NABERS

NABERS Energy and Water for hospitals

Rules for collecting and using data

VERSION 1.0 January 2017

Formatting conventions used in this document

Note: Text appearing with a grey tint in the background is explanatory text only. It is not part of the Rules.

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1 Introduction

The National Australian Built Environment Rating System (NABERS) is a performance-based rating system for buildings. Rating types include: Energy, Water, Waste and Indoor Environment and are available for data centres, offices, hospitals, hotels and shopping centres.

A NABERS rating for a building is based on a methodical assessment of the actual environmental impact of operating it. For a hospital rating to be accredited by NABERS, the assessment on which it is based must be performed by a NABERS Assessor and comply with a quality standard that sets out principles and rules for gathering, interpreting and using data. Assessments may be audited for compliance. The quality standard for an assessment is defined in the Rules for collecting and using data.

The objective of NABERS Hospitals is to provide an independent method to benchmark the environmental performance of a hospital to provide asset specific information on energy and water use, and to compare performance with other hospitals. NABERS Hospital ratings will be managed by state and territory health departments. The hospital ratings will be undertaken by the health department for a given state.

The purpose of this Rules document is to ensure ratings are conducted in a consistent and robust manner. Consistency is important to ensure ratings are comparable and accurately reflect the performance parameters.

1.1 About NABERS Energy and Water for Hospitals ratings

NABERS ratings are expressed as a number of stars. The more stars in a NABERS Energy rating, the lower the environmental impact of the rated premises.

NABERS rating		Performance comparison
6 stars	★★★★★★	Market leading performance
5 stars	★★★★★	Excellent performance
4 stars	★★★★	Good performance
3 stars	★★★	Market average performance
2 stars	★★	Below average performance
1 star	★	Poor performance
0 star		Very poor performance

The NABERS Energy and Water ratings are calculated by comparing the energy and water consumption of the hospital against other hospitals using 12 months of actual data. For a fair comparison, the consumption figures are adjusted by hospital characteristics such as:

- Annual Occupied Bed Days
- Annual Separations
- Number of Commonwealth Funded Aged Care Beds
- Hospital Peer Group
- Climate

1.2 Technical clarification and Rulings

Assessors must contact the National Administrator for technical clarification or request a change to the Rules whenever they are unsure how to apply the Rules.

The National Administrator may resolve the issue by:

- Providing an interpretation of the Rules.
- Advice a specific procedure to be followed that is not stated in the Rules but aligns with the intention of the Rules. Written correspondence from the National Administrator must be documented as evidence of the procedure used.
- Providing a Ruling in particular circumstances.

An Assessor cannot use a procedure not already in the Rules without prior approval from the National Administrator.

2 Key Concepts

2.1 The rating process

An accredited NABERS rating is awarded when the NABERS National Administrator certifies a rating lodged and completed by an Assessor. The National Administrator may independently audit the rating and assist in resolving complex technical issues.

The main documents and tools used in preparing a rating application are:

Document or tool	Description
Rules for collecting and using data (including additional Rulings)	The quality standard for accredited ratings that specifies the information required and how it is used to prepare a rating application.
Support Document for the Rules	Additional information provided for the Assessor, that supplements the Rules.
NABERS Hospital Rating Spreadsheet	A spreadsheet template which allows Assessors to input data in order to obtain rating results.

The stages to complete a NABERS Hospital rating are:

Figure 1 – Overview of the assessment process

1. Collect relevant data for the assessment through published reports, central hospital database etc.
2. Perform data validation/verification where required.
3. Enter data into NABERS Hospital Rating Spreadsheet.
4. Determine the final star rating.
5. Submit Hospital Rating Spreadsheet to the National Administrator for certification.
6. National Administrator conducts quality assurance checks and certifies the ratings.

7. Collate and maintain all documentation and evidence for at least seven years for audit purposes.

2.2 The Rating Period

2.2.1 Data must cover the same period

The Rating Period is the continuous 12-month used indicate the period (e.g March 2015-Feb 2016), the NABERS Energy and Water rating applies to. For each hospital, data from all sources used in a rating application for a NABERS Energy or Water rating must either:

- cover the same timeframe as the Rating Period, or
- meet the requirements specified in *Support Document Section 6.2 Periods Covered by Utility Data*

2.2.2 Time allowed for assessment

NABERS Ratings lodged within 120 days of the end of the Rating Period will be valid for a full 365 days from the date of certification.

A Rating lodged after 120 days of the end of the Rating Period will have the validity reduced and be valid for 365 days from the end of the Rating Period.

Please see *Support Document Section 3 Rating Timeline* for further information.

2.2.3 Newly built or major refurbishments

New hospitals or hospitals subject to major refurbishment can begin the Rating Period for a NABERS assessment once the hospital has been commissioned.

2.3 Documentation and record-keeping

2.3.1 Documentation required

A detailed checklist of the documentation required for performing the rating is in *Section: 10.1 Appendix A – Information checklist for accredited ratings*.

An assessment may be based on copies of original documents such as utility bills and other records as long as the Assessor is satisfied that they are, or can be, verified to be true and complete records of the original documents or files.

2.3.2 Records to be kept seven years for audit

The health department must keep all records on which an assessment is based for audit purposes. This includes records of assumptions and all information and calculations used as the basis for estimates. Records must be kept for seven years from the date the rating application was lodged with the National Administrator.

