

GAS METERING CODE

GMC/04

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1. PRELIMINARY

1.1 Title

1.1.1 This industry code is the *Gas Metering Code*.

1.2 Authority

1.2.1 This *Gas Metering Code* is made as an industry code pursuant to the powers of the **Commission** under section 28 of the *Essential Services Commission Act 2002*.

1.3 Definitions and interpretation

1.3.1 Words appearing in bold like this are defined in clause 6 of this *Gas Metering Code*.

1.3.2 This *industry code* must be interpreted in accordance with the rules set out in clause 6 of this *Gas Metering Code*.

1.4 Application

1.4.1 This *Gas Metering Code* regulates standards for **meters** and **metering installations** at **customer delivery points**.

1.4.2 The persons *bound* by this industry code are **retailers** and **distributors**.

1.5 Obtaining a copy of this Gas Metering Code

1.5.1 A **distributor** must, when asked by a **customer**, send to that **customer** within 10 **business days** a copy of this *Gas Metering Code* (and any amendments from time to time which materially affect a **customer's** rights, entitlements or obligations), free of charge for the first request by that **customer**.

1.5.2 A **distributor** may impose a reasonable charge for subsequent requests by that **customer**.

1.6 Other Acts, codes and guidelines

1.6.1 Not all aspects of the **retailer's** and **distributor's** obligations are regulated by this *Gas Metering Code*. The **retailer's** and **distributor's** obligations, and some aspects of the relationship with a **customer**, are also affected by:

- (a) Acts of Parliament and Regulations (in particular, the *Gas Act 1997*, the *National Gas (South Australia) Act 2008*, and the *Essential Services Commission Act 2002* (and associated regulations));
- (b) the **National Gas Law** and **National Gas Regulations**;
- (c) the **National Energy Retail Law**, **National Energy Retail Regulations** and **National Energy Retail Rules**;

- (d) the **distributor's Access Arrangement**;
- (e) the distribution licence held by the **distributor**;
- (f) industry codes and any **guidelines** or rules made by the **Commission** from time to time;
- (g) the **retail market procedures**; and
- (h) the terms of an agreement in place between a **retailer** and a **distributor**.

2. PROVISION OF METERING INSTALLATIONS

2.1 *Obligation to install meters*

- 2.1.1 Where a **metering installation** is not provided at a **delivery point** that supplies a gaslight, at 1 January 2004, the **distributor** is not required to provide a **metering installation**.
- 2.1.2 The **distributor** must provide an **interval metering installation** at **delivery points** for which the annual **gas** consumption level is greater than 10 terajoules per annum, and is expected to remain higher than 10 terajoules per annum.
- 2.1.3 The **distributor** must not unreasonably withhold its consent to the request of a **retailer** to install a **metering installation** of a type that is different from that already installed, or that the **distributor** would otherwise install, provided that the **metering installation** satisfies any applicable technical requirements (including those reasonably required by the **distributor**).
- 2.1.4 The incremental cost of providing and installing a new **metering installation** under clause 2.1.3 shall, to the extent permitted by an **applicable regulatory instrument**, be paid by the party that initiates the change.

2.2 *Non reversion*

- 2.2.1 The **distributor** must ensure that an **interval metering installation** is not replaced by a **basic metering installation** prior to the end of its economic life unless the **distributor** had determined that the consumption of **gas** at the **delivery point** will be reduced below 10 TJ per annum due to significant changes in the use of the premises.
- 2.2.2 The **distributor** must report to the **Commission** on an annual basis all instances where it has replaced an **interval metering installation** with a **basic metering installation** pursuant to a determination of the **distributor** made under clause 2.2.1.

2.3 *Provision of metering installations*

- 2.3.1 A **metering installation** must contain an index register that:
 - (a) has a visible and accessible display of **metering data**; or

- (b) allows the ***metering data*** to be accessed and read at the same time by portable computer or other equipment of a type or specification reasonably acceptable to all persons who are entitled to have access to that ***metering data***.

2.4 Installation

- 2.4.1 The **distributor** must install ***metering installations*** as near as practicable to the ***delivery point***.
- 2.4.2 The **distributor** must install ***metering installations*** in a position which allows safe and unimpeded access to any person whose obligation it is to test, adjust, maintain, repair, or replace the ***metering installation***, or collect ***metering data*** from the ***metering installation***.

2.5 Installation database

- 2.5.1 A **distributor** must maintain an ***installation database*** in respect of each ***metering installation***.
- 2.5.2 The ***installation database*** must contain at least the following information:
 - (a) the Metering Installation Registration Number (**MIRN**);
 - (b) the location of each installed ***meter***, ***corrector*** and ***data logger***;
 - (c) the make, model and year of manufacture for each ***meter***, ***corrector*** and ***data logger***;
 - (d) for each ***meter***, ***corrector*** and ***data logger*** that is installed, the address of the ***customer*** and the date of installation;
 - (e) the next scheduled date for testing or replacement of all devices used to measure the quantity of **gas**;
 - (f) data on performance of each device used to measure the quantity of **gas** (where relevant);
 - (g) calibration records of all devices used to measure the quantity of **gas**;
 - (h) testing records of all devices used to measure the quantity of **gas**;
 - (i) date and details of all seals and labels applied to ***meters*** and ***correctors***;
 - (j) the date of, and details of, the most recent maintenance of all devices used to measure the quantity of **gas**; and
 - (k) the next scheduled date for maintenance of all devices used to measure the quantity of **gas**.
- 2.5.3 A **distributor** must maintain the information contained in the ***installation database***:
 - (a) in an accessible format for a minimum period of 16 months from the date of inclusion of information in the database; and
 - (b) in archive for 7 years from the date of inclusion of the information in the database, or for twelve months after the life of the relevant ***metering installation***, whichever is longer.
- 2.5.4 The **distributor** must provide, upon request ***in writing***, access to an ***affected party*** to information in the ***installation database*** relevant to that person:

- (a) within two **business days**, where the information is in an accessible format as required by clause 2.5.3(a); and
- (b) otherwise within thirty **business days**, from the date of receipt of the request.

