Submission No 171

INQUIRY INTO REGULATION OF BUILDING STANDARDS, BUILDING QUALITY AND BUILDING DISPUTES

Organisation: Lighting Council Australia

Date Received: 18 September 2019

Submission to

NEW SOUTH WALES PARLIAMENTARY INQUIRY

INTO

REGULATION OF BUILDING STANDARDS, BUILDING QUALITY AND BUILDING DISPUTES

Mr David Shoebridge, MLC,
Chair Public Accountability Committee
Legislative Council
Parliament House
Macquarie Street SYDNEY NSW 2000

September 16, 2019

About Lighting Council Australia

Lighting Council Australia (LCA) is the peak body for the lighting industry in Australia, representing 100 of Australia's leading manufacturers and suppliers. The lighting industry represents approximately 5,000 manufacturing jobs across Australia, and many thousands more in related product development and research, engineering, distribution, sales and installation.

This submission has been authorised by Lighting Council Australia Chair, Mr Tony Todaro.

Response to the Terms of Reference

This submission responds to the inquiry Terms of Reference:

- 1 (a) private certification – A Lighting Council Australia case study demonstrates private certification using performance solutions does not appear to be questioned by Local Government Councils or the NSW Building Professionals Board.
- 1(f) any other related matter – Lighting Council Australia highlights the lack of a high-level authority in NSW that has the powers to investigate building compliance complaints and make determinations regarding the compliance of a building against the requirements of the National Construction Code.

Case Study – NSW Building Professionals Board Complaint No. 98/19

Lighting Council Australia would like to bring to the attention of this Parliamentary inquiry a case study of our recent complaint number 98/19 to the NSW Building Professionals Board (BPB). The complaint highlights our concerns regarding the absence of an authority in NSW to determine building compliance when the decision of a building certifier is questioned.

Our complaint refers to the certification of a fire safety system using photoluminescent exit sign installations at a major retail outlet in NSW (see figure 1.). After initially raising our concern with the Sutherland Shire Council, we were advised that the certification has been completed via a performance pathway, a fire engineering report was used by the building certifier to determine compliance and there was nothing that Sutherland Shire Council was willing to do given the supporting report. Sutherland Shire Council also advised us to contact the NSW BPB to seek a ruling as to whether the certifier acted appropriately and whether the building should be regarded as compliant.

Fig 1: A directional sign that has not been provided with either a 'dedicated' light source or an emergency light

As detailed in our complaint to the NSW BPB, a private certifier failed to comply with the code of conduct for accredited certifiers when he certified an emergency lighting and exit sign installation that does not meet the requirements of the National Construction Code.

Lighting Council Australia observed the following failures of the installation:

1. Photoluminescent exit sign was not provided with a dedicated light source.
2. Photoluminescent exit sign was not supported by an emergency light within 2m of the sign.
3. Exit sign frequency greater than 48 meters apart.

Independent Building Certification Consultant Report – du CHATEA CHUN

Lighting Council Australia sought an independent inspection report from building certification consultant, du Chateau Chun. The report from du Chateau Chun detailed site observations against the requirements in the National Construction Code 2016 for the installation of photo-luminescent exit signs as follows:

The National Construction Code 2016 required the following:

Specification E4.8, Clause 3(a)) states:

> *A photo-luminescent exit sign must-*
>
> *(a) be maintained in a continuously charged state by a minimum illuminance of 100 lux at the face of the sign by a dedicated light source with a colour temperature not less than 4000K*

In addition, performance requirements EP4.2 (c) and (d) require:

> *To facilitate evacuation, suitable signs or other means of identification must, to the degree necessary-*
>
> *(c) be clearly visible to occupants; and*

(d) operate in the event of a power failure of the main lighting system for sufficient time for occupants to safely evacuate.

The use of the word 'dedicated' within the BCA has a specific purpose to require a light allocated only for the purpose of illuminating that particular photo-luminescent exit sign. Also, buildings can be occupied at any time of the night or day including by persons having the right of legal entry to the building – That is, any person having the consent of the owner as well as emergency services.

The report highlights that daylight or general artificial room lighting cannot be relied upon to perform the function of a dedicated light source at night time and out of business hours.