2.3.3 Records to be kept by Health Department

The records kept must be the actual documents used for the assessment or verifiable copies. The records kept by health departments must be to such a standard that it would be possible for another Assessor or an auditor to accurately repeat the rating from only the documents provided.

2.4 Acceptable data and estimates

2.4.1 Principles

1 **Data and estimates must be as specified**

An assessment for an accredited NABERS Energy or Water for hospitals rating must be based on the data or estimates specified in:

1. the Rules (including applicable rulings)
2. the Supporting Document

2.4.2 Standards for acceptable data and estimates

1 **Data**

If accurate and verifiable data is available, it must be used. Where a section of the Rules allows more than one type of data source to be used and no particular priority is given, the Assessor must determine the most accurate source and use the corresponding data in the rating assessment. The data can be obtained, but not limited to, the following sources:

- Data obtained through externally published documents
- Data obtained through internally published documents
- Data obtained through a central hospital database system, managed by the health department
- Data obtained from individual hospitals and/or site inspections

2 **Estimates**

If acceptable data is not available, or where these Rules permit otherwise, estimates (including assumptions, approximations and un-validated data) can only be used if:

- The estimates satisfy the specific requirements of the Rules, and
- The combined effect of all estimates is within ± 5% of the overall rating, as calculated using the Error Calculation in the Rating Spreadsheet.

2.4.3 Data Validation - Random Sample Selection

Where applicable, a random sample of 10% of the hospitals are required for the data validation of all the following metrics:

- Occupied Bed Days
- Separations

- Commonwealth Funded Aged Care Beds
- Energy and Water Coverage
- Consumption Data

Where feasible, the Assessor must ensure that the sample dataset is the same for the validation of all the different metrics.

2.5 Peer Group Eligibility

The hospitals under the peer groups presented below, are eligible for a NABERS Rating. The eligibility of the peer groups have been determined through statistical validation, type of service provided and peer group data analysis. Hospitals that do not belong to any of the peer groups listed, can be rated under the 'Other hospitals' category in the rating spreadsheet, however, the rating will not be recognised by NABERS. The list of peer groups will be periodically reviewed and updated. A detailed description of the peer group classification has been provided in *Section 10.3 Appendix C – Hospital Peer Groups*.

Eligible hospital peer groups are:

- Principal referral hospitals
- Public acute group A hospitals
- Public acute group B hospitals
- Public acute group C hospitals
- Public acute group D hospitals
- Public rehabilitation hospital
- Very small hospitals
- Women's hospitals
- Children's hospitals
- Acute psychiatric hospitals
- Mixed subacute and non-acute hospitals
- Other acute specialised hospitals
- Same day hospitals

3 Occupied Bed Days

3.1 Summary

The Occupied Bed Days (OBDs) are used to adjust the energy and water consumption, along with other factors, to ensure a fair comparison between hospitals. The OBDs must be counted and reported consistently and accurately.

3.2 Principle and Definition

The Occupied Bed Days (OBDs) are the total number of bed days of all admitted patients accommodated during the Rating Period. OBDs are used to adjust for the activity level within a hospital.

The OBD count associated with Commonwealth funded aged care beds are considered separately and must be excluded from the total OBD count.

3.2.1 Counting OBDs

Assessors should calculate the total number of OBDs for hospitals in the Rating Period as follows:

- If a patient occupies a bed any time between 00:00 hours and 23:59 hours, count as one OBD.

The following are some examples illustrating the OBD count:

- The day the patient is admitted is an OBD
- If the patient remains in hospital from midnight to 23:59 hours, count as one OBD
- The day a patient goes on leave or is separated, count as one OBD
- The day a patient goes on leave or is separated, and the another patient is admitted in the same bed, count as two OBDs
- If the patient is admitted and separated or goes on leave on the same date (same-day patients), count as one OBD
- If the patient returns from leave and goes on leave or is seperated on the same date, count as one OBD.

As a guideline, the Assessor should ensure that the OBD count per bed does not exceed 365 days (366 days for a leap year). In an event that it does, the Assessor should further investigate and obtain adequate reasoning and supporting evidence for the same.

The Assessor will also have to undertake the data validation of the OBD data collected as described in *Section 6 Data Validation – Activity Metrics.*

Where the Assessor is unable to obtain the OBDs for a given hospital, the associated patient days can be used instead, for the rating assessment. Note that this is considered as a non-conformity to the Rules and the Assessor must state this in the Rating Spreadsheet (Assessor Info tab). The Patient days is subjected to all the requirements as that of OBDs as specified under the Rules.

3.3 Documentation Required

3.3.1 Standard for acceptable data

The OBD data is considered acceptable data if the method of measurement complies with the requirements of this section.

3.3.2 Documentation

The Assessor must obtain:

1. The OBD values from whichever source is used.

4 Separations

4.1 Summary

Like OBDs, Separations are used to adjust the energy and water consumption, along with other factors, to ensure a fair comparison between hospitals. The Separations must be counted and reported consistently and accurately.

4.2 Principle and Definition

Based on the Meteor data registry (Australian Institute of Health and Welfare - AIHW), the NABERS rating assessment accounts for the formal separation in hospitals which is defined as the administrative process by which a hospital records the cessation of treatment and/or care and/or accommodation of a patient. This forms the underlining principle of counting separations.

4.2.1 Counting Separations

The following are some examples illustrating the separation count:

- The event of a patient being discharged from the hospital is counted as a separation
- The event of a patient going on leave from the hospital is not counted as a separation
- The event of a patient transferring from one type of treatment to another is counted as a separation
- The event of a patient transferring from one type of care to another is counted as a separation
- The event where an episode of care ceases followed by the patient being discharged by the hospital, is counted as a separation.
- The event where an episode of care ceases within the one hospital stay, is counted as a separation.