2.6 **Minimum standards of accuracy**

- 2.6.1 The **minimum standards** of accuracy for **metering installations** are within a margin of accuracy of plus or minus 2% of the net volume of **gas** delivered to that **delivery point**.
- 2.6.2 The **distributor** must ensure that the operation of the **metering installation** does not show systematic bias within the allowable margin of accuracy.
- 2.6.3 The **distributor** must ensure that each of its **metering installations** containing pressure regulators are able to provide sufficient flow at the minimum regulator inlet pressure, and where a fixed pressure factor is applied, is able to reliably control the outlet pressure to meet the **distribution system** pressure requirements in the **applicable regulatory instruments**.
- 2.6.4 A person bound by this industry code must not tamper with or calibrate a **meter** with the purpose of introducing bias in the **meter**.

2.7 **Security**

- 2.7.1 The **distributor** must use **best endeavours** to ensure that the **metering installation** is protected from unauthorised interference or damage.
- 2.7.2 The **distributor** must in respect of new **metering installations**, provide seals or other appropriate devices to detect any interference.
- 2.7.3 Following notification that a seal has been broken the **distributor** must replace a broken seal on the earlier of:
 - (a) the first occasion the **metering installation** is visited to take a reading; or
 - (b) 70 **business days**.
- 2.7.4 The costs of replacing seals which are broken are borne:
 - (a) if the seal was broken by the **customer**, by the **customer**; or
 - (b) if the seal was broken by the **retailer**, by the **retailer**, or
 - (c) otherwise by the **distributor**.
- 2.7.5 If as a result of or in connection with the breaking of a seal, the relevant **metering installation** may no longer meet the relevant **minimum standards** of accuracy, the **distributor** must:
 - (a) test the **metering installation** in accordance with clause 3, within 15 **business days**; or
 - (b) replace the **metering installation** in accordance with clause 3.6.

3. METERING INSTALLATION TESTING

3.1 Accreditation and certification

- 3.1.1 The **distributor** must ensure that **meters** and **correctors** purchased have National Measurement Institute pattern approval from an accredited laboratory recognised under the International Certification Scheme in accordance with specifications or guidelines specified by the National Measurement Institute under the *National Measurement Act*.
- 3.1.2 Where National Measurement Institute pattern approval is not required to be provided by the National Measurement Institute, the **distributor** must conduct tests, or must cause tests to be conducted, in respect of the setting, scaling or certifying the accuracy of **meters** and **correctors**, by persons, or in a facility, accredited by **NATA** to conduct such tests.
- 3.1.3 The **distributor** must ensure that calibrating equipment used in connection with the calibration of its **metering installations** is certified by a verifying authority empowered to issue certificates under Regulation 13 of the *National Measurement Regulations* (Cth).

3.2 Acceptance testing and type testing of metering installations

- 3.2.1 The **distributor** must conduct, or cause to be conducted, **acceptance tests** on **meters**, **correctors** and **data loggers** that are components of **metering installations** in the following circumstances:
 - (a) before a new **meter**, **corrector** or **data logger** is placed in service;
 - (b) before a **meter**, **corrector** or **data logger** that has been removed from service is placed back into service; and
 - (c) after any repairs, maintenance or recalibration performed on a **meter**, **corrector** or **data logger** have been completed.
- 3.2.2 The **distributor** must only adopt a new type of **metering installation** if that **metering installation** has been **type tested**.
- 3.2.3 The **distributor** must provide a **retailer**, copies of the relevant **type test** certificates in its possession in relation to a **meter** on request.
- 3.2.4 The **distributor** must keep records of **type testing** under clause 3.2.2 while **meters** of that type remain in service, or for a minimum of 7 years, whichever is the longer.
- 3.2.5 The **distributor** must ensure that any **metering installations** that have been modified are assessed to determine whether the modified design continues to meet the **minimum standards** prescribed by this industry code and that the **metering installations** do not differ from their **type test** to the extent that any difference would affect the performance of the **metering installations**.
- 3.2.6 If reasonable grounds exist for concluding that modifications to a **metering installation** affect its measuring capability or its initial **type testing**, then the **distributor** must ensure that the **metering installation** is submitted for **type testing**.

3.3 Obligation to test metering installations

- 3.3.1 The **distributor** may at any time, and must within 15 **business days** of a request from a **retailer**, test a **metering installation** to ascertain whether or not that **metering installation** is **defective**.
- 3.3.2 The **distributor** must give the **retailer** who requests a test, at least 5 **business days'** notice (or agree such other mutually convenient time) of when the requested test is proposed to be performed.
- 3.3.3 If as a result of the test requested by a **retailer** under clause 3.3.1, the **metering installation** is found to be:
 - (a) **defective**, the **distributor** must bear the cost incurred in conducting the test; or
 - (b) not **defective**, the **distributor** may seek to recover the cost incurred in conducting the test.
- 3.3.4 The **distributor** must publish charges for the testing of **metering installations**. The charges must be fair and reasonable.
- 3.3.5 The **distributor** must, upon request, provide the **retailer** with the results of the test conducted under clause 3.3.1 within 5 **business days**.
- 3.3.6 The **distributor** must keep records of tests in accordance with clause 2.6.
- 3.3.7 If a test carried out under clause 3.3.1 requires the flow of **gas** through a delivery point, then the **distributor** must ensure that the **customer** does not pay any material amount for any **gas** used for the test and not utilised by the **customer**.

