

GUIDELINE TO PROCEDURES FOR USER-BASED GAS RECONCILIATION

NSW & ACT GAS RETAIL MARKET

PREPARED BY: MARKETS
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Background

One of the principles of the NSW & ACT Gas Retail Market (**Market**) is that the Market is balanced on a daily basis, and to do so, users settle on the basis of the estimates of gas consumption for each user determined by the Gas Retail Market Business System (**GRMBS**). However, it is inevitable that there will be differences between actual and estimated gas consumption, and these differences must be reconciled when they are determined. The user reconciliation adjustment amount (**URAA**) is the mechanism that was designed to achieve that reconciliation for non-daily metered delivery points in the Gas Retail Market Business Rules (now the Retail Market Procedures for NSW & ACT) to Support Retail Competition in Gas (**Rules**).

In April 2002, the Board of Gas Market Company (**GMC**) suspended the Rules for gas reconciliation, pending an investigation into the reason(s) why relatively smaller users in a network section could be requested to inject inequitably large amounts of gas on a day. Subsequent investigations revealed that, while the GRMBS algorithm for reconciliation was correct, the requirement in the suspended Rules that the sum of users' URAs must equal zero on a day for a network section meant that one user's URA was directly affected (through an equalisation amount term) by other users' reconciliation amounts, resulting in potentially inequitable outcomes for users.

After more than two years of industry working group development, new rules for gas reconciliation came into effect. This amendment to the Rules facilitated the recommencement of "active" gas reconciliation in the Market.

Although users' reconciliation account balances (**RAB**) were "naturally" reconciled during the intervening period (i.e. users' RAB positions change with the receipt of non-daily meter readings over the meter reading cycle), no "active" reconciliation has taken place in the Market. Importantly for users, the GRMBS tracked users' RABs so that any outstanding gas imbalances were settled once "active" reconciliation resumed.

The agreed reconciliation methodology staked out a central ground between the unfair imposition on relatively smaller users of total reconciliation with an equalisation amount, and the unacceptable exposure of all users if no reconciliation is attempted.

On the 1 July 2009 the Australian Energy Market Operator (AEMO) took over the responsibilities of the GMC. This document has been edited to reflect this change.

About this Guide

This Guide to the procedures on gas reconciliation should not be treated as a substitute for the Procedures which set out participants' obligations in full. References to the relevant Clauses have been provided.

Summary of the Procedures

Key Features

The procedures for gas reconciliation between users were purposely designed to limit the extent to which AEMO's and market participants' existing business systems and processes were affected. As a result, there was no disruption to the existing gas nominations process and users continued to receive a URAA value (albeit using a new methodology) that is derived by AEMO. Importantly for users, AEMO will derive URAA values for all users to ensure that the notified URAs continue to satisfy the requirement of summing to zero on a day for a network section. Key features of the new procedures are:

- For reconciliation to occur, it requires that RAB 'offsets' between users must exist on a day (i.e. at least one user's RAB must be of opposite sign to another user's RAB);
- AEMO performs a co-ordination role in the overall reconciliation process, calculating and informing users of their respective URAs and actions they must undertake to reduce their RABs;
- AEMO informs each user of its 'monthly RAB target' and associated daily URAs that are derived to progressively reduce the user's RAB, subject to RAB offsets between users being available on a day, where the user's monthly RAB target is determined by taking a "snapshot" of the user's RAB on the final calendar day of each month;
- A user's daily URAA is derived by dividing the user's monthly RAB target by 28 calendar days, and is the amount of gas the user is required to combine with its daily gas forecast requirement for the entire 28 day 'settlement period';
- Each 28 day settlement period commences on the first calendar day of the month and corresponds to a monthly RAB target calculated approximately 4 weeks earlier, thereby providing users with lead-time to schedule gas supplies that are consistent with their advised URAA;
- Any portion of a user's monthly RAB target that has not been fully reconciled by the completion of the 28 day settlement period will be reconciled in the subsequent 28 day settlement period (i.e. AEMO takes a new 'snapshot' of the user's RAB on the last calendar day of the month, and so on);
- It is considered a breach of the Procedures if a user fails to fully incorporate the URAA advised to it by AEMO into that user's gas forecast requirement on a day; and
- A new term, miscellaneous reconciliation amount (MRA), has been introduced to the Procedures for the purpose of facilitating user exit from a network section, as well as correcting users' RAB data, as maintained by the GRMBS, where user breaches occur (if any).

