Subject/topic: **Emergency exit signs**

Volume/standard	Provision
NCC Volume One	E4D8 Design and operation of exit signs
NCC Volume Two	N/A
NCC Volume Three	N/A
ABCB standard	N/A

Submission date: 31 July 2023

Proposer's name s 47F CEO, Lighting Council Australia

Proposer's organisation: Lighting Council Australia

Postal address: PO BOX 1058 Hawthorn VIC 3122

Business telephone: s 47F

Email address: s 47F

The proposal

What is the proposal?

This proposal modifies the National Construction Code Volume 1, section E4D8 Design and operation of exit signs as below. A consequence of the amendment below would also require the removal of Specification 25.

E4D8 Design and operation of exit signs

Every required exit sign must—

(a)comply with—

~~*(i)*~~*AS/NZS 2293.1;* ~~*or*~~
~~*(ii)for a photoluminescent exit sign, Specification 25;*~~ *and*

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

The current problem

What problem is the proposal designed to solve?

Exit signs are life safety devices critically important to building occupant safety. Photoluminescent exit signs are not bright enough to ensure occupants can safely egress in an evacuation scenario.

What evidence exists to show there is a problem?

This proposal addresses the reduction in building safety that has been allowed to occur since 2014 when photoluminescent exit signs, with less than 1/250th of the brightness of electric signs, were given equivalence to electrically powered exit signs in the National Construction Code. Stakeholders are concerned this will lead to a catastrophic event when building occupants are unable to safely evacuate a building.

By way of background, exit signs are an essential life safety device which provide visible guidance to building occupants to ensure safe egress in evacuation situations. This function is required in conditions when normal lighting may or may not be operational and when smoke may be present. The luminance of exit signs is measured in candela per m^2 (cd/ m^2). One candela is 1000 times brighter than one millicandela (mcd).

Safety problem:

- A widely accepted body of research concludes that the exit sign luminance and contrast levels are the main determinates for safe egress during evacuations.
- Based on this research, the acceptable minimum level of exit sign luminance to ensure safe egress in emergency evacuation scenarios (irrespective of exit sign technology, that is irrespective of whether it is photoluminescent or electrically powered) is between 8 cd/m^2 and 15 cd/m^2.
- The National Construction Code Specification 25 has accepted a luminance level of 30 mcd/m^2 (i.e., less than 1/250th of the level determined by the research) for photoluminescent exit signs.
- Photoluminescent exit signs have not been tested to ensure safe egress for building occupants in evacuation scenarios. As is elaborated on later in this proposal, the signs are assessed under an Observation Visibility Test.

The following research papers and test data are considered the authoritative works in this area, and the basis on which the International and European Standards, and the Standards adopted by most countries, set their minimum luminance levels for exit signs of between 8cd/ m^2 and 15cd/ m^2 (ISO 30061 permits a minimum level of 2cd/ m^2 where smoke is not of prime importance, and otherwise 10cd/m^2)

1. The research paper "Evaluation of exit signs in clear and smoke conditions", (Collins et al., 1990), reports the outcomes of experiments using participants to determine appropriate luminance levels for exit signs. It concludes:
    - "The data clearly indicates that overall sign luminance is a primary determinant of visibility with higher luminance being associated with greater visibility".
    - "The sign with the lowest luminance (0.9 cd/m^2) was ineffective in this experiment in both clear and smoky conditions … the data in the present experiment question the effectiveness of such low luminance for visibility…".

      Note: It is important to understand that 0.9 cd/m^2 is 30 times brighter than the 30 mcd/m^2 currently permitted by the Australian National Construction Code Specification 25.
    - An average luminance above 10 cd/m^2 is found to be effective in both clear and smoke conditions.