The Assessor will also have to undertake the data validation of the Separations data collected as described in *Section 6 Data Validation – Activity Metrics.*

4.3 Documentation Required

4.3.1 Standard for acceptable data

The Separation data is considered acceptable data if the method of measurement complies with the requirements of this section.

4.3.2 Documentation

The Assessor must obtain:

1. The Separation values from whichever source is used.

5 Commonwealth Funded Aged Care Beds

5.1 Summary

The number of Commonwealth funded aged care beds (CFACBs) is used, along with other factors, to adjust the energy and water consumption. This ensures that fair comparisons can be made between hospitals even though the number of funded aged care beds vary.

5.2 Principle and Definition

The Commonwealth funded aged care beds are for the treatment for aged care patients in public hospitals, funded by the Commonwealth. These beds are typically not included in the OBD count, and must be excluded from the OBD count for the purposes of a NABERS Rating. The NABERS Rating accounts for the number of Commonwealth funded aged care beds separately.

In the rating assessment, the number of Commonwealth funded aged care beds are converted to an associated bed-day metric by multiplying it by 300 days. For increased accuracy, the Assessor must provide the Commonwealth funded aged care bed days, where available (See *Section 5.2.3 Commonwealth Funded Aged Care Bed Days).*

5.2.1 Counting Commonwealth Funded Aged Care Beds

The Assessor must report the total number of aged care beds funded by the Commonwealth Government.

The CFACBs must provide the following types of care:

- Residential Care
- Transitional Care

5.2.2 Counting Other Funded Aged Care Beds

In cases where aged care beds are funded by other organisations, the assessor must also include the total number of other funded aged care beds with the CFACBs. These beds must also be excluded from the OBD count. The number of beds funded by the following types of organisations may be included:

- State Government
- Community Based Organisation

The other funded aged care beds must provide the following types of care:

- Residential Care
- Transitional Care

The Assessor will also have to undertake the data validation of the CFACB data collected as described in *Section 6 Data Validation – Activity Metrics*

5.2.3 Commonwealth Funded Aged Care Bed Days

If the Commonwealth funded aged care bed days are available and can be validated (See *Section 6 Data Validation – Activity Metrics*), the Assessor must provide the CFACB days in the rating spreadsheet.

Please note that if the 'CFACB days' are provided, the associated CFACBs are not required to be provided.

The rules for counting the 'CFACB days' are same as that of OBDs (See *Section 3.2.1 Counting OBDs*) and are only applicable to the Commonwealth funded aged care beds.

5.3 Documentation Required

5.3.1 Standard for acceptable data

The funded aged care beds data is considered acceptable data if the method of measurement complies with the requirements of this section.

5.3.2 Documentation

The Assessor must obtain:

1. The CFACB or CFACB day values from whichever source is used.

6 Data Validation – Activity Metrics

6.1 Summary

The Assessor is required to validate the activity metrics data collected for the rating assessment. Data validation ensures that the data provided is accurate and assists in eliminating incorrect data.

The different activity metrics, as follows, collected for the assessment are required to undergo the data validation procedures separately:

- Occupied Bed Days
- Separations
- Commonwealth-funded Aged Care Beds

6.2 Data Validation

6.2.1 Step 1 – Random Sample

From the entire dataset, select a random sample of hospitals consisting of at least 10% of the hospitals. For the sample dataset, perform the following validation. See *Section 6.5 Data Validation - Process Flow* for diagrammatic representation of the process.

The Assessor must ensure that a separate set of randomly selected hospitals, as long as feasible, are selected for the subsequent ratings.

6.2.2 Step 2 – Data Source

If the primary source of the activity metric data belong to the following categories, no further validation will be required:

- Externally published report
- Internally published report

For the remaining hospitals in the sample dataset, if the activity metric data obtained through the central database is not published, it will have to undergo the following data validation procedures.

6.2.3 Step 3 – Validation A: Check internal procedures

To validate the activity metric data obtained from the central database, the Assessor must:

1. Obtain the verification/confirmation procedures used by the health department to verify the data, prior to internal/external reporting.

2. Verify the data through confirmation procedures obtained above.

If Step 3 - Validation A is not feasible, the Assessor must perform the Step 4 validations (See *Section 6.2.4 Step 4 – Validation B: Check with hospital*)

6.2.4 Step 4 – Validation B: Check with hospital

To validate the activity metric data obtained from the central database, the Assessor must:

1 **Obtain activity metric data from hospitals**

- Obtain activity metric data directly from individual hospitals covering the Rating Period in the sample dataset, where applicable.

2 **Perform Validation**

- For the selected hospitals, verify and confirm the activity metric data obtained from the central database system.

3 **Results of Validation**

Where all the activity metric data for the randomly selected hospitals are verified to be accurate, the rating can proceed.

However, where the activity metric data for one or more randomly selected hospitals is found to be inaccurate:

1. The Assessor must, following confirmation that the data is correct, rectify the corresponding incorrect figures in the data.

2. Repeat Step 3 – Validation B for a separate set of randomly selected hospitals, for the given activity metric.

6.3 Data Discrepancies

For the different activity metrics, where discrepancies are found between site-reported and Commonwealth-reported figures, the Assessor must consider the most recent data and ensure that the rules of counting the metrics have been conformed to.

