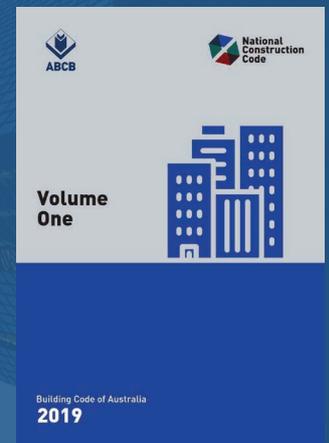


NCC 2019 SECTION J

As of the **1st of May 2020**, the new National Construction Code (NCC) 2019 Section J requirements come into regulatory effect with the end of the twelve-month 'discretionary' transition period.

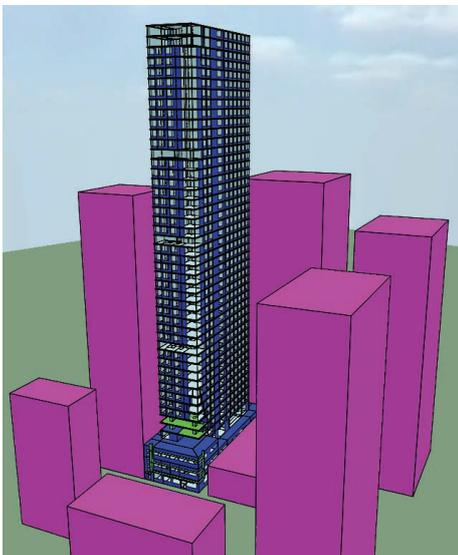
This revision of Section J introduces a number of enhanced thermal envelope energy efficiency requirements which will influence architectural design. Previously accepted solutions, systems and approaches may no longer be compliant.



TECH NOTE 3 - PERFORMANCE SOLUTIONS

This technical note provides concise information on the changes to existing performance solutions and introduces new performance solutions available to projects. Please note that the following information is generic to building class and climate zone. Some building classes or climate zones may have specific requirements.

JV3 MODELLING CHANGES



Performance-based JV3 modelling to demonstrate compliance with performance objectives of NCC Section J has historically been highly common on projects to achieve rationalised solutions whilst maintaining equivalent performance to DTS compliance. Pre-NCC 2019 Section J, the most common drivers of performance-based JV3 modelling was to resolve architecturally acceptable glazing solutions, rationalise insulation (i.e. omission of soffit insulation to basement carparks) and facilitate roof light extent beyond maximum DTS limits. NCC 2019 Section J now includes two changes which substantially influence the viability and flexibility offered by performance-based verification methods.

Firstly, the introduction of the **NCC Façade Calculator** and compliance assessment of wall-glazing constructions provides a whole-of-façade approach and negates the necessity for JV3 performance-based modelling to resolve typical glazing issues. The **NCC Façade Calculator** has been developed to provide more flexibility to compliance, allowing trade-off between opaque walls, glazing elements and spandrel to better meet architectural intent.

Secondly, a significant modification to the performance-based JV3 modelling protocol has been made; both energy AND thermal comfort must be considered in the rationalisation of a design. Previous to NCC 2019 Section J, a design could be rationalised to achieve a compliant outcome assessed on the basis of heating and cooling energy consumption only. This has resulted in cases of rationalised solutions providing poor thermal comfort outcome for occupants. The requirement of NCC 2019 Section J JV3 modelling protocols to achieve minimum thermal comfort outcomes (using the **PMV discomfort index**) will restrict the extent of rationalisation which can occur. Although previously a compliant performance-based solution could be derived for the rationalisation (i.e. removal) of soffit insulation from a suspended floor below a conditioned space, it can be expected that thermal comfort considerations of NCC 2019 Section J will restrict this (i.e. unacceptable thermal comfort impacts).

In summary, performance-based JV3 modelling to NCC 2019 Section J **may not be required for some design elements but will be required for new issues**, and can generally be expected to offer more restricted advantages compared to legacy versions of NCC Section J.

GREEN STAR & NABERS CROSSWALKS

To reduce duplication of compliance activities and associated costs, NCC 2019 Section J includes “crosswalks” to the NABERS energy benchmarking scheme and the Green Star rating system. Verification methods JV1 NABERS Energy for Offices and JV2 Green Star have been included additional to JV3 performance-based modelling to enable the compliant use of respective NABERS and Green Star modelling for Section J compliance. However, the use of these crosswalks will be limited to those projects which are **registered for certified outcomes** (to either NABERS or Green Star) and meet other prescribed performance requirements. The application of Green Star or NABERS in an equivalency sense will not qualify for the crosswalk with NCC 2019 Section J.



LUCID COMMENTS

- The inclusion of thermal comfort metrics into compliance assessment for performance based solutions is a **positive change to ensure such performance solutions are fit for purpose**.
- Thermal comfort assessment will likely see an **increase in modelling complexity and time** compared to previous modelling protocols. There are a number of oversights that will need to be addressed by the ABCB to ensure equitable outcomes are achieved across projects.
- It's a case of two steps forward, one step back; although JV3 **won't be needed for the typical reasons we are used to** – thanks to the DTS Façade Calculator – there are other areas where JV3 modelling will likely be used to rationalise outcomes. Under slab insulation and roof solar absorptance are probably the focus areas.
- Although the Green Star / NABERS crosswalks are at least an acknowledgement by the ABCB of compliance duplication, being **restricted to only registered projects will severely limit their broader use** beyond core Green Star / NABERS markets (e.g. CBD commercial offices). Limited uses of these crosswalks can be expected for the broader market.

FURTHER INFORMATION

Please refer to the full series of Lucid NCC Section J 2019 technical notes for further discussion of the changes. If you require assistance on a specific project or have a general query related to NCC Section J 2019, please contact Lucid Consulting at the following address (NCC2019SectionJ@lucidconsulting.com.au) and a member of our Energy and Sustainability team will be in contact to assist you.



Pictured: Menzies School of Health Research, Darwin.