The report also highlights that photo-luminescent exit signs are not being supported by an emergency light within 2m of the sign as required by Clause 5.4.1 of the Australian Standard (i.e. AS2293 *Emergency lighting and exit signs for buildings)*. Further, exit signs installed towards the front of the building are more than 48m apart (whereas specification E4.8 includes a maximum viewing distance of not more than 24m).

Complaint resolution

In our complaint to the NSW BPB (Complaint 98/19 registered on 11 June 2019) Lighting Council Australia indicated that the installation of photoluminescent exit signs at the identified retail outlet did not appear to meet the deemed to satisfy and performance solutions requirements of the National Construction Code.

Furthermore, the installation cannot reasonably be considered to be equivalent or superior in safety performance compared with the deemed-to-satisfy provisions of the NCC and so should be determined to be a non-compliant performance-based solution. We requested that the NSW Building Professional Board review the certification documents issued by the private building certifier and determine compliance with the requirements of the National Construction Code.

On September 4 2019 we were informed by the Investigations Team at the NSW Building Practice Board that our complaint had been dismissed. In this case, a fire professional's report has claimed compliance to the requirements of the National Construction Code and the certifier was determined to have acted appropriately by accepting that report.

Upon further inquiry with the investigation unit at NSW BPB, we were informed that the NSW BPB only has responsibility to adjudicate on the professional conduct of certifiers and not to determine the compliance of a particular building against National Construction Code requirements.

We then asked the NSW BPB investigations unit for details of the NSW authority that can investigate and determine building compliance. We were surprised to learn from the NSW BPB response that no such authority exists in NSW.

This case highlights:

- Fire engineer performance reports are not questioned by local council authorities and do not seem to be questioned by building certifiers.
- Building certifiers are not experts in all building compliance matters and rely on engineering performance reports.
- The NSW BPB only adjudicate regarding building certifier conduct and not regarding building compliance.
- In NSW there appears to be no independent, high level authority that can determine the compliance of a building.

Lighting Council Australia recommendation

Lighting Council Australia highlights this case as it appears that non-compliant and unsafe buildings are being certified and there is no independent authority that can determine compliance when certification is questioned.

The current arrangements allow for private certifiers and fire safety engineers alone to determine building compliance without being questioned by a higher authority regarding building compliance. The NSW BPB only makes determinations on certifier conduct and not building compliance. Regarding building compliance, there is no authority in NSW to hold certifiers and engineers to account for the decisions they make and this gap is resulting in lower building standards in New South Wales compared to those required by the National Construction Code.

Lighting Council Australia recommends that an independent NSW authority be established that can deal with building compliance complaints and make determinations.

APPENDIX A – Performance provisions, NCC2016

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PART E4 VISIBILITY IN AN EMERGENCY, EXIT SIGNS AND WARNING SYSTEMS

PERFORMANCE REQUIREMENTS

EP4.1

To facilitate safe evacuation in an emergency, a building must be provided with a system that—

(a) ensures a level of visibility sufficient to enable exits, paths of travel to exits and any obstacles along a path of travel to an exit to be identified; and

(b) activates instantaneously upon the failure of an artificial lighting system, to the degree necessary, appropriate to—

(c) the function or use of the building; and

(d) the floor area of the building; and

(e) the distance of travel to an exit.

EP4.2

To facilitate evacuation, suitable signs or other means of identification must, to the degree necessary—

(a) be provided to identify the location of exits; and

(b) guide occupants to exits; and

(c) be clearly visible to occupants; and

(d) operate in the event of a power failure of the main lighting system for sufficient time for occupants to safely evacuate.

EP4.3 SERVICES AND EQUIPMENT

To warn occupants of an emergency and assist evacuation of a building, a sound system and intercom system for emergency purposes must be provided, to the degree necessary, appropriate to—

(a) the floor area of the building; and

(b) the function or use of the building; and (c) the height of the building.