Overview of the Clauses

RAB Offsets between Users

For gas reconciliation to occur, it requires that RAB “offsets” between users must exist on a day. That is, at least one user’s RAB must be of opposite ‘sign’ to another user’s RAB for a given network section (i.e. at least one positive RAB and one negative RAB).

Reconciliation can be of either two forms:

- “Partial reconciliation” is possible when at least two users have RABs that are of opposite sign, but the size of the RABs in volume terms are not identical (i.e. the sum of the RABs does not equal zero); and
- “Full reconciliation” is possible when at least two users have RABs that are of opposite sign, and the size of the RABs in volume terms are identical (i.e. the sum of the RABs equals zero).

In circumstances where all users in a network section have either positively-signed or negatively-signed RABs at the end of any given month, no reconciliation would take place in the associated settlement period (i.e. commencing approximately 4 weeks later) as there would not be any RABs against which users could offset.

Reconciliation would resume in a subsequent settlement period when RAB offsets between users materialise once again.

Role of AEMO

AEMO performs a co-ordination role in the overall reconciliation process, calculating and informing users of their respective URAAs and actions they must undertake to progressively reduce their RABs.

AEMO informs users, via an aseXML transaction from the GRMBS, of their respective monthly RAB target and associated daily URAAs that are derived to progressively reduce the size of users’ RABs, subject to RAB offsets between users being available.

A description of the methodology AEMO employs to derive users’ monthly RAB targets and associated daily URAAs is provided below.

Monthly RAB Target (Clause 8.9.13(a)(i))

AEMO informs each user of its monthly RAB target and associated daily URAAs that are derived to progressively reduce the user's RAB, subject to RAB offsets between users being available on a day.

AEMO determines a user's monthly RAB target by taking a "snapshot" of the user's RAB on the final calendar day of each month. AEMO then applies a set of "hierarchy rules" to users' RABs to facilitate the reconciliation process, including:

- The user with the largest RAB, in absolute terms, is to be reconciled first against a user(s) with an offsetting RAB position on a day; and
- Users with identical RABs are to equally share the amount of the RAB offset that is available for a day.

The specific RAB "snapshot" amount will commence to be progressively reconciled from the first calendar day of the month approximately 4 weeks later. This lead-time has been included so that users have sufficient time to contract/schedule gas that is consistent with their upcoming reconciliation requirements under the Procedures.

Daily URAA (Clause 8.9.13(a)(ii))

AEMO will derive and inform each user of their daily URAA. A user's URAA is the amount of gas the user is required to combine with its daily gas forecast requirement for each day of the 28 day settlement period. The daily URAA progressively reduces the user's RAB during the 28 day settlement period.

A user's URAA is derived by dividing the user's monthly RAB target by 28 calendar days. This results in a URAA comprising 28 daily instalments of equal value. AEMO ensures that the sum of all users' URAAs on a day equal zero, as each user's URAA is derived from the amount of available RAB offset between users for any given settlement period.

The network operator is to notify AEMO when all users' URAAs do not sum to zero on a day for a network section. This facilitates a process for AEMO to investigate users' compliance with the Procedures, which require that users combine their allocated daily URAAs with their gas forecast requirement for a day.

Settlement Period

Each 28 calendar day settlement period commences on the first calendar day of the month and corresponds to a monthly RAB target calculated approximately 4 weeks earlier, thereby providing users with sufficient lead-time to contract/schedule gas supplies that are consistent with their allocated URAAs for that period. Any portion of a user's monthly RAB target that has not been fully reconciled by the completion of the 28 day settlement period will be reconciled in the subsequent 28 day settlement period. That is, AEMO takes a new "snapshot" of the user's RAB on the last calendar day of the month, and so on.