3.4 Meter classes

- 3.4.1 The initial in-service period of a **meter class** is a period approved by the **Commission** (on the recommendation of the **Technical Regulator**) commencing on the day a **meter** in that **meter class** was first used in the supply of **gas** to a **customer**.
- 3.4.2 If a **distributor** intends to retain the **meters** in a **meter class** after the end of the initial in-service period for that **meter class** the **distributor** must, in addition to the other **meter** testing provisions in this industry code, establish and maintain a testing and sampling plan approved by the **Commission** (on the recommendation of the **Technical Regulator**).
- 3.4.3 The testing and sampling plan must provide that **meters** be tested at both 20% and 100% of the badge capacity of the **meters**.
- 3.4.4 The minimum test requirements will be in accordance with AS/NZS 4944-2006.
- 3.4.5 The **distributor** is required to provide to the **Technical Regulator** the test results for both 20% and 100% for that **meter class**.
- 3.4.6 If the test results do not satisfy:
 - (a) the maximum allowable error limits for badge capacity of the **meters** at 20% and at 100% as set out in clause 2.6, with an **uncertainty limit** of no more than 1%; and
 - (b) such other requirements of the testing and sampling plan approved by the **Commission**,

then the **distributor** must replace or recalibrate all **metering installations** in that **meter class**.

3.5 Provision of test results

- 3.5.1 The **distributor** must, upon request by the **Commission**, provide the **Commission** with the results of any test conducted in accordance with this industry code.

3.6 Non-compliant meters

- 3.6.1 If the accuracy of a **metering installation** does not comply with the requirements of this industry code, or if a **distributor** becomes aware of any matter which could affect the integrity of the **metering data**, the **distributor** must at the cost of the **distributor**:
- (a) notify the **affected parties** as soon as practicable;
 - (b) arrange for the accuracy of the **metering installation** to be restored so that it meets the **minimum standards** of accuracy, or for the **metering installation** to be replaced, within 10 **business days** where the consumption at the **delivery point** is less than 10 terajoules per annum and 5 **business days** where the consumption at the **delivery point** is 10 terajoules per annum or more, or such longer period as may be approved by the **Commission**; and
 - (c) until the restoration or replacement of the **metering installation** in accordance with clause 3.6.1(b) use substitute readings.
- 3.6.2 Where a measurement error exists and the **distributor** proposes to substitute previous **meter** readings, the **distributor** must limit the substitution of **meter** readings to:
- (a) the period where the measurement error was greater than 1.5 times the **minimum standards** of accuracy; and
 - (b) the period where the measurement error exists, but no earlier than 12 months prior to when the measurement error was known if the measurement error resulted in the **customer** being undercharged.

3.7 Correction

- 3.7.1 In undertaking a **meter** reading at a **metering installation** the **distributor** must adjust the **meter** reading for pressure, temperature or supercompressibility, or a combination of these factors, through applying the correction factors or using a **corrector** when:
- (a) the error arising from these effects exceeds the requirements of the **minimum standards**; or
 - (b) the operating condition varies during the course of the day affecting the pressure, temperature or supercompressibility; or
 - (c) where required to do so by the **Technical Regulator**.
- 3.7.2 A **distributor** can only make an adjustment for **meter** error using a **corrector** or a **correction factor** when:
- (a) the **corrector** and **meter** for the specified correction is uniquely identified;

- (b) the accuracy of the ***meter*** and/or ***corrector*** is within the ***minimum standards***;
- (c) the method of adjustment by the ***corrector*** can be varied; and
- (d) the ***affected parties*** are advised of the compensation device and the settings used.

3.8 Sealing and labelling

- 3.8.1 A ***distributor*** must place a label on any ***meter*** and ***corrector*** that has been subject to an ***acceptance test*** and found to pass the test. The label must include a distinguishing mark and the year of test attached to indicate that it has passed the test.
- 3.8.2 If a ***meter*** or ***corrector*** has not been tested or has been found not to pass an ***acceptance test***, the ***distributor*** must ensure that it is not labelled.

4. METER READING AND DATA

4.1 Gas heating value

- 4.1.1 **Gas** is to be metered by quantity and converted to units of energy for billing purposes using the heating value calculated by the ***distributor*** in accordance with a methodology approved by the ***Technical Regulator***.

4.2 Meter reading for customer transfer

- 4.2.1 On request by a ***retailer***, the ***distributor*** must use ***best endeavours*** to carry out an ***actual meter reading*** to enable the transfer of a ***customer*** to that ***retailer*** within a reasonable time of the request.
- 4.2.2 Where a ***basic meter*** is installed, the final meter reading prior to a ***customer*** transferring to a new ***retailer***, whether a ***scheduled meter reading*** or a ***special meter reading***, must be forwarded to the new ***retailer*** by the ***distributor*** in accordance with clause 4.7.4 or clause 4.7.5, respectively.

4.3 Collection of metering data

- 4.3.1 Subject to clauses 4.3.2 and 4.3.3, a ***customer*** may arrange with the ***retailer*** the manner in which data stored in a ***metering installation*** provided to the ***customer*** is to be collected by the ***distributor***.
- 4.3.2 A ***customer*** may request that the data stored in the ***metering installations*** provided to it be collected by the ***distributor***:
 - (a) by inspecting the ***metering installation***; or
 - (b) where the ***metering installation*** is capable of providing data by electronic means, by electronic means; or

- (c) where the ***metering installation*** is capable of providing data by any other means, by any other means.
- 4.3.3 The **distributor** may charge a **retailer** for the collection of ***metering data*** under this clause 4.3.2 to the extent that its costs of collection are higher than they would otherwise be.
- 4.3.4 Where the ***metering data*** held in the ***metering installation*** is protected from direct or remote access by suitable password and security controls, such passwords and security controls must be used.
- 4.3.5 Passwords must be treated as confidential information in accordance with clause 4.8.
- 4.3.6 If there is any discrepancy between:
- (a) the data stored in a ***metering installation***; and
 - (b) ***metering data*** in respect of that ***metering installation***,
- the data stored in the ***metering installation*** is to be the *prima facie* evidence of the quantity of **gas** or energy, if applicable, supplied to the relevant **customer**.