VERIFICATION METHODS

EV4.1 Emergency Lighting

Compliance with EP4.1 is verified for the level of visibility for safe evacuation in an emergency and instantaneous activation, when an emergency lighting system satisfies the requirements below:

(a) The calculated horizontal illuminance is not less than—

(i) 0.2 lux at floor level in the path of travel to an exit; and

(ii) 1 lux at each floor level or tread in every required—

(A) fire-isolated stairway; or

(B) fire-isolated passageway; or

(C) fire-isolated ramp; or

(D) non-fire-isolated stairway; or

(E) non-fire-isolated ramp.

(b) The emergency lighting provides a level of illuminance not less than—

(i) 10% of that required by (a) within 1 second of energization; and

(ii) 80% of that required by (a) within 15 seconds of energization.

(c) The full level of illumination required by (a) must be achieved within 60 seconds of energization.

(d) An emergency lighting system must operate at not less than the minimum required level of illuminance for not less than 90 minutes.

Appendix B DEEMED TO SATISFY PROVISIONS

E4.8 Design and operation of exit signs

Every required exit sign must comply with—

(a) AS 2293.1; or

(b) for a photoluminescent exit sign, Specification E4.8; and

be clearly visible at all times when the building is occupied by any person having the right of legal entry to the building.

Specification E4.8 (extract)

3. Illumination

A photoluminescent exit sign must—

(a) be maintained in a continuously charged state by a minimum illumination of 100 lux at the face of the sign by a dedicated light source with a colour temperature not less than 4000 K; and

(b) in the event of a power failure, continue to provide a minimum luminance of 30 mcd/m2 for not less than 90 minutes; and

(c) have its performance verified by testing in accordance with ASTM E2073-10, except the activation illumination in clause 8.3 is replaced with 54 lux.

4. Pictorial elements

Pictorial elements on a photoluminescent exit sign must—

(a) where the colour white is used, be replaced with a photoluminescent material; and

(b) be not less than 1.3 times larger than that specified in Table 6.1 of AS 2293.1; and

(c) have a border of photoluminescent material that extends not less than 15 mm beyond the pictorial elements.

5. Viewing distance

The maximum viewing distance in clause 6.6 of AS 2293.1 must not be more than 24 m.

6. Smoke control systems

Smoke control systems required by clause 6.3 of AS 2293.1 do not apply to a photoluminescent exit sign.

Appendix C – Timeline of Events

21 June 2017 – Survey of the building site performed by du Chateu Chun.

9 August 2017 – du Chateau Chun report provided to Lighting Council Australia.

11 September 2017 – Lighting Council Australia contacted Southerland City Council by phone to discuss the apparent deficiencies in building compliance.

12 September 2017 – Lighting Council Australia sent an email to Southerland City Council questioning the building compliance – Email included Attachment A (du Chateau Chu report) and Attachment B (Lighting Council Australia letter to Sutherland Shire Council).

23 November 2017 – The building certifier sent an email to Southerland City Council, claiming the "design and operation of the exit sign system at Bunnings, Kirrawee is compliant with BCA Performance Requirements EP4.1 and EP4.2, relying on the performance solution from a fire engineer to address the DTS deviations to Clauses E4.2, E4.8 and Specification E4.8."

23 April 2018 – Lighting Council Australia sent emails to the building certifier and fire engineer requesting a copy of the fire safety report – Attachment C and Attachment D

5 June 2018 – No response received from either party, follow-up email sent.

5 June 2018 – Response from the fire safety engineer stating they would not provide report without the permission of the building owner.

5 June 2018 – Call received from the fire engineer stating that the exit sign installation was a performance solution and claimed that the NSW BPB wouldn't rule against his report.

7 June 2018 – Phone call from the building certifier to Lighting Council Australia. The certifier would not provide a copy of fire report without the permission of the fire engineer.

30 May 2019 – Lighting Council Australia phone call with the NSW Building Professionals Board.

11 June 2019 – Lighting Council Australia lodged a complaint with the NSW Building Professionals Board – Attachment E. NSW BPB logged this complaint as number 98/19.

4 September 2019 – Lighting Council Australia received an email from the NSW Building Professionals Board dismissing complaint 98/19.

4 September 2019 – Lighting Council Australia phone call with NSW BPB investigations unit. NSW BPB explained that they mainly consider certifier conduct and not building compliance.