

Rules Update Guide: Energy and Water for Offices v4.1 Metering and Consumption v1.1

Issued: 18th August 2020

1 Introduction

With the release of the latest version of *NABERS Rules – Energy and Water for Offices* (v4.1) and the second version of *NABERS Rules – Metering and Consumption* (v1.1), Assessors will notice that significant changes have been made compared to *NABERS Rules – Energy and Water for Offices* (v3.2).

The majority of these changes are either clarifications of the text, modifications to the structure or cosmetic in nature. Changes of a technical nature are summarised in this Guide.

The purpose of this Guide is to:

- Answer basic questions Assessors may have about the content, the documents and the update process;
- Explain the reasoning behind the creation of the new *NABERS Rules – Metering and Consumption*;
- Highlight those significant technical changes that have been made as a result of the update from version 3.2 to version 4.1 of the *NABERS Rules – Energy and Water for Offices*;
- Highlight minor changes between *NABERS Rules – Energy and Water for Offices* (v4.0) and (v4.1) and *NABERS Rules – Metering and Consumption* (v1.0) and (v1.1). **This information is summarised in Section 4.** Where information in other sections has been clarified, a note has been placed in that section.

A further update to the Metering and Consumption Rules will be released before the end of the year to extend these Rules to Shopping Centre Energy and Water ratings.

2 The transition period

NABERS Rules – Energy and Water for Offices (v4.0) and *NABERS Rules – Metering and Consumption* (v1.0) were both published on **25th March 2020**.

The updated versions of these documents with minor changes were released on **18th August 2020** (v4.1 and v1.1).

The transition period has been extended and will now **end midnight Monday 28th September 2020**.

With regard to rating applications, the following time periods apply:

- Ratings lodged **during the transition period** must conform to the requirements of either:
 - *NABERS Energy and Water for Offices – The Rules* (v3.2); **OR**
 - *NABERS Rules – Energy and Water for Offices* (v4.0) **AND** *NABERS Rules – Metering and Consumption* (v1.0); **OR**
 - *NABERS Rules – Energy and Water for Office* (v4.1) **AND** *NABERS Rules – Metering and Consumption* (v1.1).
- Rating applications lodged **after the end of the transition period** must conform to the requirements of:
 - *NABERS Rules – Energy and Water for Offices* (v4.1), **AND**
 - *NABERS Rules – Metering and Consumption* (v1.1).

Assessors must take care when choosing to conform to a previous version of the Rules that they are able to lodge the application before the end of the transition period.

Note: For rating applications completed as part of a Commitment Agreement used to conform with Section J of the National Construction Code 2019 (NCC2019), it is permitted to continue using *NABERS Energy and Water for Offices – The Rules* (v3.2) until such time as when the NCC is next reviewed or updated. For more information, contact the National Administrator.

3 Major changes since Energy and Water for Offices (v3.2)

3.1 Summary

Most changes made within both *NABERS Rules – Energy and Water for Offices* and *NABERS Rules – Metering and Consumption* fall into one of three categories:

- Stylistic – Changes to the look of tables, internal referencing and list hierarchy for consistency.
- Structural – Changes made to the location of content (including entire sections) to improve document flow.
- Clarification – Changes made to content in order to:
 - Provide clarity on concepts, requirements and application of information;
 - Improve readability; and
 - Reduce misinterpretation.

There are several technical changes made in both documents that Assessors will need to familiarise themselves with. These are outlined under the headings 3.2 to 3.9 below. A full list of changes is available in the final Appendix of both documents.

3.2 Creation of *NABERS Rules – Metering and Consumption*

The biggest change made to *NABERS Energy and Water for Offices – The Rules* (v3.2) is the removal of content on metering, the validation of meters and the treatment of consumption data. This removed content was used as the basis for a new NABERS Rule document: *NABERS Rules – Metering and Consumption* (v1.1).

The purpose behind the creation of this new document is to consolidate the requirements on metering and consumption that are common to various ratings and building types (not just offices). This will have several benefits:

- Ensuring a consistent approach to metering and consumption data regardless of the building sector;
- Allowing for quicker, more efficient updating of NABERS Rules;
- Aiding the development of new NABERS rating tools by allowing for efficient scaling.