4.4 Validation and substitution of metering data

- 4.4.1 The **distributor** must ensure that ***metering data*** collected from an ***interval metering installation*** under clause 4.3:
- (a) is validated in accordance with schedule 1, clause 1 of this industry code; and
 - (b) where necessary, is substituted in accordance with schedule 1, clauses 2 and 4, of this industry code.
- 4.4.2 The **distributor** must ensure that ***metering data*** collected from a ***basic metering installation*** under clause 4.3:
- (a) is validated in accordance with schedule 2, clause 1 of this industry code; and
 - (b) where necessary, is substituted in accordance with schedule 2, clauses 2 and 4 of this industry code.
- 4.4.3 Where tests under clause 4.4.1(a) or 4.4.2(a) demonstrate that there has been a failure of the ***metering installation*** or that a measurement error exists, the ***metering data*** must be substituted in accordance with clause 4.4.1(b) or 4.4.2(b) and the **distributor** must provide the substituted ***metering data*** to the **retailer** so that the **retailer** can meet its billing obligations.
- 4.4.4 If a substitution is made to ***metering data***, the **distributor** must inform the **retailer** accordingly to ensure that a bill issued to the relevant **customer** informs that **customer** that a substitution has been made.
- 4.4.5 Where ***metering data*** in respect of a **customer** has been substituted and is required to be transferred to **AEMO**, the substituted data must be provided to **AEMO** by the **distributor**.
- 4.4.6 The **distributor** must maintain a separate record of the substitution made under clauses 4.4.1 and 4.4.2 for 7 years and provide access to the record at reasonable times to the relevant **customer's retailer**.

4.5 *Estimation of metering data*

- 4.5.1 Where ***metering data*** cannot be obtained in the time frame required for settlement of the market, the ***distributor*** must estimate the ***metering data*** in accordance with schedule 1, clauses 3 and 4 of this industry code for an ***interval metering installation*** and schedule 2, clauses 3 and 4 of this industry code for a ***basic metering installation***.

4.6 *Storage of metering data*

- 4.6.1 The ***distributor*** must store ***metering data*** in respect of separate ***metering installations***, in the form in which it was collected under clause 4.3:
- (a) in an accessible format for a minimum period of 16 months from the date of the ***meter*** reading; and
 - (b) in archive for 7 years from the date of the ***meter*** reading.

4.7 *Access to metering data*

- 4.7.1 The ***distributor*** must give a ***retailer's customer*** access to data stored in a ***metering installation*** used to measure and record the amount of ***gas*** supplied to its ***delivery point***, either by inspecting the ***metering installation*** or, where available, by electronic access to the ***metering installation***.
- 4.7.2 Where data is available by electronic means, the ***distributor*** must, on written request from a ***customer's retailer***, provide facilities to enable the ***customer*** to access data stored in a ***metering installation*** where it is available by electronic means.
- 4.7.3 Where the ***distributor*** has provided facilities to enable the ***retailer's customer*** to access data stored in a ***metering installation*** by remote electronic means, if remote electronic access to the ***metering installation*** is unavailable for a period of 5 consecutive ***business days*** due to the actions within the control of the ***distributor***, the ***distributor*** must, if requested by the ***retailer's customer***, obtain data locally from the ***metering installation*** and provide that data to the ***retailer's customer*** at the ***distributor's*** cost.
- 4.7.4 The ***distributor*** must ensure that access is provided for the ***retailer*** to ***metering data*** (whether actual, substituted under clause 4.4 or estimated under clause 4.5), at the frequency agreed, by 5.00 pm on the first ***business day*** after that ***metering data*** has been collected.
- 4.7.5 The ***distributor*** must ensure that access is provided for the ***retailer*** to ***metering data*** from ***special meter reads*** and final meter reads, by 5.00 pm or the first ***business day*** after that ***metering data*** has been collected.
- 4.7.6 Where access is provided for the ***retailer*** to ***metering data*** under clauses 4.7.4 and 4.7.5, the ***distributor*** must ensure that any additional data required by the ***retailer*** to meet its obligations under the ***National Energy Retail Law*** is also provided.

4.8 Confidentiality

- 4.8.1 The **distributor** and **retailers** must keep **metering data** confidential and use **best endeavours** to protect and preserve the confidential nature of the **metering data** and must comply with any **applicable regulatory instrument**.
- 4.8.2 The **distributor** and **retailers**:
- (a) must not disclose **metering data** for a **customer** to any person except as permitted by this industry code, the **National Energy Retail Law**, the National **Gas Law**, the **National Gas Rules**, or the **retail market procedures**;
 - (b) must only use or reproduce **metering data** for a **customer** for the purpose for which it was collected under this industry code or another purpose contemplated by any other industry code, the **National Energy Retail Law**, the **National Gas Law**, the **National Gas Rules**, or the **retail market procedures**;
 - (c) must not permit unauthorised persons to have access to **metering data** for a **customer**;
 - (d) must not disclose **metering data** for a **customer** to any person without the **explicit informed consent** of the **customer**; and
 - (e) must ensure that the **metering data** and other information obtained from a **customer** is treated in accordance with the **explicit informed consent** of the **customer** and in accordance with any **applicable regulatory instrument**.
- 4.8.3 This clause 4.8 does not prevent:
- (a) the disclosure, use or reproduction of **metering data** if the **metering data** is at the time generally and publicly available otherwise than as a result of breach of confidence by the **distributor** or a **retailer** or its **disclosees**;
 - (b) the disclosure of **metering data** by the **distributor** or a **retailer** or its **disclosees** to:
 - (i) its employees or the employees of its related bodies corporate subject to any **applicable regulatory instrument**;
 - (ii) or its legal or other professional advisor, auditor or other consultant, requiring the **metering data** for the purposes of this industry code or any other industry code or for the purpose of advising the **distributor** or the **retailer** or **disclosee** in relation to those purposes;
 - (c) the disclosure, use or reproduction of **metering data** with the **explicit informed consent** of the relevant **customer**;
 - (d) the disclosure, use or reproduction of **metering data** to the extent required by law or by lawful requirement of:
 - (i) any government or governmental body, authority or agency having jurisdiction over the **distributor** or a **retailer** or its **related bodies corporate**;
 - (ii) any stock exchange having jurisdiction over the **distributor** or a **retailer** or its **related bodies corporate**; or

