied as per **profile class** 1.2 with the remaining kWh applied as per **profile class** 1.1 or 1.4, as appropriate.

Compare: Electricity Governance Rules 2003 clause 1.3 appendix 1 schedule J5

5 Profile class 1.4 uncontrolled load 24 hour meters

(1) The **profile** from **meters** in the **profile class** 1.4 uncontrolled load 24 hour **meters** must follow the **NSP** residual **profile**.

(2) The **NSP** residual **profile** must be calculated in accordance with clauses 14 to 18 of Schedule 15.5.

Compare: Electricity Governance Rules 2003 clause 1.4 appendix 1 schedule J5

6 Profile class 1.5 unmetered loads

(1) **Unmetered loads** in the **profile class** 1.5 classification include, but are not limited to, under veranda lighting, electric fences, sewer pumps, advertising hoardings, public conveniences, supply to construction sites, electric parking meters, and public water fountains.

(2) For those types of **unmetered load**, a fixed annual kWh quantity must be assigned to each **ICP** and must be applied according to the 24 hour **NSP** final residual **profile**.

Compare: Electricity Governance Rules 2003 clause 1.5 appendix 1 schedule J5

7 Profile class 1.7 differenced load

Profile class 1.7 differenced load represents the result of subtractive processes performed by the **reconciliation manager** to form differenced load.

Compare: Electricity Governance Rules 2003 clause 1.7 appendix 1 schedule J5

Statistically sampled and engineering profile classes

8 Profile class 2.1 unmetered loads

(1) **Profiles** may be applied to intended loads with characteristics that are reasonably predictable using time and other observable values.

(2) The elements making up each load and time period must be documented by the **profile owner**.

(3) The documentation must include a description of the methodology, formula, and the results of any calculations for any estimated data.

Compare: Electricity Governance Rules 2003 clause 2.1 appendix 1 schedule J5

9 Profile class 2.2 half hour data, metering installations with interim certification

(1) **Half hour** data from **interim certified metering installations** may be—

(a) regarded as a 100% sampled **profile** until the expiry of the interim exemption validity period for those **metering installations** under Part 10. From that date, if the **metering installation** has not been **recertified** as a fully **certified metering installation** under Part 10, the **metering installation** must be assigned to **profile class** 1.4; or

(b) treated as if it was derived from **fully certified metering installations** until the expiry of the interim exemption validity period for those **metering installations**. To avoid doubt, the **half hour** data must be derived from an **interrogation** of the **metering installation** and must be submitted to the **reconciliation manager** in accordance with Schedule 15.4.

(2) For a 100% sampled **profile**, a method of calculating **forward estimates** must be adopted in accordance with clauses 2 to 7 of Schedule 15.3. A **profile** shape for the **reconciliation period** must be submitted to the **reconciliation manager** with the estimated data.

(3) If the gathering, validation and repair of **volume information** from an **interim certified metering installation** is carried out in a manner that is not in accordance with Schedule 15.2, these processes must be fully documented in the quality procedures of the **participant**.

Compare: Electricity Governance Rules 2003 clause 2.2 appendix 1 schedule J5
Clause 9(1): amended, on 29 August 2013, by clause 38(a) of the Electricity Industry Participation (Metering Arrangements) Code Amendment 2011.
Clause 9(1)(a): amended, on 29 August 2013, by clause 38(b) and (c) of the Electricity Industry Participation (Metering Arrangements) Code Amendment 2011.
Clause 9(1)(b): amended, on 29 August 2013, by clause 38(d), (e) and (f) of the Electricity Industry Participation (Metering Arrangements) Code Amendment 2011.
Clause 9(3): amended, on 29 August 2013, by clause 38(g) of the Electricity Industry Participation (Metering Arrangements) Code Amendment 2011.

10 Profile class 2.3 unmetered installations that require shape file to be submitted

(1) A **profile** may be applied to an intended load with characteristics that are reasonably predictable using time and other observable values.

(2) For those types of **unmetered load**, the **profile** must include a process for maintaining **unmetered load** quantities that are used in the reconciliation process. The shape file will be produced by the **profile owner** from a **metering installation**.

(3) The elements making up each load and time period must be documented by the **profile owner**. The documentation must include a description of the methodology, formula, and the results of any calculations for any estimated data.

Compare: Electricity Governance Rules 2003 clause 2.3 appendix 1 schedule J5

11 Profile class 2.4 metered installations that require shape file

(1) A **profile** may be applied to an intended load with characteristics that are reasonably predictable using time and other observable values.

(2) For those types of metered load, a **metering installation** must be used to determine the quantity of **electricity** for reconciliation purposes.

(3) The elements making up each load and time period must be documented by the **profile owner**. The documentation must include a description of the methodology, formula, and the results of any calculations for any estimated data.

Compare: Electricity Governance Rules 2003 clause 2.4 appendix 1 schedule J5

12 Profile class 2.5, non half hour embedded generation

(1) The **Authority** must—

(a) determine how each of the 2 types of non **half hour embedded generator profiles** under subclause (2) applies and operates; and

(b) having made its determination under paragraph (a), submit each non **half hour embedded generator profile** to the **reconciliation manager**.

(2) The 2 types of **non half hour embedded generator profiles** are:

(a) the photovoltaic is a time limited **profile** and may only be used for photovoltaic generation that injects **electricity** into the **network** during daylight hours; and

(b) the other **profile** is a non limited flat load **profile** and must be used for all other embedded generation that does not fit within the **profile** in paragraph (a) or if the **reconciliation participant** has not created an engineered **profile** for the **embedded generator**.