2. The research paper, "Expanding the market for Visually Effective, Highly Efficient Exit Signs" (Conway and Boyce, 1997) tests exit sign visibility and concludes that the luminance of an exit sign should be 15 cd/m^2 average and 8.6 cd/m^2 minimum. This work forms the basis of the 8.6cd/m^2 still contained in the USA National code, NFPA 101, as the required minimum luminance for internally illuminated exit signs.

3. The research paper "Developing Emergency Communication Strategies for Buildings", (Kuligowski et al., 2012) considers how people respond to exit signs during emergency situations and concludes:
    - Detectability and readability of exit signs increases with increasing luminance.
    - In clear conditions, an electrically illuminated sign was visible and legible at twelve times greater distance compared to a photoluminescent sign.
    - The minimum luminance levels of exit signs should be between 8.6 cd/m^2 and 15cd/m^2 to be effective during an emergency evacuation.

4. The research paper, "Evaluation of the Conspicuousness of Emergency Exit Signs", (Jin et al. 1991), supports the conclusion that the conspicuousness of an exit sign increases with increasing sign luminance and sign size. Importantly, the paper also highlights that background light sources must be considered in any evaluation of exit sign conspicuousness.

Note: No evaluation of photoluminescent exit sign conspicuousness against background lighting or emergency lighting was conducted prior to their elevation into the National Construction Code.

5. The paper, "Review of Emergency Lighting and Way Guidance Systems for Offshore Structures, Health and Safety Executive OTH" 95 499 (Webber GMB and Shipp MP 1996) states that LED exit signs were the most visible of the signs tested and photoluminescent signs were the least visible. The paper recommends electrically powered exit signs be used if smoke may affect exit routes.

Safety Concerns regarding the minimum luminance level of 30 mcd/ m^2 in NCC Specification 25:

A key justification for allowing the use of photoluminescent signs under the National Construction Code (Section *E4D8 Design and operation of exit signs*) is based on their adoption under the 2000 NFPA 101 Safety Code (the USA national code). This code references UL 924, which prescribes a minimum luminance level for electrically powered exit signs of 8.57 cd/ m^2 (at normal conditions - similar to Australia) and also permits the use of photoluminescent exit signs if they pass the Observation Visibility (OV) Test, a subjective test which leads to the 30mcd/ m^2 luminance level permitted for a photoluminescent exit sign.

The use of this OV Test is flawed, and criticized, as a determinate of whether an exit sign is of the required luminance level to ensure safe egress in an evacuation. The OV Test deals with photoluminescent sign readability, it does not assess the use of photoluminescent signs to safely evacuate building occupants in emergency or panic situations. It involves a subjective test of observers, from various age groups, who, after 5 minutes of allowing their eyes to acclimate to the darkened ambient light conditions, then look at a photoluminescent sign which has been in darkness for 90 minutes. If the letters on the sign are correctly read, at various distances, by 80% of participants, it passes the test. The minimum 30 mcd/ m^2 is the luminance level required to achieve that outcome. The test results in a luminance level which enables the sign to be barely read at a designated distance, but not at a luminance level which is safe for evacuation. Indeed, it can be stated that the luminance level of photoluminescent signs for safe evacuation has been considered, as the test data and research papers above assess the adequacy of the luminance level for safe evacuation and conclude that a level below 5 to 8 cd/m2 is not safe, let alone the level of 30 mcd/m2.

It is worth reiterating here that the exit sign luminance and contrast levels are key determinates for safe egress during evacuations. The technology being used to obtain that luminance, whether that be photoluminescence or electrically powered is not relevant. Yet the NCC requires luminance of a minimum 8cd/m2 for electrically powered signs (similar to the Standards in most other countries), and uniquely allows the luminance level of

Photoluminescent signs to be 30mcd/ m^2, on the grounds that they are of a different technology (photoluminescence) and have passed the OV Test.

Some other points regarding the OV Test:

- No assessment involving the presence of smoke has been conducted.
- No assessment involving the presence of background lighting or emergency lighting has been conducted yet the presence of other lighting reduces the conspicuousness of exit signs. It is important to note that background lighting or emergency lighting can be on during emergency evacuations.
- The test does not include observers with visual impairment.