- (iii) the **Commission**;
 - (e) the disclosure, use or reproduction of **metering data** required in connection with legal proceedings, arbitration, expert determination or other dispute resolution mechanism under this industry code or any other industry code, the **National Energy Retail Law**, the **National Gas Law**, the **National Gas Rules**, or the **retail market procedures**;
 - (f) the disclosure use or reproduction of **metering data** which is trivial in nature;
 - (g) the disclosure, use or reproduction of **metering data** required to protect the safety of personnel or equipment; or
 - (h) the disclosure, use or reproduction of **metering data** by or on behalf of the **distributor** or a **retailer** to the extent it is reasonably required in connection with the **distributor's** or the **retailer's** financing arrangements, investment in the **distributor** or the **retailer** or disposal of the **distributor** or the **retailer**.
- 4.8.4 In the case of a disclosure under clauses 4.8.3(b) and 4.8.3(h), the **distributor** or the **retailer** making the disclosure must inform the relevant **disclosee** of the confidentiality of the **metering data** and use **best endeavours** to ensure that the **disclosee** keeps the **metering data** confidential.

4.9 Ownership of metering data

- 4.9.1 The owner of the **meter** is the owner of all **metering data** produced or recorded by that **meter**. Each other person entitled to access that **metering data** under this industry code has the right to a non-exclusive licence to use that **metering data** for the purposes of its business, subject to the provisions of the **Act**.

5. GAS MEASUREMENT MANAGEMENT PLAN

- 5.1.1 The **distributor** must, within three months after the issue of its distribution licence or the commencement of this industry code, whichever is the later, prepare and submit to the **Commission** for its approval (after consideration by the **Technical Regulator**), a Gas Measurement Management Plan.
- 5.1.2 The Gas Measurement Management Plan must summarise the **distributor's** procedures for:
- (a) installation and ownership of **metering installations**;
 - (b) **minimum standards** for **metering installations** and the maintenance of that accuracy, including the testing and sampling plan referred to in clause 3.4;
 - (c) collection of **metering data**;
 - (d) field and maintenance testing of **metering installations**;
 - (e) resolution of metering disputes;
 - (f) **metering data** obligations;
 - (g) management and exchange of metering information; and

- (h) measurement and calculation of heating value for the purpose of billing.
- 5.1.3 The **distributor** must annually review and, if necessary, update the plan to ensure its efficient operation, and submit the updated plan to the **Commission** for approval (after consideration by the **Technical Regulator**).
- 5.1.4 The **distributor** must comply with the plan prepared in accordance with clause 5.1.1 and as updated from time to time in accordance with clause 5.1.3.
- 5.1.5 The **distributor** must not amend the plan without the approval of the **Commission**.

6. DEFINITIONS AND INTERPRETATION

Definitions

In this industry code:

“acceptance testing” means the testing and setting by a manufacturer or installer on a ***meter, corrector or metering installation*** to establish the initial calibration of the ***meter, corrector or metering installation***;

“Access Arrangement” means the arrangement for third party access to a ***distribution pipeline*** filed by the ***distributor*** pursuant to the ***National Gas Law*** and ***National Gas Rules*** and which has been approved by the relevant regulator;

“Act” means the ***Gas Act 1997***;

“AEMO” means the Australian Energy Market Operator Limited (ACN 072 010 327);

“AER” means the Australian Energy Regulator established under Part IIIAA of the ***Competition and Consumer Act 2010***;

“actual meter reading” means the physical collection of ***metering data*** by way of a ***scheduled meter reading*** or a ***special meter reading***. An ***actual meter read*** may be ***metering data*** which has been substituted in accordance with clause 4.4.1(b) for an ***interval meter*** or clause 4.4.2(b) for a ***basic meter***, but does not include ***metering data*** which has been estimated;

“affected party” means a party that may be affected by the possible inaccuracy of a ***metering installation*** or ***metering data*** from that ***metering installation***;

“applicable regulatory instruments” means any Act or regulatory instrument made under an Act, or a regulatory instrument issued by the ***Commission***, which applies to a ***distributor*** or a ***retailer***;

“basic meter” means a ***meter*** without a ***data logger***;

“basic metering installation” means a ***metering installation*** with a ***basic meter***;

“best endeavours” means to act in good faith and use all reasonable efforts, skill and resources;

“business day” has the meaning given to that term in the ***National Energy Retail Law***;

“Commission” means the Essential Services Commission established under the ***ESC Act***;

“corrector” means a device which adjusts uncorrected quantity of ***gas*** from actual to standard conditions for billing and other purposes;

“customer” has the meaning given to that term in the ***Act***, namely a person that has a supply of ***gas*** available from a ***distribution system*** for consumption by that person, and includes:

- (a) the occupier for the time being of a place to which ***gas*** is supplied by a ***distribution system***; and
- (b) where the context requires a person seeking a supply of ***gas*** from a ***distribution system***; and