6.4 Data Modification

If the activity metrics are revised after the ratings have been processed, the Assessor must:

- Notify the National Administrator of the modification
- Update the rating data in the spreadsheet
- Lodge updated ratings with the National Administrator

The National Administrator, following the applicable quality assurance procedures, will certify the rating. The validity of the certification will be the same as that of the previous rating (the rating that has been modified).

6.5 Data Validation - Process Flow

The following diagram shows the process flow for the data validation of activity metrics.

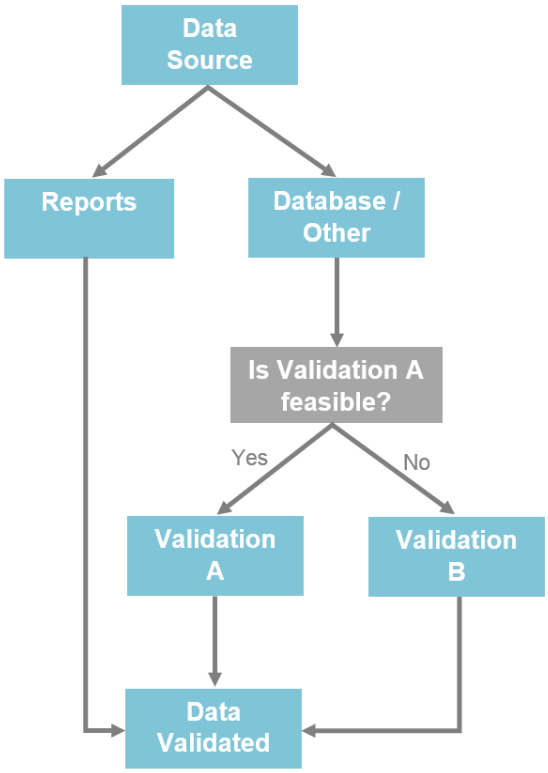

Figure 2 – Overview of the activity metric data validation process

6.6 Documentation Required

6.6.1 Standard for acceptable data

The activity metric data is considered acceptable data if the data validation complies with the requirements of this section.

6.6.2 Documentation

The Assessor must obtain:

1. The validation method (if required);
2. Documentation supporting compliance to the data validation requirements (See *Section 6.2 Data Validation*)

7 Energy Coverage

7.1 Summary

Correctly interpreting the scope of energy supply and consumption data is essential to the accuracy of a NABERS Energy for hospitals rating. The accredited rating includes all sources of external energy supplied to the rated premises that cover the energy end uses within the minimum energy coverage.

Utility and non-utility meters with acceptable data may be used in any combination to achieve the required coverage.

7.2 Principle

Assessors must ensure that the accredited rating covers:

- The consumption of every external energy source supplied to the rated premises, and
- Every end use of energy, including as a minimum the services listed in *Section 7.2.1 Required minimum energy coverage.*

The Assessor must ensure that all relevant equipment is covered under the meters included in the rating.

Any exclusion must only cover the specific item being excluded. This means that every item to be excluded must be assessed separately, and the justification for its exclusion included in the documentation. Further details have been specified in the *Support Document Section 6.3 Including or excluding consumption.*

7.2.1 Required minimum energy coverage

The minimum energy coverage includes energy consumed in the hospital during the Rating Period, such as:

- Specialised hospital facilities and associated equipment
- Research facilities and associated equipment
- Back of house (staff office) space
- Lighting and power
- Lifts and escalators
- Air conditioning and ventilation
- Exterior lighting and exterior signage
- Generator fuel
- Car park ventilation and lighting where car parking is on-site and provided for hospital staff, patients and visitors

- On site kitchens, cafeterias and restaurants servicing staff, patients and visitors
- Any on-site laundries

7.2.2 Unoccupied spaces

The energy use (within the scope of the minimum energy coverage) of unoccupied hospital spaces must always be included.

7.2.3 Car Parks

Energy use associated with hospital car parks is included within the coverage of the rating except where it can be demonstrated that the car park is not for hospital use; or is owned and operated by a third party.

Where parking is provided to the hospital by a third party (for example, a public car park operator that owns and operates the car park) that controls the operation of the car park, then the car park energy is not included in the rating. The car park energy is still included if the hospital leases their car park to a third party provider to operate.

Further information related to car park energy inclusions and exclusions have been provided in the *Support Document, Section 6.8 Car Park Energy*.

7.3 On-site generation

7.3.1 Cogeneration and trigeneration systems

For on-site cogeneration systems, the electricity component that is generated and consumed by the hospital is not included in the rating assessment. The associated gas consumption, on the other hand, is included in the assessment.

If the cogeneration system exports the electrical and thermal loads to the grid or a different premise, the Assessor will be required to complete the cogeneration spreadsheet calculator and include the corresponding results in the rating spreadsheet. If the entire electrical and thermal generation is consumed by the facility, the Assessor need not undertake any additional analysis.

Further information has been provided in the *Support Document, Section 7 On-site electricity generation*.

7.3.2 Renewable on-site generation systems

On-site renewable electricity generation is not included in the external sources covered by a NABERS Energy for hospitals rating, and will therefore improve the rating when low-emission or renewable energy technologies are used. No adjustment is thus required which means that utility billing data must be used without modification.

Further information of on-site generation systems have been provided in the *Support Document, Section 7 On-site electricity generation*.