The objective

How will the proposal solve the problem?

Exit signs are an essential life safety product, installed to ensure occupants can safely egress a building in an evacuation scenario. Photoluminescent exit signs are permitted for use under the NCC, however the luminance level of these signs is not bright enough to ensure the safe evacuation of building occupants. The proposal will remove the provision from the NCC which permits the use of Photoluminescent exit signs.

What alternatives to the proposal (regulatory and non-regulatory) have been considered and why are they not recommended?

It is difficult to see any alternative to the proposal. Photoluminescence technology cannot achieve the luminance levels required to give exits signs the luminance required for safe egress in an evacuation scenario. Their use should not be permitted under the NCC.

The impacts

Who will be affected by the proposal?

All building occupants.

Companies producing PL exits signs.

In what way and to what extent will they be affected by the proposal?

Building Occupants

This proposal will positively impact all building occupants. Exit signs are an essential life safety device. Any building occupant could find themselves in a situation where they are required to evacuate a building. The proposal will

ensure exit signs are of better luminance to provide safe egress in an evacuation by removing the use of Photoluminescent exit signs which do not provide sufficient luminance to provide safe egress.

Companies selling photoluminescent exit signs in Australia.

These companies could expect a reduction in sales of photoluminescent exit signs, although the majority of product sold by these companies are other photoluminescent safety products, and photoluminescent exit signs are also used voluntarily in applications where they are not a direct replacement for electrically powered exit signs.

Consultation

Who has been consulted and what are their views?

The following individuals and stakeholders have been consulted and all support this proposal. Supporting letters are attached s 22

s 22

References (available online, copies can be forwarded to you if required)

1. Collins, B. , Dahir, M. and Madrzykowski, D. (1990), Evaluation of exit signs in clear and smoke conditions:, , National Institute of Standards and Technology, Gaithersburg, MD, [online], https://doi.org/10.6028/NIST.IR.4399 (Accessed July 12, 2023)
2. Conway, K. , Boyce, P. (1997), Expanding the Market for Visually Effective, Highly Efficient Exit Signs:, Lighting Research Center, Rensselaer Polytechnic Institute, Troy, NY 12180-3590 USA

3. Kuligowski, E. , Gwynne, S. , Butler, K. , Hoskins, B. and Sandler, C. (2012), Developing Emergency Communication Strategies for Buildings, Technical Note (NIST TN), National Institute of Standards and Technology, Gaithersburg, MD, [online], https://tsapps.nist.gov/publication/get_pdf.cfm?pub_id=910248 (Accessed July 12, 2023)

4. Jin, T., Yamada, T., Kawai, S. and Takahashi, S., 1991. Evaluation Of The Conspicuousness Of Emergency Exit Signs. Fire Safety Science 3: 835-841. doi:10.3801/IAFSS.FSS.3-835

5. Webber, G., Shipp, M., 1996. OTH 95 499 Review of Emergency Lighting and Way-Guidance Systems for Offshore Structures. Building Research Establishment, UK. ISBN 0-7176-1269-4

1 August 2023

To Australian Building Codes Board
By email: ncc@abcb.gov.au

Proposal for Change National Construction Code

This Proposal is submitted by Lighting Council Australia. The Council is the representative body for members in the lighting industry, including emergency lighting. It is the peak lighting body in Australia, working with, and advising government on policy and strategy, including energy efficient initiatives. The Council has representation on numerous Australian and International standards committees.

Please find attached our Proposal for Change to the NCC seeking an amendment to E4DA of the NCC and Specification 25. Letters of support from Stakeholders are attached to the Proposal.