(c) a person of a class declared by regulation to be **customers**;

“data logger” means a device that collects and stores data relating to the quantity, temperature and pressure of **gas** and is capable of either:

- (a) transferring recorded data to a portable reading device; or
- (b) being accessed electronically through a data collection system;

“defective” means:

- (a) in relation to a new **metering installation**, that it is not meeting the **minimum standards**; and
- (b) in relation to an existing **meter installation**, that it is not meeting the **minimum standards** of accuracy that it was designed to meet;

“delivery point” means a point on a **distribution system** at which **gas** is withdrawn from the **distribution system** for delivery to a **customer** and which is normally located at:

- (a) the inlet of a **gas installation** of a **customer**; or
- (b) the outlet of a meter;

“Demand Delivery Point” has the meaning given in the **distributor’s Access Arrangement**;

“disclosee” means a person to whom a **distributor** or a **retailer** has disclosed or wishes to disclose **metering data**;

“distribution system” has the meaning given to that term in the **Act**;

“distribution pipeline” has the meaning given to that term in the *National Gas (South Australia) Act 2008*;

“distributor” means a person holding a licence under the **Act** to operate a **distribution system**;

“estimated read” means an estimate in lieu of a **meter** reading;

“explicit informed consent” has the meaning given to that term in the *National Energy Retail Law*;

“gas” has the meaning given to that term in the **Act**;

“guideline” means a guideline published by the **Commission**;

“installation database” means a database of calibration data which a **distributor** is required to keep in respect of its **metering installations** pursuant to this industry code;

“interval meter” means a **meter** with a **data logger**;

“interval metering installation” means a **metering installation** with an **interval meter**;

“in writing” means communication made by letter, facsimile or electronic media;

“meter” means an instrument that measures the quantity of **gas** passing through it and includes associated equipment attached to the instrument to filter, control or regulate the flow of **gas**;

“meter class” means a group of **meters** in which:

- (a) all the **meters** have been made to the same specifications by the same manufacturer;



- (b) there are no significant differences in components or materials between the **meters**; and
- (c) all the **meters** have been sealed with the same date code;

“**metering data**” means the measure of quantity of **gas** flow obtained from a **metering installation**;

“**metering installation**” means the **meter** and associated equipment and installations, which may include **correctors**, regulators, filters, **data loggers** and **telemetry** relating to a **delivery point**;

“**minimum standards**” means, in respect of new **meters**, the minimum standards referred to in clause 2.6 of this industry code;

“**MIRN**” means a unique identifier that a **distributor** assigns to each **metering installation**;

“**NATA**” means the National Association of Testing Authorities, Australia;

“**National Energy Retail Law**” has the meaning given to that term in the National Energy Retail Law (South Australia) Act 2011 as in force from time to time;

“**National Energy Retail Regulations**” means the Regulations made under Part 11 of the **National Energy Retail Law**;

“**National Energy Retail Rules**” means the Rules made under Part 10 of the **National Energy Retail Law**;

“**National Gas Law**” has the meaning given to that term in the *National Gas (South Australia) Act 2008 (SA)* as in force from time to time;

“**National Gas Rules**” has the meaning given to that term in the **National Gas Law**;

“**quarterly**” means a period of thirteen weeks (13) nominally, but not exceeding a period of fourteen (14) weeks;

“**related body corporate**” means in relation to a body corporate, a body corporate that is related to the first mentioned body by virtue of the *Corporations Act 2000*;

“**retail market procedures**” means the rules administered and published by **AEMO**;

“**retailer**” means a person holding a licence under the **Act** or a retailer authorisation under the **National Energy Retail Law** (as the case may be) for the sale and supply of **gas**;

“**scheduled meter reading**” means an **actual meter reading** on a cycle that equates to the **customer’s** billing cycle, usually monthly or **quarterly**;

“**special meter reading**” means an **actual meter reading** performed outside of the usual reading cycle for the **meter**;

“**supply address**” means:

- (a) the address for which a **customer** purchases **gas** from a **retailer** where there is only one **delivery point** at that address; or
- (b) where there is more than one **delivery point** at the address, each **delivery point** through which the **customer** purchases **gas** from the same **retailer**;

“**telemetry**” means the communication equipment used for transmission of data collected from a **metering installation** to a central data management system and typically encompasses modems, telecom landline (which may be dedicated or part of a PSTN network) or radio receivers (which may or

may not be in the form of a dedicated radio network, GSM, GPRS, CDMA, 3G, satellite telephony or any other comparable network).

"type testing" means the testing conducted to establish the fitness for purpose of a new ***metering installation*** type;

"uncertainty limit" means the range within which the test results will be replicated when a test is repeated.

"Volume Delivery Point" has the meaning given in the ***distributor's Access Arrangement***.

Interpretation

In this industry code, unless the context otherwise requires:

- (c) headings and footnotes are for convenience or information only and do not affect the interpretation of this industry code or of any term or condition set out in this industry code;
- (d) words importing the singular include the plural and vice versa;
- (e) an expression importing a natural person includes any company, partnership, trust, joint venture, association, corporation or other body corporate and any governmental agency and vice versa;
- (f) a reference to a clause or appendix is to a clause or appendix of this industry code;
- (g) a reference to any statute includes all statutes varying, consolidating, re-enacting, extending or replacing them and a reference to a statute includes all regulations, proclamations, ordinances, by-laws and determinations issued under that statute;
- (h) a reference to a document or a provision of a document includes an amendment or supplement to, or replacement of or novation of, that document or that provision of that document;
- (i) a reference to a person includes that person's executors, administrators, successors, substitutes (including, without limitation, persons taking by novation) and permitted assigns;
- (j) other parts of speech and grammatical forms of a word or phrase defined in this industry code have a corresponding meaning;
- (k) a period of time:
 - (i) which dates from a given day or the day of an act or event is to be calculated exclusive of that day; and
 - (ii) which commences on a given day or the day of an act or event is to be calculated inclusive of that day.
- (l) a reference to:
 - (i) time is a reference to Standard Time within the meaning of the *Daylight Saving Act 1971 (SA)* and not Summer Time within the meaning of that Act;

- (ii) a day is a reference to a period commencing immediately after midnight and ending the following midnight; and
 - (iii) a month is a reference to a calendar month.
- (m) an event, which is required under any term or condition set out in this industry code to occur on or by a stipulated day, which is not a ***business day***, may occur on or by the next ***business day***.