7.4 GreenPower™

7.4.1 Treatment of GreenPower™

Two NABERS Energy ratings are calculated to represent the usage of GreenPower™. The first recognises the use of the GreenPower™ as zero emission energy generation (improving the rating). The second treats GreenPower™ as standard grid electricity to reflect the actual energy efficiency of the building.

Further information and requirements have been outlined in the *Support Document, Section 8 Green Power.*

7.4.2 Standard for acceptable data

The actual amount of GreenPower™ supplied must be explicitly assessed from the billing data or in writing by the GreenPower™ provider.

7.5 High-voltage electricity consumption

NABERS Energy for hospital ratings must meet the minimum energy coverage requirements and can include high voltage (HV) and/or low voltage (LV) electricity usage, as applicable.

If a hospital's main electricity utility meters are situated on the HV side of the transformers, non-utility meters can be used on the low voltage LV side for the energy use measurements. The LV meters must cover 100% of the building electricity end uses. This is provided that all the electricity end-uses are LV. The associated transformer losses can thus be excluded from the rating assessment.

For hospitals with a mix of HV and LV meters for different end-uses, the Assessor must either obtain single-line diagrams (SLDs) or written confirmation from the hospitals demonstrating that the minimum energy coverage requirements have been met under the HV and LV meters, along with the documentation specified in *Section 7.6 Documentation Required*

7.6 Documentation Required

7.6.1 Evidence of classification and allocation

Where applicable, the Assessor must obtain the following:

- Documentation of GreenPower™ purchases, including confirmation of the allocation of bulk purchases. Energy allocated from a bulk purchase of GreenPower™ must be accompanied by a spreadsheet demonstrating how the GreenPower™ has been distributed among the hospitals.
- Documentation of any agreements by the hospital owner or operator and third parties, concerning:
  - car park usage
  - apportionment of utility costs for common or shared facilities

- Documentation and/or calculations for energy usage inclusions and/or exclusions.

7.6.2 Evidence of Minimum Energy Coverage

1 List of Energy Sources

For each hospital, the Assessor must obtain a list of the following:

- The different NMIs for electricity supply.
- The different MIRNs for gas supply.
- The different account numbers for LPG supply.
- Other applicable account numbers for energy (electricity, gas and/or LPG) supply sources.

2 Energy Coverage Verification

To ensure that the requirements of the minimum energy coverage have been met, the assessor must randomly select 10% of hospitals and obtain the following through hospital facility managers:

- Written confirmation that the list of energy sources obtained is accurate.
- Written confirmation of the inclusion of all the associated energy consumption data for all the meters available on-site.

Please note that the Assessor will have to undertake a different set of randomly selected hospitals for each consecutive rating, as long as feasible.

8 Water Coverage

8.1 Summary

Consumption data is essential to the accuracy of a NABERS Water for hospitals rating. An accredited rating includes all sources of external water supplied to the rated premises, and must cover all of the water end uses associated with the minimum water coverage.

Utility and non-utility meters with acceptable data may be used in any combination to achieve the required coverage.

8.2 Principle

Assessors must ensure that the rating covers:

- The consumption of every external water source supplied to the premises to be rated, including ground water from the site, external surface water (not internal rainwater capture), and externally supplied recycled water sources whether potable or not, and
- Every end use of water, including as a minimum the services listed *Section 8.2.2 Required minimum water coverage.*

The Assessor must ensure that all relevant equipment is covered under the meters included in the rating.

Any exclusion must only cover the specific item being excluded. This means that every item to be excluded must be assessed separately and the justification for its exclusion included in the documentation.

8.2.1 Unmetered supplies

Premises with consumption of external water from unmetered sources (for example, river, bore or well water) for end uses other than fire systems cannot be rated until metering compliant with the Rules has been installed and 12 months of acceptable data obtained.

8.2.2 Required minimum water coverage

The minimum water coverage includes water consumed in the hospital during the Rating Period, such as:

- Water used in specialized hospital facilities and research facilities
- Water used in air-conditioning, evaporative cooling and other building services, for example general cleaning, façade cleaning, etc.

- Water for taps and sinks, both back and front of house
- Water use for toilets
- Water use in fire services if metered
- Water used in on-site laundries
- Water used in on-site kitchens, cafes and restaurants servicing staff, patients and visitors
- Water use in water features and irrigation associated with the hospital including those areas outside the building, but within site boundaries

Water consumption for non-hospital applications may be excluded. These may only be excluded on the basis of meter readings specific to the application concerned.

In the absence of meter readings, no exclusions are permitted. Estimates are not permitted for exclusions.

8.2.3 Unoccupied spaces

The water usage (within the scope of the minimum water coverage) of unoccupied hospital spaces must always be included.

8.2.4 Fire system consumption

Water consumption from the operation of a building's fire system, whether consumed in an emergency or during testing, is considered a cost of operating a building and must be included in the calculation of water consumption if it is metered. If it is not metered, fire system consumption need not be included.

8.2.5 On-site capture and recycling

On-site water collection and recycling are not included in the external sources covered by a NABERS Water for hospitals rating, and will therefore improve the rating. In effect this means that supplier billing data must be used without modification.

Further information on water capture and recycling systems have been provided in the *Support Document, Section 9 On-site water capture and recycling*.

8.2.6 Treatment of externally supplied recycled water

The Assessor must provide the quantity of the total externally supplied recycled water in the rating calculator spreadsheet, where applicable. The recycled water is deducted from the total water consumption in the rating assessment.