Miscellaneous Reconciliation Amount

A new term, *miscellaneous reconciliation amount* (MRA), was introduced to the Procedures for the purpose of facilitating user exit from a network section, as well as correcting users' RAB data, as maintained by the GRMBS, where user breaches occur (if any). In simple terms, the MRA is utilised to 'add back' each user's URAA for a day as a result of the network operator rejecting all users' URAAs on a day because they did not sum to zero (a mandatory requirement).

The MRA has been added as a new term to the *Total Reconciliation Amount* (TRA) identity. In most instances (i.e. where no user Clause breaches occur), the value of MRA will be zero and, hence, will not alter the value of a user's TRA. In other words, assuming a user fully incorporates their allocated daily URAA into their gas forecast requirement for a day, the sum of all users' URAAs on a day for a given network section will equal zero and, as a result, generate MRA values of zero as no adjustment to users' RAB data in the GRMBS is required.

If, however, a user breaches the Procedures by not fully incorporating their allocated daily URAA into their gas forecast requirement for a day, the sum of all users' URAAs will not equal zero, causing the network operator to reject all URAAs on a day. As the network operators' rejection of all URAAs is not automatically reflected in the GRMBS (i.e. there is an implicit assumption that users do not breach the Procedures), the MRA term is subsequently utilised to correct the GRMBS' record of user RAB data.

For example, if a user "owes" gas to the Market and subsequently breaches the Procedures by not fully incorporating their allocated daily URAA into their gas forecast requirement for a day, the GRMBS would reduce that user's gas liability (or RAB) on a day by the full amount of URAA even though the user did not fully incorporate their allocated daily URAA. Moreover, other users that had positive RABs (i.e. were "owed" gas) would have their future claims reduced even though no gas had been "repaid" on that day due to the network operator's rejection of all URAAs. It is for this reason the MRA was included in the TRA identity so that the user's "unpaid" URAA could be manually 'added back' to its RAB.

User Breaches of the Procedures

It is considered a breach of the Procedures if a user fails to fully incorporate the URAA advised to it by AEMO into that user's gas forecast requirement on a day.

Due to the impacts on the Market's systems and the requirement for correction through MRAs, if users do not comply with the Procedures (i.e. by not incorporating the full amount of their daily URAA into their gas forecast requirement for a day), AEMO emphasises the seriousness with which it would consider any such apparent breach by a user in determining whether that breach should be referred to the Australian Energy Regulator (AER).

The Clauses in Detail

Nominations Process (Clauses 8.5.1 (OBA) and 8.6.1 (No OBA))

By 1600h on *nomination day* – 2, a *user* must notify to the *network operator* for each *network receipt point* at which the *user* intends to receive gas, for the *nomination day*, any *user reconciliation adjustment amount (URAA)* that AEMO has calculated under **Clause 8.9.13(a)(ii)** for inclusion in the *user's forecast requirement*.

The *network operator* is not required to accept the *user's reconciliation adjustment amount (URAA)* as part of the *forecast requirement* unless the total of all *users' reconciliation adjustment amounts* on a day equals zero.

The *network operator* will use its reasonable endeavours to notify AEMO by *nomination day* + 1 if the total of all *users' reconciliation adjustment amounts* for the *nomination day* does not equal zero.

MRA (Clause 8.9.10)

For each *network section*, AEMO may determine one or more *miscellaneous reconciliation amounts (MRA)* for a *nomination day* for one or more *users* in the *network section*.

If AEMO is notified by the *network operator* under **Clause 8.5.1(c)(iii)** or **Clause 8.6.1(c)(iv)** that the total of all *users' reconciliation adjustment amounts* for a *nomination day* does not equal zero, then AEMO will determine a *miscellaneous reconciliation amount* for each *user* that had a *user's reconciliation adjustment amount* on that *nomination day*. The *miscellaneous reconciliation amount* determined by AEMO must be equal to the *user's reconciliation adjustment amount* for the *nomination day* that the *data estimation entity* used in its calculation under **Clause 8.9.13(a)(ii)** but of the opposite sign.