Yours sincerely,

Lighting Council AUSTRALIA

s 47F

s 47F
Chief Executive Officer

Lighting Council Australia

s 47F

Suite 304, 737 Burwood Road
Hawthorn East VIC 3123

PO Box 1058, Hawthorn VIC 3122

www.lightingcouncil.com.au

s 22

Subject: FW: ABCB proposal for change (PFC) outcome [SEC=OFFICIAL]
Attachments: Response PFC 2023-072 - sent.pdf

From: NCC
Sent: Friday, 15 November 2024 5:00 PM
To: s 47F
Subject: ABCB proposal for change (PFC) outcome [SEC=OFFICIAL]

Good Afternoon s 47F

Please see the attached letter regarding the outcome of your Proposal for Change (PFC): Design and operation of exit signs

Kindest Regards,

The NCC Team

Australian Building Codes Board

1300 134 631 | ncc@abcb.gov.au
GPO Box 2013 Canberra ACT 2601

Acknowledgement of Country

Our department recognises the First Peoples of this Nation and their ongoing cultural and spiritual connections to the lands, waters, seas, skies, and communities.

We Acknowledge First Nations Peoples as the Traditional Custodians and Lore Keepers of the oldest living culture and pay respects to their Elders past and present. We extend that respect to all First Nations Peoples.

OFFICIAL

FOI 4108
Document 2a

s 47F

Lighting Council Australia
PO BOX 1058
Hawthorn, VIC 3122

Dear s 47F

RE: Proposal for Change (PFC) – Design and operation of exit signs

Thank you for your PFC proposing amendments to E4D8 of Volume One, relating to photoluminescent exit signs

I am writing to inform you that your PFC was considered by the ABCB's Building Codes Committee (BCC) at a meeting in October 2023.

The majority of BCC members did not support the proposal, because it did not include evidence that a photoluminescent exit sign meeting the parameters of Specification 25 does not meet the relevant Performance Requirements. Members indicated that reputable testing of exit signs, meeting the parameters of Specification 25 against the benchmark of the relevant Performance Requirements, would be suitable evidence for supporting the proposal.

If you require any further information on this matter, please contact the ABCB Office email NCC@abcb.gov.au.

Yours sincerely

s 22

Australian Building Codes Board

11 November 2024

s 22

From: Blake, Judith
Sent: Monday, 23 June 2025 6:01 PM
To: s 47F
Cc: s 22
Subject: RE: Exit Signs [SEC=OFFICIAL]

OFFICIAL

Hello s 47F

Apologies for not being available last Friday. I understand that you, s 22 discussed the issues – I also understand you'd like to meet with me as well.

I do have some availability this Thursday – 1130am to 1230pm or 1.30pm to 2.15pm.

s 22 the ABCB staff and I will be moving to Treasury – end of next week and during week of 7 July is likely to be quite disruptive. If this Thursday does not suit, I would suggest a meeting either 10 or 11 July as we should be settled on new systems in the Treasury portfolio.

I will also follow up as to a contact in the Treasury portfolio if LCA wishes to proceed with an FOI request.

I understand the LCA has consistently raised public safety concerns and claims about the use of photoluminescent lights and has campaigned on social media and via other means. You – LCA – can look to contract out, whether with an appropriate university or the CSIRO, for contemporary independent research to be undertaken. If you decide to do this, we (ABCB) may be able to assist with the framing questions. I have also contacted s 22 could be engaged by LCA to undertake a relevant study - I will pass on any relevant advice from NMI.

I would encourage LCA to consider its options for robust independent research. Photoluminescent industry groups will no doubt continue to contest what the LCA is saying – if needed, I will seek guidance from the Commonwealth Treasury on these commercial/competition aspects. I have copied in my Treasury Housing industry policy counterpart for awareness, noting that the LCA has also pursued recent discussions with SA state government representatives.

However, if independent research did provide evidence of a problem, the LCA could put this back to the state and territory building regulators/ABCB for consideration as to whether any adjustments are required to the NCC.

At this time, advice in my letter of 11 June 2025 stands.