8.3 Documentation Required

8.3.1 Evidence of classification and allocation

Where applicable, the Assessor must obtain the following:

- Documentation of the source, quantities and any non-recycled component of externally supplied recycled water.

- Documentation of any agreements by the hospital owner/operator and third parties to apportion water costs for common or shared facilities.
- Documentation and/or calculations for water usage inclusions and/or exclusions

8.3.2 Evidence of Minimum Water Coverage

1 List of Water Sources

For each hospital being rated, the Assessor must provide a list of the following:

- The different account numbers for water supply, in the hospital.

2 Water Coverage Verification

To ensure that the requirements of the minimum water coverage have been met, the assessor must randomly select 10% of hospitals and obtain the following through hospital facility managers:

- Written confirmation that the list of water sources obtained is accurate.
- Written confirmation of the inclusion of all the associated water consumption data for all the meters available on-site.

Please note that the Assessor will have to undertake a different set of randomly selected hospitals for each consecutive rating, as long as feasible.

9 Consumption Data

9.1 Summary

This section deals with the measurement, processing and use of data on energy and water consumption. It includes provisions to allow estimates to be made and used in limited circumstances when actual measurements are not available.

9.2 Measuring consumption

9.2.1 Determine energy consumption

In determining the energy consumption, the Assessor must perform the following:

1. Obtain the utility and non-utility data (bills or a consolidated electronic record showing consumption) covering the Rating Period from the central health database system and validate the data (See *Section 9.3 Consumption Data Validation*).
2. Check the data format and units for each energy source, converting the units if necessary.
3. Obtain energy consumption covering the Rating Period for batch-delivered fuels. Additional details provided in the *Support Document, Section 6.6 Batch-delivered supplies.*
4. Confirm the total percentage of accredited GreenPower™ used in compliance with *Section 7.4 GreenPower™*
5. For each source, ensure that acceptable data is available for the 12 month Rating Period. The premises cannot be rated if acceptable data is not available for the Rating Period.
   a) If necessary, allow for missing data as specified in the *Support Document, Section 6.2.3 Estimating unrecorded consumption.*
   b) If necessary, adjust the first and last bills as specified in the Support Document, *Section 6.2.4 Adjusting for gaps at the start or end of the Rating Period.*

9.2.2 Determine water consumption

In determining the energy consumption, the Assessor must perform the following:

1. Obtain the utility and non-utility data (bills or a consolidated electronic record showing consumption) covering the Rating Period from the central health database system and validate the data (See *Section 9.3 Consumption Data Validation*).
2. Check the data format and units for each water source, converting units if necessary.
3. Check if the source contains a portion of recycled water. The known percentage of recycled water is treated as recycled water. The remainder, including any unknown portions of recycled water, is treated as mains supply.
4. For each source, ensure that acceptable data is available for the 12-month Rating Period. The premises cannot be rated if acceptable data is not available for the Rating Period.
    a) If necessary, allow for missing data as specified in the *Support Document, Section 6.2.3 Estimating unrecorded consumption.*
    b) If necessary, adjust the first and last bills as specified in the *Support Document, Section 6.2.4 Adjusting for gaps at the start or end of the Rating Period.*

9.3 Consumption Data Validation

To validate the utility data obtained, the Assessor must:

1 Select a random sample of hospitals

- Obtain monthly/quarterly utility bills (electronic formats accepted) covering the Rating Period for at least 10% of the hospitals, randomly selected.

Please note that the Assessor will have to undertake a different set of randomly selected hospitals for each consecutive rating, as long as feasible.

2 Data Validation

- For those particular hospitals, verify the utility bill information with the utility data obtained from the central database system.
- Review the data and ensure that it is line with expectation (usage patterns etc.). Investigate any anomalies in the data to explain them. If there is no reason for the anomaly, treat anomalous data as estimated.

3 Results of Validation

Where all the utility data for the randomly selected hospitals are verified to be accurate:

- The rating can proceed, and
- The Assessor must ensure that a different set of randomly selected hospitals, if applicable, are selected for the subsequent ratings

However, where utility data for one or more randomly selected hospitals are found to be inaccurate:

- The Assessor must confirm and rectify the corresponding incorrect figures in the data

- Obtain monthly/quarterly utility bills (electronic formats accepted) covering the Rating Period for a different set of 10% of randomly selected hospitals.
- Repeat the above mentioned data validation steps to ensure that the validation requirements are met.

9.4 Documentation required

9.4.1 Standard for acceptable data

The energy and water use is considered acceptable data if the method of measurement or estimation complies with the requirements of this section.

9.4.2 Utility metering

Where utility metering data is included in an assessment, the following documentation must be retained by the Assessor for audit:

- Utility bills showing consumption records for the Rating Period, or
- A spreadsheet or other electronic record showing consumption for the Rating Period.

9.4.3 Non-utility metering

Where non-utility metering data is used for inclusions or exclusions, the following documentation must be retained by the Assessor for audit:

- Records of meter readings and associated factors as specified in *Support Document Section 5 Non-utility Meter Records.*

9.4.4 Batch deliveries

Where any energy or water supplies are batch-delivered, the documentation must include bills or electronic records showing the quantities delivered and how they were measured. Additional details provided in the *Support Document, Section 6.6 Batch-delivered supplies.*

9.4.5 Data Validation

Monthly/quarterly utility bills (electronic formats accepted) covering the Rating Period for at least 10% of the hospitals, randomly selected (See *Section 9.3 Consumption Data Validation*).