If AEMO determines one or more *miscellaneous reconciliation amounts* for a *nomination day* under **Clause 8.9.10(a)** or **Clause 8.9.10(b)**, it must notify each *miscellaneous reconciliation amount* by not later than two *business days* prior to the *nomination day* in respect of which AEMO wishes to incorporate the *miscellaneous reconciliation amount* under **Clause 8.9.12(a)**.

Examples of situations in which (non-zero) *miscellaneous reconciliation amounts* may be generated for *users* by AEMO include:

- A *user* breaches the Procedures by not incorporating the *user reconciliation adjustment amount* allocated to it by AEMO for a *nomination day* (n.b. this situation prompts the *network operator* to reject all *users' user reconciliation adjustment amounts* for a *nomination day* as they would no longer sum to zero); or
- A *user* resolves to exit the *network section* for commercial reasons, such as the sale of its gas retail customer base to an existing *user* (n.b. the exiting *users' unreconciled gas imbalances* are 'zeroed' via the application of an equal and opposite *miscellaneous reconciliation amount* and, in turn, transferred to the acquiring *users' existing gas imbalances* for the *network section* via the application of an equally-sized *miscellaneous reconciliation amount* for that *user*).

URAA (Clause 8.9.12)

On *nomination day + 1*, for each *user* in each *network section* AEMO must calculate the *user's total reconciliation amount* for *nomination day + 1* in accordance with the following formula:

$$TRA = \sum RA + \sum MRA$$

Where:

TRA = the *user's total reconciliation amount*.

RA = *reconciliation amounts* determined under **Clause 8.9.11** for the *nomination day* for each of a *user's non-daily metered delivery points* in the *network section* plus the single revision to the *user's total reconciliation amount* for the *nomination day* as described in **Clause 8.9.17(d)(iii)**.

MRA = each of the *user's miscellaneous reconciliation amounts* for the *network section* for the *nomination day* determined under **Clause 8.9.10**.

On *nomination day + 1*, for each *user* in each *network section* AEMO must calculate the *user's reconciliation account balance* at the:

- Beginning of *nomination day + 1*, as the addition of the *user's total reconciliation amount* and the *user's reconciliation account balance* at the end of the *nomination day*; and
- End of *nomination day + 1*, by subtracting the *user's reconciliation adjustment amount* for *nomination day* determined under **Clause 8.9.13(a)(ii)** from the *user's reconciliation account balance* at the beginning of *nomination day + 1*.

Monthly RAB Target (Clause 8.9.13)

On the last calendar day of each month (*M + 0*), AEMO must determine and notify to each *user a*:

- *monthly reconciliation account balance reduction target* for the *settlement period* commencing on the first day of *M + 2*. The *monthly reconciliation account balance reduction target* is calculated under **clause 8.9.13(b)** and is the total amount of gas that the *user* is required to include in its *forecast requirements* for *nomination days* during the *settlement period* that commences on the first *nomination day* of *M + 2* for the purposes of reconciling its *reconciliation account balance*; and
- *daily user reconciliation adjustment amount* that the *user* must include in its *forecast requirement* for each day of the *settlement period*. The *daily user reconciliation adjustment amount* is calculated by dividing the *monthly reconciliation account balance reduction target* by the number of days in the *settlement period*.

AEMO will calculate a *user's monthly reconciliation account balance reduction target* as follows:

- by calculating:
 - the sum of all *users' positive reconciliation account balances* as at the last *nomination day* of *M + 0*; and
 - the sum of all *users' negative reconciliation account balances* as at the last *nomination day* of *M + 0*.

The lower of the amounts calculated under this **clause 8.9.13(b)(i)** (in absolute terms) is the *available offsetting amount*.