Kind regards,

Judith

Judith Blake, A/g CEO, ABCB
s 22 judith.blake@industry.gov.au

OFFICIAL

From: s 47F
Sent: Wednesday, 18 June 2025 8:55 AM
To: Blake, Judith <Judith.Blake@industry.gov.au>
Cc: s 22
Subject: RE: Exit Signs [SEC=OFFICIAL]

OFFICIAL

CAUTION - This email originated from outside of the organisation. Do not click links or open attachments unless you recognise the sender and know the content is safe.

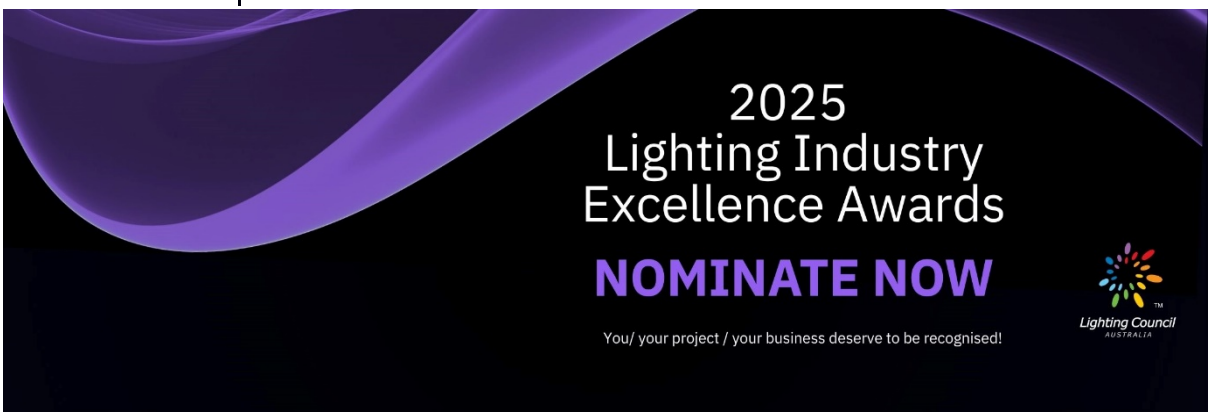
Judith,

Please find correspondence from the Lighting Council on this issue. I would appreciate a short meeting to discuss at your next convenience.

Regards,

s 47F
Chief Executive Officer

s 47F
Email | Website



OFFICIAL

From: Blake, Judith <Judith.Blake@industry.gov.au>
Sent: Wednesday, 11 June 2025 4:22 PM
To: s 47F
Cc: s 22
Subject: RE: Exit Signs [SEC=OFFICIAL]

OFFICIAL

Hello s 47F

I apologise for the delay in my response to you.

Please find my letter attached, on behalf of the Board.

Kind regards,

Judith

Judith Blake, A/g CEO, ABCB
s 22 judith.blake@industry.gov.au

OFFICIAL

From: Blake, Judith
Sent: Tuesday, 3 June 2025 9:30 AM
To: s 47F
Cc: s 22
Subject: RE: Exit Signs

Dear s 47F

Thank you for your email. As part of handover to me, Gary did put your letter forward to the Board.

I will be responding to your letter this week.

Regards,

Judith

Judith Blake, A/g CEO, ABCB
s 22 judith.blake@industry.gov.au

From: s 47F
Sent: Monday, 2 June 2025 11:48 AM
To: Blake, Judith <Judith.Blake@industry.gov.au>
Subject: FW: Exit Signs