Compare: Electricity Governance Rules 2003 clause 2.5 appendix 1 schedule J5
Clause 12(1): replaced, on 5 October 2017, by clause 569 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

Appendix 2
Determining statistically sampled profiles

1 Basic sampling scheme

The method of simple random sampling without replacement must be used in drawing statistical samples whenever such samples are required for **profiles** under this Code.

Compare: Electricity Governance Rules 2003 clause 1 appendix 3 schedule J5

2 Preliminary sample

(1) Unless the **profile applicant** has better information available that is acceptable to the **Authority**, the size of the **preliminary sample** must be determined by the following **preliminary sample size** formula:

$$n_1 = \quad (z_\alpha^{\,2} \times C_A^{\,2})/ r^2$$

(2) If n_1/N is greater than 0.1, it must be modified to account for the finite population correction factor and is calculated as—

$$n_1' = n_1 / (1 + n_1/N)$$

(3) If either n_1 or n_1' is less than 20, the **preliminary sample size** must be 20.

(4) In the above formula—

N	is the size of the **profile population**
α	is the confidence level
z_α	is the value of the standard normal distribution which gives α probability outside the tails
C_A	is the value of **co-efficient of variation** of the **unit cost**
r	is the **relative standard error** of the **unit cost**.

(5) The following parameter values are to be used:

Value of **co-efficient of variation** (C_A): 0.1
Relative standard error (r): 0.05
Confidence level (α): 0.99

(6) The **profile acceptance limit** must be 0.2.

(7) These values must be subject to review in accordance with clause 5.

(8) The **profile applicant** must collect **half hour** data from the **preliminary sample** over a period of at least 60 days. The data, in its processed form, must be submitted to the

Authority for consideration. The data processing must include calculations of **unit costs**, and of mean and standard deviation of **unit costs**, over the sample period.

Compare: Electricity Governance Rules 2003 clause 2 appendix 3 schedule J5
Clause 2: amended, on 5 October 2017, by clause 570 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.

3 Profile sample

(1) The size of the **profile sample** must be determined by the following **profile sample size** formula:

$$n = (S_0^2/Y_0^2)\times (z_\alpha^2/ r^2)\times\{1 + 8\times(r^2/z_\alpha^2) \times [S_0^2/(n_1 \times Y_0^2)] + 2/n_1\}$$

(2) If n/N is greater than 0.1, it must be modified to account for the finite **profile population** correction factor and is calculated as—

$$n' = n/(1+n/N)$$

(3) If either n or n' is less than n_1, the **preliminary sample** must become the **profile sample**.

(4) In the above formula—

S_0	is the estimated standard deviation of **unit costs** from the **preliminary sample**, or from the existing **profile sample** in the case of updates
Y_0	is the estimated mean of **unit costs** from the **preliminary sample**, or from the existing **profile sample** in the case of updates
α	is the confidence level
z_α	is the value of the standard normal distribution which gives α probability outside the tails
n_1	is the size of the **preliminary sample**, or the existing **profile sample** in the case of updates
r	is the **relative standard error** of the **unit cost**.

(5) The **relative standard error** (r) and the confidence level (α) must be the same as those specified in clause 2.

(6) If the size of the **profile sample** is larger than the size of the **preliminary sample**, additional **ICP identifiers** from the **profile population** must be drawn to increase the sample size to the required level.

(7) Data from the **profile sample** must be used to form the basis for future updates.

Compare: Electricity Governance Rules 2003 clause 3 appendix 3 schedule J5

4 Sample updates

(1) If an update is required because of a change in the **profile population**, the following procedures must be followed:

(a) if the size of the updated **profile sample** is larger than the size of the existing **profile sample**, additional **ICP identifiers** must be drawn from new **participants** of the **profile population** to increase the sample size to the required level:

(b) if the size of the updated **profile sample** is smaller than the size of the existing **profile sample**, **ICP identifiers** from the existing **profile sample** must be removed to decrease the sample size to the required level, unless the **profile applicant** decides to nominate the existing **profile sample** as the **profile sample**.

(2) For the purposes of updates, data from the existing **profile sample** must be used (instead of data from the **preliminary sample**) in all **profile sample size** calculations.

Compare: Electricity Governance Rules 2003 clause 4 appendix 3 schedule J5

5 Reviews

(1) The statistical parameters must be monitored by the **Authority** and reviewed when the **Authority** considers it appropriate. Modifications of those parameters are expected as the industry gains experience in the use of statistical **profiles**. Industry **participants** will be consulted as part of the review process.

(2) Each year the **Authority** must review data gathered during the year for each **profile sample**, and must re-examine the **co-efficient of variation** and the sample size. A **relative standard error** of 5% and a confidence level of 99% must be applied initially. A figure of 2% for the **relative standard error** is expected to be adopted by the **Authority** following the first 12-monthly review and may thereafter be reviewed from time to time.

(3) Reviews of existing standards must take place in the 6^{th} month and the 12^{th} month during the 1^{st} year of **profile** introduction.

Compare: Electricity Governance Rules 2003 clause 5 appendix 3 schedule J5
Clause 5(1) and (2): amended, on 5 October 2017, by clause 571 of the Electricity Industry Participation Code Amendment (Code Review Programme) 2017.