In future, all content relating to metering and consumption data within other NABERS Rule documents of other building types (e.g. Shopping Centres, Hotels and Apartment Buildings) will be removed and incorporated into the *NABERS Rules – Metering and Consumption*.

Note: While most requirements in *NABERS Rules – Metering and Consumption* will apply to all building types, it is acknowledged that building type-specific requirements may need to be added to in order to account for variations. This will be done progressively and in due course as further Rules are revised.

3.3 Non-cumulative metering systems

Section 3.4.4.3 of *NABERS Rules – Metering and Consumption* (v1.1) contains new content that deals with non-cumulative metering systems.

In principle, data from these types of meters can only be used for an inclusion if the data can be reconciled against an energy or water balance from its parent utility metering system.

It should be noted that if used for an exclusion, an energy or water balance is not required.

Assessors should also note:

- When undertaking an energy or water balance for a non-cumulative metering system, virtual meters cannot be used for this balance;
- Where data from a non-utility, non-cumulative metering system may be missing, no adjustments can be made.

3.4 Utility vs Non-utility metering systems

The structure of *NABERS Rules – Metering and Consumption* (v1.1) is split between how to treat data from utility metering systems and non-utility metering systems. Because of this division, new content for concepts and meter types have been added, including:

- Definition entries for *utility*, *utility metering system* and *non-utility metering system*;
- Definition entry for Cloud Metering System;
- Definition entry for Remote Meter Reading System (RMRS);
- Section 3.4.4.2 dealing with cumulative meters, including pulse meters with an onboard counting mechanism;
- Section 3.4.4.3 dealing with non-cumulative meters;
- Section 3.4.4.4 dealing with “soft” meters or equipment sensors;
- Section 3.4.4.5 dealing with virtual meters;
- Section 6.3.4 which deals with RMRS validation requirements.

The requirements for the treatment of utility metering system data remains unchanged with few structural adjustments. Content on the treatment of non-utility metering data has been added, which is based on that of utility metering data.

The treatment of non-cumulative data has also been added. Assessors should note that this data cannot be adjusted in any way.

3.5 Embedded networks

V1.1 Clarifications have been made to this section of the document.

Embedded networks were briefly referenced in *NABERS Energy and Water for Offices – The Rules* (v3.2). This update has expanded on content dealing with embedded networks, and includes the following additions:

- Definition of ‘embedded network’ in both documents;
- Confirmation regarding whether meters are utility or non-utility meters for the purpose of NABERS ratings;
- Validation of non-utility meters within an embedded network – Section 6.2.3 of *NABERS Rules – Metering and Consumption* (v1.1);
- Documentation requirements if the premises contains an embedded network – Section 9.5.1 of *NABERS Rules – Metering and Consumption* (v1.1).

In *NABERS Rules – Metering and Consumption* (v1.1) an additional clarification has been made for metering systems which have an exemption from an electricity retailer license. If these metering systems are to be used as utility metering systems in NABERS ratings, the exemption requires prior approval from the National Administrator.

3.6 Data requirements for non-utility gas metering systems

When calculating gas consumption as part of adjusting gas utility consumption data, Assessors now have two options for the pressure correction factor, depending on how the data is to be used.

For gas metering systems that are to be used for inclusions, Assessors may use either—

- the meter pressure correction factor, or
- the utility’s pressure correction factor.

For gas metering systems that are to be used for exclusions, Assessors may use either—

- the meter pressure correction factor, or
- a default value of ‘1’.

3.7 Default heating values based on State/Territory

The table of default heating values for gas metering systems has been updated, and a default heating value for Tasmania has been added.

The figures in this table are used for adjusting gaps during the billing period for gas accounts and have been updated based on the Australian Government Department of the Environment and Energy’s *Guide to the Australian Energy Statistics 2017*.

3.8 Checking CT meters in place to avoid shutdown

V1.1 Clarifications have been made to this section of the document.

The contents of this section previously discussed how Assessors could validate CT meters where the network cannot be shutdown. This has now been reduced and simplified.