Judith,

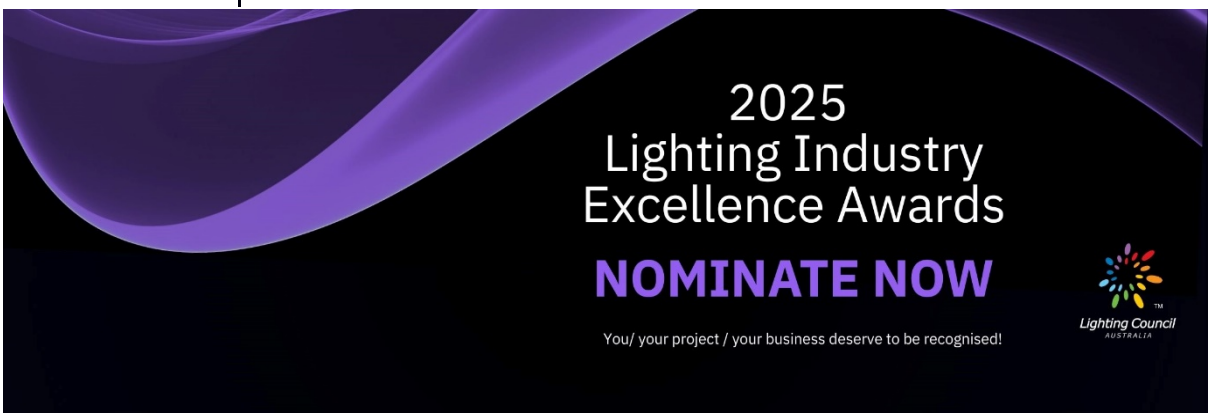
As per below, I am a bit surprised to see Garry has left ABCB since I last met with him on 30 April, where he committed to sort our a significantly dangerous double standard in the NCC. He agreed to put my letter on the May Board meeting of the ABCB as a significant industry issue to be resolved. Please find my correspondence attached.

I would appreciate a short teams meeting ASAP to brief you on what the industry considers to be a double standard which may lead to a significant incident.

I look forward to your response.

Regards,

s 47F
Chief Executive Officer
s 47F
Email | Website



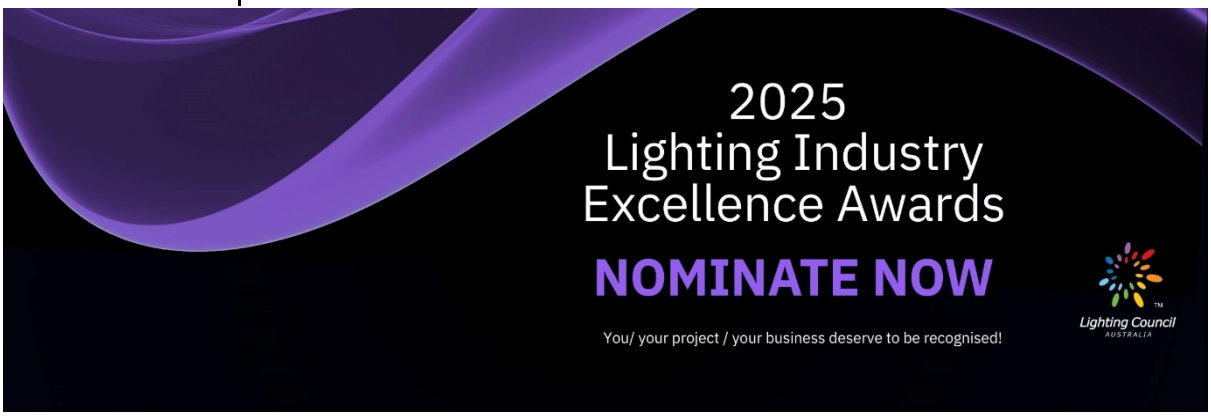
From: s 47F
Sent: Monday, 2 June 2025 11:22 AM
To: Rake, Gary <gary.rake@industry.gov.au>
Subject: FW: Exit Signs

Gary,

Just following up on the correspondence and our last meeting where you were putting Photoluminescent Exit signs on the agenda for the May meeting. Can I get some feedback on that meeting and any actions coming out of it?