Schedule 1 – Validation, Substitution and Estimation – Interval Metering Installation

1. Requirement to validate meter readings

Actual meter readings will be required to be validated in accordance with clause 4.4.1(a) of this industry code. The validation rules that may be applied to the ***metering data*** from the ***meter*** of an ***interval metering installation*** are:

- (a) Consumption ***metering data*** for the ***meter*** read period = sum of ***interval metering data*** for the ***meter*** read period;
- (b) Accumulated ***meter*** read value is numeric and ≥ 0 ;
- (c) Accumulated ***meter*** read value is \geq previous accumulated ***meter*** read value;
- (d) Accumulated ***meter*** read value passes high/low test;
- (e) ***Meter*** read date/time $>$ previous ***meter*** read date/time;
- (f) Maximum value (to ensure that no spikes are created);
- (g) Null checks;
- (h) Dial capacity and decimal point check; and
- (i) ***Metering data*** is consistent with the correct ***meter*** type for that ***delivery point***.

2. Requirement to produce substituted metering data

In accordance with clause 4.4.1(b) of this industry code, ***metering data*** for an ***interval metering installation*** will be required to be substituted where:

- (a) the ***actual meter reading*** fails the validation tests;
- (b) there is a failure of the ***metering installation***; or
- (c) an inspection or test on the ***metering installation*** establishes that a measurement error exists.

3. Requirement to produce estimated metering data

In accordance with clause 4.5 of this industry code, ***metering data*** for an ***interval metering installation*** will be required to be estimated where the ***metering data*** cannot be obtained in the timeframe required for settlement of the market.

4. Distributor Obligations

- (a) The ***distributor*** may use Types 1, 2, 3, 4, 5, 6, 7 or 8 techniques in accordance with clause 5 of this schedule 1, when the ***metering data*** is required to be substituted.
- (b) The ***distributor*** may use Types 1, 2, or 3 techniques in accordance with clause 5 of this schedule 1, when the ***metering data*** is required to be estimated.

- (c) The **distributor** may use Type 2 except where the first **actual meter reading** has not been undertaken.
- (d) The **distributor** may use Type 3, except where:
 - (i) the first **actual meter reading** has not been undertaken; or
 - (ii) the **scheduled meter reading** frequency is less frequent than monthly and the data from the same, or similar, **meter** reading period in the previous year is available.
- (e) The **distributor** may use Types 4, 5, 6 and 7 in the circumstances described in clauses 5.4, 5.5, 5.6 and 5.7 of this schedule 1, respectively.
- (f) The **distributor** may use Type 7 prior to the first **actual meter reading** being undertaken.
- (g) The **distributor** may use Type 8 where there is an error in the **meter** pressure and/or **gas** temperature.
- (h) The **distributor** must notify the **retailer** where substituted or estimated **metering data** is used.
- (i) The **distributor** must ensure that for all Types, except Type 5, substituted or estimated **metering data** is based on an **actual meter reading**, and is not based on **metering data** that has previously been estimated or substituted.

5. Substitution and Estimation Types

The techniques for substituting and estimating **metering data** for **interval metering installations** are provided in this clause.

5.1 Type 1

Where there is another **interval metering installation** at the same measurement point for the same interval data periods as that being substituted for, the **distributor** must substitute or estimate the **metering data** using **metering data** from that **interval metering installation**.

5.2 Type 2

The **distributor** may substitute or estimate the **metering data** using the data from the “Nearest Equivalent Day” or “Like Day” from the same, or similar, **meter** reading period in the previous year. The “Nearest Equivalent Day” or “Like Day” is determined from the table below.

Day	“Nearest Equivalent Day” or “Like Day” (in order of availability)
Monday	Monday❖❖ Monday❖
Tuesday	Wednesday❖❖ Tuesday❖ Wednesday❖
Wednesday	Wednesday❖❖ Tuesday❖❖ Thursday❖❖ Wednesday❖ Thursday❖ Tuesday❖
Thursday	Thursday❖❖ Wednesday❖❖ Tuesday❖❖ Thursday❖❖ Wednesday❖ Tuesday❖
Friday	Friday❖❖ Friday❖
Saturday	Saturday❖❖ Saturday❖
Sunday	Sunday❖❖ Sunday❖

Substitution or estimates for ‘Like Day’ to be as detailed above, unless:

- ◆ No readings are available on the first listed day, then the next listed preferred day is to be used.
- ◆ The day was a public holiday, in which case the most recent Sunday is to be used.
- ◆ The day was not a public holiday and the ‘Like Day’ is a public holiday, in which case the ‘Like Day’ to be used must be the most recent day that is not a public holiday, Saturday or Sunday.

❖❖ Occurring in the same week as the day in the previous year.

❖ Occurring in the week preceding that in which the substitution day occurs in the previous year.

5.3 Type 3

The **distributor** may substitute or estimate the **metering data** using the data from the “Nearest Equivalent Day” or “Like Day” from previous **meter** readings. The “Nearest Equivalent Day” or “Like Day” is determined from the table below.