The Rules now clarify that a qualified and licenced electrician must be engaged to conduct the validation and complete the validation record. Clarification has been provided that the Assessors are not limited to the acceptable methods for verification listed below, but are instead provided these for guidance:

- Use of a portable power meter to record consumption of the metered circuit over a period of time; or
- Use of a clamp-on ammeter or similar device to identify the average current in the circuit being metered.

It has also been clarified that metering systems which were validated under v3.2 of the Energy and Water Rules for Offices can also be considered validated under these Rules.

Based on feedback from Assessors, further refinement will be made to this section for the next version of these Rules, to be released before the end of the calendar year. If you have any feedback or questions please contact the National Administrator.

3.9 Documentation requirements

In order to assist Assessors in ensuring they retain all required documentation for a rating application, all documentation requirements have been consolidated into one chapter within the main body of the Rules. These chapters are:

- Chapter 8 in *NABERS Rules – Energy and Water for Offices* (v4.1).
- Chapter 9 in *NABERS Rules – Metering and Consumption* (v1.1).

Assessors should familiarise themselves with these documentation requirements as they will serve as required evidence for a Level 2 audit.

4 Minor version updates

Based on feedback from Assessors, NABERS has made some minor updates to both *NABERS Rules – Energy and Water for Offices* (v4.0) and *NABERS Rules – Metering and Consumption* (v1.0). This has been detailed in the tables below. Highlights have been added in some places for clarity.

Table 1: Metering and Consumption – details of the update to version 1.1

Location	Changes made
Throughout	Minor formatting changes.
1.6	On-site Renewable Electricity Generation systems Ruling added as it is now referenced in the text.
Chapter 2	GLAR definition deleted. Definition of utility clarified (as highlighted): “Landlords which on-sell electricity or water where they neither hold a licence nor have an exemption deemed valid by the National Administrator for needing a licence;”
3.3.1	Paragraph added clarifying that electrical vehicle charge points and vehicle emissions are not part of the minimum energy coverage.
3.4.4.3	Clarification that data reconciliation for non-cumulative meters is to be performed by metering providers and not by Assessors.
4.3.2	Clarification added that it is good practice to check the bill prior to the first bill is estimated in all cases, not just if the first bill is estimated.
Table 5.2	Time in 24-hour format made optional as an acceptable format for all meters to display the date and time.
5.4.2	Cross reference in b) amended to Section 5.3.4.
5.4.3.2	Process clarified for natural gas non-utility metering systems: Section 4.4.4.3 is to be used except for part (b). Then 5.3.4.2 should be used.
6.2.1	Final paragraph added to specify the need to check newly installed non-utility metering systems for validation.
6.2.3	Details regarding exemptions from the AER modified. Assessors must now contact the National Administrator for approval. Requirement that an exemption for a utility license must be approved by the National Administrator clarified. Note 1 added.
6.3.1	Section entitled ‘categorising metering systems’ deleted.