Regards,

s 47F
Chief Executive Officer
s 47F
Email | Website



From: s 47F
Sent: Friday, 2 May 2025 5:33 PM

To: Rake, Gary <Gary.Rake@industry.gov.au>
Subject: Exit Signs

Gary,

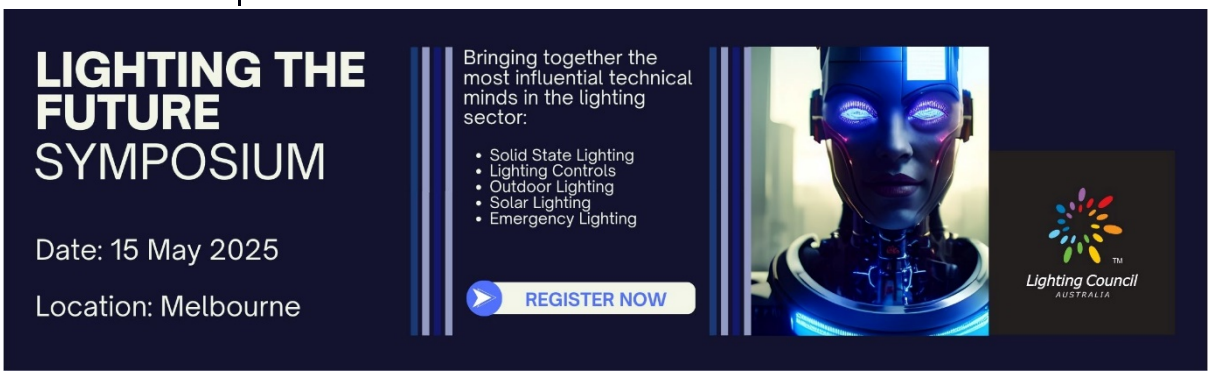
Thanks for the time on Wednesday in which I agreed to summarise our position to you in writing. Please find the brief letter with the outline of our issues. I look forward to hearing from you in the near future about the next steps.

Regards,

Lighting Council AUSTRALIA

s 47F
Chief Executive Officer

s 47F
Email | Website



FOI 4108
Document 3a

s 47F
Chief Executive Officer
Lighting Council of Australia
Email: s 47F

Dear s 47F

Photoluminescent Exit Lights

I refer to your letter dated 2 May 2025 to Gary Rake, former Chief Executive Office of the Australian Building Codes Board (the Board), regarding emergency and exit light system requirements.

The Board considered your letter and relevant attachment at its meeting held on 27 May 2025 and has asked me to advise you of the resolutions reached and a response to your recommendations.

In the first instance, the Board reiterates its position that confirms photoluminescent exit signs meet the Objectives, Functional Statements and Performance Requirements of the National Construction Code (NCC) 2022. This is based on the thorough regulatory process that saw photoluminescent exit signs introduced into the NCC in 2014.

The Board acknowledges there are differences between the provisions for photoluminescent and electrically powered exit signs. These types of differences are not uncommon throughout the NCC which is drafted to accommodate the many complex and varied systems that exist in our building and construction industry. By doing this, the NCC strikes a balance between businesses that produce innovative solutions for our built environment and the safety of all those in our communities that occupy and use our buildings.

With respect to your first recommendation, I note you are seeking some form of independent research into the luminescence of all exit signs. Given the technical requirements for exit sign luminescence is set out in relevant Australian standards, I suggest the LCA approach Standards Australia to gauge their interest in this matter.

Significant research has already been done to produce AS/NZS 2293.1:2018 *Emergency lighting and exit signs for buildings* and SA TS 5367 *Photoluminescent exit signage - Hybrid photoluminescent signage*. As both are referenced documents (SA TS 5367 is proposed to be referenced in NCC 2025) Standards Australia would be the appropriate body for you to approach for further research.

With respect to your second recommendation, I refer you to the Public Record of the Board's 27 May 2025 meeting, published today on the ABCB website at https://www.abcb.gov.au/about/board. The Board's view regarding the requirements of the current NCC are set out in this record.