10 Appendices

Summary

Appendix A – Information checklist for accredited ratings

Appendix B - Definitions

Appendix C – Hospital Peer Groups

10.1 Appendix A – Information checklist for accredited ratings

The following checklist outlines the key metrics and inputs needed to receive a rating, and the corresponding section in the Rules. Individual ratings may require additional information or documentation depending on the individual circumstances of the premises.

Data required	Outline of data/information required	Corresponding section of the Rules
Information about the rating application	Information about the hospital to be rated and the assessor performing the rating.	
Climate	Hospital Postcode.	
Hospital Peer Group	Information on the classification of the hospital under the National Peer Group.	Section 10.3 Appendix C – Hospital Peer Groups
Occupied Bed Days	The OBD values from the internal/external published reports or central health database system.	Section 3.3 Documentation Required
	Documentation supporting compliance to the data validation requirements.	Section 6.6 Documentation Required
Separations	The Separation values from the internal/external published reports or central health database system.	Section 4.3 Documentation Required
	Documentation supporting compliance to the data validation requirements.	Section 6.6 Documentation Required
Commonwealth Funded Aged Care Beds	The number of CFACBs from the internal/external published reports or central health database system.	Section 5.3 Documentation Required
	Documentation supporting compliance to the data validation requirements.	Section 6.6 Documentation Required
Energy and water usage Information on sources and	Utility and non-utility data (bills or a consolidated electronic record showing consumption) covering the full 12 months of the Rating	Section 9.4 Documentation required

allocations to different end uses in the premises to be rated; and 12 months of consumption data covering the Rating Period.	Period for each energy or water source (as appropriate) used in the rated premises.	
	Bills or a consolidated electronic record showing consumption for deliveries of any batch supplies.	Section 9.4 Documentation required
	Documentation supporting compliance to the data validation requirements.	Section 9.4 Documentation required
	Documentation of energy and water classification and allocation.	Section 7.6.1 Evidence of classification and allocation Section 8.3.1 Evidence of classification and allocation
	Evidence of minimum energy and water coverage requirements being met.	Section 7.6.2 Evidence of Minimum Energy Coverage Section 8.3.2 Evidence of Minimum Water Coverage

10.2 Appendix B - Definitions

If an Assessor is uncertain about the meaning or interpretation of a particular term which is not covered, contact the National Administrator for guidance.

Term	Definition
Acceptable data	Data which meets the applicable accuracy and validity requirements of these Rules. Acceptable data does not include estimates.
Acceptable estimate	Values derived from an estimation method permitted by these Rules.
Activity metrics	The metrics used to adjust/normalise the operating performance of the hospitals in the rating tool. This includes: • Occupied Bed Days • Separations • Commonwealth funded Aged Care beds
Assessor	A Trained NABERS Hospital Stakeholder of the NABERS for hospital tool, authorised by the National Administrator to conduct assessments for accredited ratings in accordance with these Rules and the NABERS processes and procedures.
Commonwealth Funded Aged Care Beds	The Commonwealth funded aged care beds (CFACBs) are associated with the treatment for aged care patients in public hospitals, funded by the Commonwealth.
End use	A purpose or activity (or a group of related purposes and activities) that water or energy is used for. Where several instances of very similar individual end uses occur together so as to form a single collection (for example, luminaires in a lighting grid) then the collection is to be regarded as a single end use.
Estimate	Information relying on an Assessor's subjective judgement of the values to be used in place of incomplete or uncertain data.
Gross Building Area (GBA)	The Gross Building Area is the area of the building at all building levels, measured between the normal outside face of any enclosing walls (or the centre line of common walls between different properties), balustrades and supports. It includes: • Basements (except unexcavated portions) • Floored roof spaces and attics • Car-parks • Enclosed porches and attached enclosed covered ways alongside buildings • Plant and equipment rooms

Term	Definition
	• Lift shafts, vertical ducts, staircases and any other fully enclosed spaces and usable areas of the building • Roofed balconies, open verandas, porches and porticos • Attached open covered ways alongside buildings • Undercrofts and usable space under buildings It excludes: • Open courts, light wells • Connecting or isolated covered ways and net open areas of upper portions of rooms, lobbies, halls interstitial spaces and the like, which extend through the storey • Eaves overhangs, sun shading, awnings
Health department	The relevant state authority involved in the maintenance and operation of the state health infrastructure.
Major Refurbishments	Characterised on a state by state basis. Any refurbishment, renovation or restoration that has a significant impact on day to day operations of the hospital.
Metering system	Device(s) providing an individual measurement which includes all of the following: • The meter • The processes that convert the initial meter signal into an energy reading (for example, current transformers and K factors for electricity meters and pressure correction factors for gas meters) • The interface through which the meter reading is taken (for example, manual readings, utility software or a Building Management System)
National Administrator	The body responsible for administering the NABERS scheme, in particular for: • Establishing and maintaining the standards and procedures • Determining issues that arise during the operation of the scheme and the making of ratings • Accrediting Assessors and awarding accredited ratings in accordance with NABERS standards and procedures The National Administrator is the NSW Office of Environment and Heritage (OEH).
Occupied Bed Days (OBDs)	The total number of bed days of all admitted patients accommodated during the reporting period. It is taken from the count of the number of inpatients at midnight (approximately) each day. Details for Same Day patients are also recorded as Occupied Bed Days where one Occupied Bed Day is counted for each Same Day patient.
Offsite	Located outside the physical boundaries of the building being rated and/or its grounds (as per the title of the building).

