W080F01- SEPP65 Review

31 October 2014

Department of Planning and Environment

Information Centre
23-33 Bridge Street
Sydney NSW 2000

Dear Sir/Madam

RE: PROPOSED DRAFT SEPP65 CHANGES
Comments on Sections 4L and 4Q

Windtech Consultants would like to firstly applaud the proposed review of the State Environmental Planning Policy No65 by the department to try and capture advances in the various fields to enable a higher quality of apartment design. The Directors and key engineering staff at Windtech Consultants are strong believers that a development should be about the overall performance and not just a "tick-a-box" process and hence have reviewed the proposed changes to the State Environmental Planning Policy No65. In particular, the review has focused on the fields of Natural Ventilation/Wind and Solar Studies which Windtech Consultants are international leaders in and have undertaken extensive research for.

1 Section 4L: Solar and Daylight Access

1.1 Interesting Points in the Draft SEPP65 Apartment Design Guide

- Provisions for when less than 3hrs of direct solar access can be considered have been more clearly stated in the draft document. This has also not focused on providing ways to "under-design" a project, but understanding of restrictions that can be imposed on a site.
- The draft document also makes better separation of the terms direct solar access and daylight which are two different concepts, and was very missed in the current document.

1.2 Comments/Changes to the Draft SEPP65 Apartment Design Guide

1 The performance criterion for daylight (Section 4L-4) does not state a minimum level of illumination (lux) required to achieve compliance. The daylight study can be used to ensure sufficient illumination of a space can still be achieved for apartments that may not have access to direct sunlight. This should be included for better guidance and clarity. The following inclusions is recommended:

1.1 Specify which rooms and where in the room measurements are taken. The middle of each bedroom and living room is recommended at the working height relative to each room.

1.2 The time period and sky illumination should be stated. It is recommended that the hours between 9am and 3pm on the Winter Solstice be used, with a uniform standard sky illumination.

1.3 An illumination rating of 50lux for bedrooms and 100lux for living rooms is recommended, which is based off published research ("Interior Lighting", Boer & Fischer, 1978).

2 The blanket 20% or lower glass reflectance has been stated. Consideration for projects located near major roads where the reflectance off the glazing system would be in a driver's zone of sensitive vision. Detailed assessment in cases where a project is located near a major road should require more detailed modelling to be carried out. The Hassell technique would be a suitable analysis technique for this.

2 Section 4Q: Natural Ventilation

2.1 Interesting Points in the Draft SEPP65 Apartment Design Guide

- The recommendation for a qualified wind consultant to be required to verify the natural ventilation performance of a development is a very good inclusion and will only help to ensure better amenity of apartment design.

- Consideration for the size of window opening sizes between the inlet and outlet is a good inclusion. There potentially should be some form of leeway with this as a bedroom window will never have the same opening area as a sliding door to a balcony.

2.2 Comments/Changes to the Draft SEPP65 Apartment Design Guide

1 Needs to be better clarification as to what is a dual aspect apartment and a unobstructed window.
Reason: Too many projects assume that any size slot works for ventilation and are classifying them as having dual aspect, however the openings are actually in the same pressure region. Openings locations for ventilation is about the pressure differential, not just what direction they face.

2 The images on Page 114 do not provide any benefit and can actually generate confusion for people as some are actually showing apartments that do not have dual aspect.

3 The wording on page 112 currently states "Natural cross ventilation is achieved by apartments having more than one aspect allowing air to be drawn through the apartment using opposing air pressures". This should say "Natural cross ventilation is achieved by apartments having more than one aspect with direct exposure to the prevailing winds, or windows located in significantly different pressure regions".

Reason: Natural ventilation can be generated between two openings which are in very different pressure regions, even though they may be both be located in positive or negative regions.

4 There should be an allowance for detailed modelling to demonstrate the performance of ALL non-complying apartments through detailed modelling carried out by a qualified wind consultant with appropriate modelling of the effect of pressure losses along the flow path. This should include cases where ventilation shafts are proposed to ensure adequate performance of the ventilation shafts in line with the level of ventilation of a deemed to comply apartment within the development. The wind engineering firm should have previously carried out full scale verification of their modelling technique.
Reason: Some designs may not be able to strictly comply with the SEPP65 provisions however through design excellence has ensured openings have been positioned to be located in different pressure regions, but this needs to be verified. Also some modelling studies can be very crude and inaccurate hence comparison to full scale for validation as well as modelling by the wind engineer of ALL apartments will help to provide adequate natural ventilation performance, rather than a "tick the box" approach.

5 The example in Appendix 8 does not follow the ventilation guidelines to achieve 60% of apartments. The floor plan clearly only shows 50% of apartments with dual aspect, while the rest are single aspect apartments. Provision in the ventilation section should be made for when these single aspect apartments are able to achieve compliance due to setbacks.

6 The definition of stack ventilation in the Glossary section is not correct. Stack ventilation is primarily pressure driven by the negative pressure at the roof and the positive or less negative pressure on the façade. Thermal stack effect is the thermally driven flow component.

We appreciate the opportunity to be able to provide our input, and would be happy to discuss any of the abovementioned inclusions/changes to the draft SEPP65 Apartment Design Guide in further detail.

Yours faithfully,

Kevin Peddie
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Associate Director