Day	“Nearest Equivalent Day” or “Like Day” (in order of availability)
Monday	Monday❖❖
Tuesday	Wednesday❖❖ Thursday❖❖
Wednesday	Wednesday❖❖ Tuesday❖ Thursday❖❖ Tuesday❖❖
Thursday	Thursday❖❖ Wednesday❖ Tuesday❖ Wednesday❖❖ Tuesday❖❖
Friday	Friday❖❖
Saturday	Saturday❖❖
Sunday	Sunday❖❖

Substitutions or estimations for ‘Like Day’ to be as detailed above, unless:

- ◆ No readings are available on the first listed day, then the next listed preferred day is to be used.
 - ◆ The day was a public holiday, in which case the most recent Sunday is to be used.
 - ◆ The day was not a public holiday but the preferred day is a public holiday, in which case the ‘Like Day’ to be used must be the most recent preferred day that is not a public holiday.
- ❖❖ Occurring in the week preceding that in which the estimation day occurs.
- ❖ Occurring in the same week as the estimation day.

5.4 Type 4

Previously used substituted ***metering data*** can be changed, prior to the ***actual meter reading***, where the ***retailer*** has agreed, on the basis of site- or ***customer***-specific information, that the original substituted ***metering data*** is in error and a correction is required.

5.5 Type 5

Substituted ***metering data*** can be created using simple linear interpolation where the ***retailer*** has agreed.

5.6 Type 6

- (a) The ***retailer*** may agree to use another method of substitution (which may be a modification of an existing Type) where none of the existing Types is applicable.
- (b) The specifics of this Type may involve a globally applied method or a site-specific method.

5.7 Type 7

Prior to the first ***actual meter reading***, the ***metering data*** may be substituted using a method agreed between the ***retailer*** and the ***distributor***.

5.8 Type 8

Where the measurement error has arisen from errors in the ***gas*** temperature and/or ***meter*** pressure, the ***metering data*** may be substituted using the ***meter*** reading and the estimates for the ***gas*** temperature and/or ***meter*** pressure.

Schedule 2 – Validation, Substitution and Estimation – Basic Metering Installation

1. Requirement to validate meter readings

Actual meter readings will be required to be validated in accordance with clause 4.4.2(a) of this industry code. The validation rules that may be applied to the ***metering data*** from the ***meter*** of a ***basic metering installation*** are:

- (a) ***Meter*** read value is numeric and ≥ 0 ;
- (b) ***Meter*** read value is \geq previous ***meter*** read value;
- (c) ***Meter*** read value passes high/low test;
- (d) ***Meter*** read date $>$ previous ***meter*** read date;
- (e) Null checks;
- (f) Dial capacity and decimal point check; and
- (g) ***Metering data*** is consistent with the correct ***meter*** type for that ***delivery point***.

2. Requirement to produce substituted metering data

In accordance with clause 4.4.2(b) of this industry code, ***metering data*** for a ***basic metering installation*** will be required to be substituted where:

- (a) the ***actual meter reading*** fails the validation tests;
- (b) there is a failure of the ***metering installation***;
- (c) an inspection or test on the ***metering installation*** establishes that a measurement error exists; or
- (d) an ***estimated read*** is permitted under Energy Customer Transfer and Consent Code and is required to transfer a ***customer*** to a new ***retailer***.

3. Requirements to produce estimated metering data

In accordance with clause 4.5 of this industry code, ***metering data*** for a ***basic metering installation*** will be required to be estimated where the ***metering data*** cannot be obtained in the timeframe required for settlement of the market.

4. Distributor Obligations

- (a) The ***distributor*** may use Types 1, 2, 3, 4, 5 or 6, techniques in accordance with clause 5 of this schedule 2, when the ***metering data*** is required to be substituted.
- (b) The ***distributor*** may use Types 1, 2, or 3 techniques in accordance with clause 5 of this schedule 2, when the ***metering data*** is required to be estimated.
- (c) The ***distributor*** may use Type 6 where there is an error in the ***meter*** pressure and/or ***gas*** temperature.

- (d) The **distributor** must notify the **retailer** where substituted or estimated **metering data** is used.
 - (i) The **distributor** must ensure that for all Types, substituted or estimated **metering data** is based on an **actual meter reading**, and is not based on **metering data** that has previously been substituted or estimated.

5. Substitution and Estimation Types

The techniques for substituting and estimating **metering data** for **basic metering installations** are provided in this clause.

5.1 Type 1

Substitution or estimation

- = Average daily consumption from same, or similar, **meter** read period last year
- * Number of days required to be substituted or estimated.

5.2 Type 2

Substitution or estimation

- = Average daily consumption from previous **meter** read period
- * Number of days required to be substituted or estimated

Note: Where the **scheduled meter reading** frequency is less frequent than monthly, Type 2 is to be used only when the consumption from the same, or similar, **meter** read period last year is not available.

5.3 Type 3

Substitution or estimation

- = Average daily consumption for this same **customer** class with the same type of usage
- * Number of days required to be substituted or estimated

Note: Type 3 is to be used only when the consumption from the same, or similar, **meter** read period last year and the consumption from the previous **meter** read period are not available.

5.4 Type 4

- (a) The **retailer**, and the **distributor** may agree to use another method of substitution (which may be a modification of an existing Type) where none of the existing Types is applicable.
- (b) The specifics of this Type may involve a globally applied method or a site-specific method.

5.5 Type 5

Previously used substituted **metering data** can be changed, prior to the next **actual meter reading** where the **retailer** and **distributor** have agreed, on the basis of site- or **customer**-specific information, that the original substituted **metering data** is in error and a correction is required.

5.6 Type 6

Where the measurement error has arisen from errors in the **gas** temperature and/or **meter** pressure, the **metering data** may be substituted using the **meter** reading and the estimates for the **gas** temperature and/or **meter** pressure.



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