Term	Definition
On-site	Located within the physical boundaries of the building being rated and/or its grounds (as per the title of the building). If located in a shared plant room, it is considered on-site for all buildings that share the plant room.
Patient Days	The total number of days for all patients who were admitted for an episode of care and who separated during a specified reference period.
Potential Error	The total of all estimates (including assumptions, approximations, and unverified data) used in the Error Calculation worksheet of the Rating Assessment Form.
Rating Period	The continuous 12-month period covered by the data used for NABERS Energy and Water ratings as defined in Section 2.2 The Rating Period.
Ruling	An authoritative decision by the NABERS National Administrator on a specific subject matter related to NABERS ratings which act as an addition or amendment to the NABERS Rules.
Separations	The process by which an episode of care for an admitted patient ceases. A separation may be formal or statistical. Formal separation: • The administrative process by which a hospital records the cessation of treatment and/or care and/or accommodation of a patient. Statistical separation: • The administrative process by which a hospital records the cessation of an episode of care for a patient within the one hospital stay.
Shared facility	Services or amenities shared between two or more buildings, for example end of trip cyclist facilities, loading docks or central waste storage/collection areas.
Source	For NABERS Energy ratings: An individual fuel or energy source type such as gas, electricity or diesel fuel. For NABERS Water ratings: An individual water source type such as mains water, bore water, externally reticulated grey water or river water.
Specialised Hospital Facilities	Accident and emergency, Anaesthetics, Breast screening, Cardiology, Chaplaincy, Critical care, Diagnostic imaging, Discharge lounge, Ear nose and throat (ENT), Elderly services department, Gastroenterology, Endoscopy, General surgery, Gynaecology, Haematology, Hospital Pharmacy, Maternity departments, Microbiology, Neonatal unit, Nephrology, Neurology, Nutrition and dietetics, Obstetrics and gynaecology units, Occupational therapy, Oncology, Ophthalmology, Orthopaedics, Pain management clinics, Physiotherapy, Radiotherapy, Renal unit, Rheumatology, Sexual health, Urology and other relevant departments as applicable.
Utility	A company recognised and regulated under legislation for the supply of energy or water to a building and its occupants.
Utility meter	A meter measuring supplies of energy or water to a building, operated by a utility as the basis for billing its customer.

10.3 Appendix C – Hospital Peer Groups

Group	Description
Principal referral hospitals	Provide a very broad range of services, including some very sophisticated services, and have very large patient volumes. Most include an intensive care unit, a cardiac surgery unit, a neurosurgery unit, an infectious diseases unit and a 24-hour emergency department.
Public acute group A hospitals	Provide a wide range of services to a large number of patients and are usually situated in metropolitan centres or inner regional areas. Most have an intensive care unit and a 24-hour emergency department. They are among the largest hospitals, but provide a narrower range of services than the Principal referral group. They have a range of specialist units, potentially including bone marrow transplant, coronary care and oncology units.
Public acute group B hospitals	Most have a 24-hour emergency department and perform elective surgery. They provide a narrower range of services than the Principal referral and Public acute group A hospitals. They have a range of specialist units, potentially including obstetrics, paediatrics, psychiatric and oncology units.
Public acute group C hospitals	These hospitals usually provide an obstetric unit, surgical services and some form of emergency facility. Generally smaller than the Public acute group B hospitals.
Public acute group D hospitals	Often situated in regional and remote areas and offer a smaller range of services relative to the other public acute hospitals groups. Hospitals in this group tend to have a greater proportion of non-acute separations compared with other public acute hospitals.
Public rehabilitation hospital	Primarily provide rehabilitation and/or geriatric evaluation and management in which the clinical purpose or treatment goal is improvement in the functioning of a patient.
Very small hospitals	Generally provide less than 200 admitted patient separations each year.
Women's hospitals	Specialise in treatment and care of women.
Children's hospitals	Specialise in the treatment and care of children.
Drug and alcohol hospitals	Specialises in the treatment of disorders relating to drug or alcohol use.
Early parenting centres	Specialise in care and assistance for mothers and their very young children.
Acute psychiatric hospitals	Provide acute psychiatric treatment.
Forensic psychiatric hospitals	Provide assessment and treatment of people with a mental disorder and a history of criminal offending, or those who are at risk of offending.

Group	Description
Mixed subacute and non-acute hospitals	Primarily provide a mixture of subacute (rehabilitation, palliative care, geriatric evaluation and management, psychogeriatric care) and non-acute (maintenance) care that is not covered by the hospitals in the rehabilitation and geriatric evaluation and management hospital peer group.
Non-acute psychiatric hospitals	Provide non-acute psychiatric treatment—mainly to the general adult population.
Other acute specialised hospitals	Specialise in a particular form of acute care, not grouped elsewhere. This group is too diverse to be considered a peer group for comparison purposes. It includes hospitals that specialise in the treatment of cancer, rheumatology, eye, ear and dental disorders.
Outpatient hospitals	Provide a range of non-admitted patient services. Generally do not admit patients.
Psychiatric hospitals	Specialise in providing psychiatric care and/or treatment for people with a mental disorder or psychiatric disability
Same day hospitals	Treat patients on a same-day basis. The hospitals in the same day hospital peer groups tend to be highly specialised.
Other day procedure hospitals	Provide a variety of specialised services on a same day basis.
Unpeered hospitals	Could not be placed in one of the other peer groups.