6.3.4.1	Note clarified by mentioning 'each type of meter' for validation – this is meters with current transformers, gas meters and meters connected to an RMRS.
6.3.4.2	Types of non-utility metering system specified in a list a) to c), and aligned with Section 6.3.4.1.
7.3.1	Note added specifying that a single bill is adequate to establish energy or water supply.
8.2	This entire section has been removed and replaced with reference to the NABERS ruling for on-site renewable energy.
Chapter 9	<p>This chapter has been thoroughly reviewed and brought into line with current practice. Changes have been made to ensure that the documentation requirements reflect the practical experiences of the Assessor when conducting a rating. This includes the use of the NABERS rating input form – it has been clarified that information entered into this form does not need to be redocumented for Level 2 audit. The requirements in this section are no longer office-specific to facilitate the use of this document in other sectors when it is released for other sectors.</p> <p>Wording has also been changed from the requirement for documents to be “provided” by Assessors to “retained” by Assessors.</p>
9.2.1 9.2.2	Completely rewritten and made more concise and reflective of what occurs in practice when conducting a rating.
9.2.3	Completely rewritten and no longer broken up into a list for energy and a list for water. References to offices removed.
9.2.4	<p>These sections have been rewritten, made more concise and less specific to encompass various energy and water rating types. Requirements for office Tenancy and Base Building ratings have been removed.</p> <p>Paragraph added regarding the type of evidence required to confirm sources and supply points.</p> <p>Paragraph added regarding the exclusion of a supply point if access to a distribution board is difficult, or if labelling is not adequate. Assessors given permission to make an assumption which must be fully documented.</p>
9.2.5	<p>Previous sections 9.2.5, 9.2.6, 9.2.7 and 9.2.8 have been combined into a single section on the confirmation of metering systems. This is because the type of documentation required to be retained by the Assessor for the various types of systems are the same.</p> <p>The requirement for a specialist to draft a single line diagram, metering schematic or reticulation diagram if none exists has been modified.</p> <p>A note has been added allowing Assessors to confirm 'all non-utility metering systems used in the rating are cumulative meters'.</p>
9.3.1	Requirements for sections 4.2, 4.3 and 4.4 have been combined and made more concise. This makes for easier use together with the NABERS rating input form.
9.3.2	Detailed requirements removed (which were repetitious with Section 4.5) and the Assessor directed back to the information in Section 4.5.
9.4.1	Requirements for sections 5.2, 5.3 and 5.4 have been combined and made more concise. Reference to climate correlation method removed (method no longer applicable).

9.5.1	Changed to include requirements on embedded networks only and points a), b) and c) have been removed. Note has been added stating that a current printout from the website listing licenses is acceptable evidence.
9.5.2	These requirements have been rewritten based on the need for evidence provided from the building owner or contractor. The lists have been removed.
Appendix A	Some of the wording in the third row of the validation record for electrical non-utility metering systems has been clarified.

Table 2: Energy and Water for Offices – details of the update to version 4.1

Location	Changes made
Throughout	Minor formatting changes.
1.6 Chapter 2	2017 versions added to the BOMA references
Chapter 2	Definition of utility clarified (as highlighted): “Landlords which on-sell electricity or water where they neither hold a licence nor have an exemption deemed valid by the National Administrator for needing a licence;”
4.5.1	Note 3 added which advises that ‘the area of spaces which have been excluded should be entered into the NABERS rating input form but their occupancy days should be marked as 0.’
4.5.6	First paragraph slightly reworded for clarity.
4.6	Heading made more concise.
5.3.2.1	OTA Hours Method: Permission to use “House Rules” that contain information regarding the Core Hours added, if mentioned in the OTA. Same language requirements kept. Under Step 2, the documentation requirements before the example were removed as they are repetitious with Section 8.3.1.
5.3.2.2	Meaning of text clarified and paragraphs re-worded.
5.3.8.2 a)	Preference list of methods corrected.
7.2.2	Sump pits and hydraulic pumping clarified in the list of energy coverage for Base Building ratings.
7.3.1.2	Note deleted as presented repetitious information.
Chapter 8	Wording change from ‘provided’ to ‘retained’ in relation to documentation requirements.
8.2.9 a)	Examples of type of evidence to demonstrate fitout days in relation to Base Building air conditioning services added.

8.3.1	<p>Point d) changed to point e). Previous point d) stating evidence requirements if the OTA Hours and BMS data method is used has been expanded. Requirements include additional evidence of a 'minimum of one day from each of the four seasons for each primary air handling system serving the space under the OTA'.</p> <p>If Assessors cannot provide this level of documentation they should contact the National Administrator.</p>
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5 Other outstanding issues

During the development of these documents, NABERS has identified several areas where improvements to the Rules could be made. These items were found to be out of scope of the current project and, due to time constraints, could not be included in this update.

These items have been captured and flagged for either a future minor update, major update or ruling.

NABERS encourages any and all feedback on its Rules, rulings and processes to be directed to the NABERS mailbox: nabers@environment.nsw.gov.au

6 Questions regarding this update

Any questions regarding the release of *NABERS Rules – Energy and Water for Offices* (v4.1) and *NABERS Rules – Metering and Consumption* (v1.1), this Guide or the work of NABERS on the Rules can be directed to Andrew Buchel: Andrew.Buchel@environment.nsw.gov.au

Contact us

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