- if the absolute value of each of the amounts calculated under **clause 8.9.13(b)(i)** is equal, then each *user's monthly reconciliation account balance reduction target* will be equal to the *user's reconciliation account balance* as at the last *nomination day* of M + 0;
- if the value of one of the amounts calculated under **clause 8.9.13(b)(i)** is zero, then each *user's monthly reconciliation account balance reduction target* will be zero and the daily *user reconciliation adjustment amounts* calculated under **clause 8.9.13(a)(ii)** will each be zero;
- if neither **Clause 8.9.13(b)(ii)** or **Clause 8.9.13(b)(iii)** applies, then:
 - if a *user* has a *reconciliation account balance* that is of the same sign as the *available offsetting amount*, then it will have a *monthly reconciliation account balance reduction target* equal to the *user's reconciliation account balance* as at the last *nomination day* of M + 0; and
 - the total *monthly reconciliation account balance reduction targets* of all *users* that have *reconciliation account balances* that are not of the same sign as the *available offsetting amount* is equal to the *available offsetting amount*. AEMO will determine each the *user's monthly reconciliation account balance reduction target* for each such *user* (being its share of the *available offsetting amount*) by notionally applying the *available offsetting amount* as follows:
 - the *user* with the largest *reconciliation account balance*, in absolute terms, takes all of the *available offsetting amount* until either the *available offsetting amount* is used up or the *user's reconciliation account balance* (after the application of the *available offsetting amount*) is equal to a least one other *user's reconciliation account balance*;
 - where two or more *users* have *reconciliation account balances* that are of the same amount, the *users* equally share the *available offsetting amount* until the *available offsetting amount* is used up or each *user's reconciliation account balance* (after the application of the *available offsetting amount*) is equal to a least one other *user's reconciliation account balance*; and
 - so on, until the *available offsetting amount* is used up.

Users' Obligations (Clause 8.9.14)

Clause 8.9.14 was added which requires each *user* to meet its *monthly reconciliation account balance reduction target*, and to include in its *forecast requirement* the *user reconciliation adjustment amount* calculated by AEMO under **Clause 8.9.13**.

AEMO to notify User (Clause 8.10.4)

Clause 8.10.4 was inserted requiring AEMO to notify the *user* if a *user's total reconciliation amount* for the *nomination day* contains a *miscellaneous reconciliation amount*.

In which case, within two *business days* AEMO must provide to the *user*, for each *miscellaneous reconciliation amount* contained in the *total reconciliation amount*:

- the amount of the *miscellaneous reconciliation amount*;
- information regarding the event that gave rise to AEMO's determination of the *miscellaneous reconciliation amount*;
- the sum, across all *users* in the *network section*, of the *miscellaneous reconciliation amounts* that arose from the event;
- the *nomination day(s)* in respect of which the *miscellaneous reconciliation amount* arose; and
- details regarding the approach used by AEMO to determine the *miscellaneous reconciliation amount*.

Systems Implementation

End of Month Process

The 'end of month' process will assess the user's RAB at the end of the month. This process will identify the available offsets in the user's RAB and calculate the user's URAAs for the 28 day settlement period in the next month.

The calculation of URAA was implemented using a new calculation framework. The following steps were undertaken to accommodate the framework in the GRMBS environment — explicitly, the GRMBS integration module.

- Create a new database schema, database tables and pl/sql packages that will hold all the configuration data for the calculations; and
- Revise the java calculation framework that it integrates with the GRMBS integration environment.

Using this framework, the monthly calculation was defined in the following steps:

- Derive the user's monthly RAB target. Take into account the availability of RAB offsets and the hierarchy rules; and
- Derive the user's URAA by dividing the monthly RAB target by 28 days.

A new report was developed. This report provides users their respective monthly RAB targets and URAAs for each of the 28 days. This report is provided to users through the MIBB private folders and will be in form of a CSV.

Further Information

Contact details

If you have any questions or would like further information on the reconciliation process, please contact AEMO at grcf@aemo.com.au