



CSIRO issued caution: NatHERS tools unsuitable for the NCC reference building verification method V2.6.2.2

This Industry Bulletin provides information on recent advice from the Commonwealth Scientific and Industrial Research Organisation (CSIRO) on the use of Nationwide House Energy Rating Scheme (NatHERS) tools to members of the building industry, particularly building surveyors, builders, architects, designers, and energy assessors who work with housing.

Background

The CSIRO is the federal government agency for scientific research in Australia. It maintains and licenses the use of the Chenath Engine. Currently, all NatHERS accredited software tools are underpinned by CSIRO's Chenath Engine, which performs the calculations and modelling supporting each home energy rating assessment. There are currently three software tools accredited for use under NatHERS:

- AccuRate Version 2.3.3.13 SP3
- BERS Professional Version 4.3.0.2a (3.13)
- FirstRate5 v5.2.6 (3.13)

The use of NatHERS star ratings

The National Construction Code (NCC) provides three broad routes to determine compliance with performance requirement P2.6.1. These are:

- deemed-to-satisfy – incorporating energy rating using a NatHERS accredited software tool;
- deemed-to-satisfy – elemental provisions; and
- performance solution.

The only way of demonstrating, and thereby being able to claim a particular NatHERS star rating (such as 6 stars) for the potential thermal efficiency of the dwelling envelope, is to have the plans for the dwelling rated using a NatHERS accredited software tool to confirm that particular star rating. An energy assessment that has used either the deemed-to-satisfy – elemental provisions or a performance solution is unable to claim a NatHERS star rating, unless that dwelling has also been otherwise rated by a NatHERS accredited software tool.

The use of NatHERS for verification method V2.6.2.2

The CSIRO has issued a caution that the use of NatHERS accredited tools may not be suitable for use with the NCC verification method V2.6.2.2.

Verification method V2.6.2.2 is one assessment method that can be used to demonstrate compliance with performance requirement P2.6.1 of the NCC Volume Two for housing, in a performance solution. Compliance with the NCC can also be achieved by using a deemed-to-satisfy solution or by developing a performance solution that may use a verification method different from V2.6.2.2.

CSIRO advice

In July 2017 the CSIRO released the following advice:

'The National Construction Code includes an option (V2.6.2.2 Verification Using a Reference Building) to calculate the energy consumed by a reference building that includes all the deemed to satisfy requirements in the NCC and compare that to the calculation of the energy consumed by the proposed building. Both calculations are done under conditions set out in the NCC.

It has come to CSIRO's attention that some reference building assessments are being undertaken using NatHERS accredited tools for the calculation of the energy consumed by the reference and planned buildings. Users of NatHERS accredited tools need to be aware that these tools use a different set of conditions to those set out in the NCC [for the use of V2.6.2.2], so that NatHERS tools may not be suitable to provide a Reference Building Verification to show compliance with the NCC.

V2.6.2.2 states that:

"c) The calculation method used must be capable of assessing the heating load and cooling load by modelling—

...

(v) space temperature settings in the range 20°C to 21°C for heating and 25°C to 28°C for cooling;"

All NatHERS tools use set thermostat settings of between 22.5 ° Celsius and 27.0 ° C for cooling (depending on Climate Zone). For heating living spaces (including kitchens and other spaces typically used during the waking hours) a heating thermostat setting of 20° C is used and bedroom spaces (including bathrooms and dressing rooms, or other spaces closely associated with bedrooms) a heating thermostat setting of 18°C from 7-9 am and from 4 pm to midnight and a heating thermostat setting of 15°C from midnight to 7 am is used.

Users are unable to change the relevant conditions in the NatHERS accredited tools.

Therefore in most instances NatHERS tools are not appropriate for use in demonstrating compliance [with the] National Construction Code under V2.6.2.2. These tools are only designed and maintained to be used under the NatHERS pathway in the NCC and CSIRO is not responsible for any consequence due to such misuse of NatHERS accredited tools. Construction of buildings rated less than 6 stars using NatHERS tools may lead to poor comfort and energy performance in the finished dwelling.'

The above advice is available on the [CSIRO website](#).

Disclaimer

The information contained in this bulletin is provided as general information only and should not be relied upon as legal advice or as an accurate statement of the relevant legislation provisions. If you are uncertain as to your legal obligations you should obtain independent legal advice.

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