With respect to your last recommendation, I confirm all proposed changes to the NCC are communicated to both building industry practitioners and the Australian community by the ABCB Office's Education and Communications Team.

Thank you for your detailed submission to the ABCB Office and I hope this information assists.

Yours sincerely

s 22

Judith Blake
Australian Building Codes Board
A/g Chief Executive Officer
11 June 2025

s 22

From: Blake, Judith
Sent: Tuesday, 8 July 2025 10:47 AM
To: s 47F
Cc: s 22 ; s 47F
Subject: RE: Non-compliant emergency lighting [SEC=OFFICIAL]

OFFICIAL

Thank you s 47F We will follow up with the state and territory building regulators.

OFFICIAL

From: s 47F
Sent: Tuesday, 8 July 2025 8:10 AM
To: Blake, Judith <Judith.Blake@TREASURY.GOV.AU>
Cc: s 22 ; s 47F
Subject: Non-compliant emergency lighting

Some people who received this message don't often get email from s 47F . Learn why this is important

Dear Judith

This follows our meeting on 26 June 2025 and your request for information that can be discussed with State and Territory building regulators relating to emergency lighting non-compliance when photoluminescent exit signs replace electric exit signs.

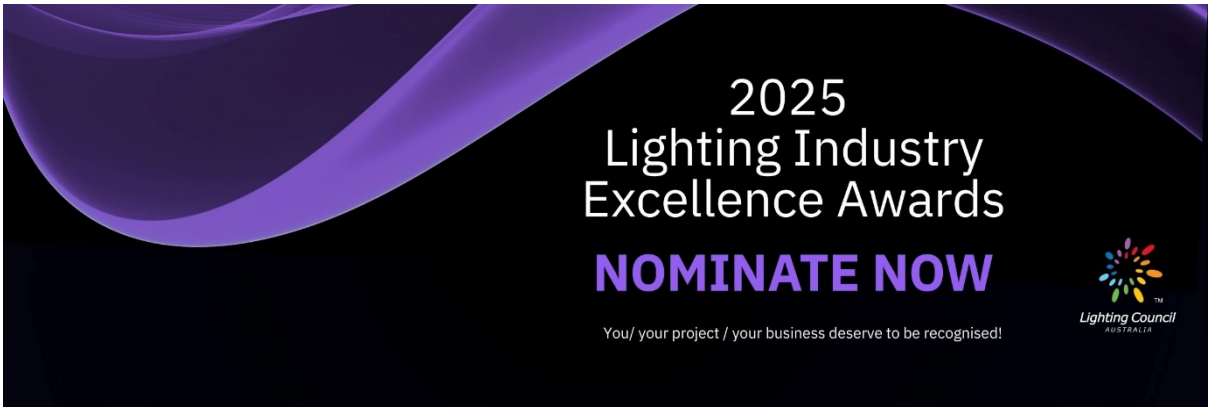
I'm available to discuss this topic with any stakeholder including building regulators. My contact details are below.

Kind regards
s

Lighting Council AUSTRALIA

s 47F
National Technical Manager

s 47F
Email | Website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Lighting Council AUSTRALIA

7 July 2025

Ms Judith Blake
Acting Chief Executive Officer
Australian Building Codes Board
GPO Box 2013
Canberra ACT 2601
Email: Judith.Blake@TREASURY.GOV.AU

Systemic non-compliant emergency lighting

Dear Ms Blake

This follows our meeting on 26 June 2025 and your request for information relating to emergency lighting non-compliance when photoluminescent exit signs replace electric exit signs.

Lighting Council Australia has reported more than a dozen potentially non-compliant shopping centres, a sport stadium, high-rise commercial buildings, aged care facilities and Government owned buildings to building authorities. There appears to be systemic non-compliant emergency lighting issues created by the above practice.

The replacement of dual-function electric exit signs/emergency luminaires with single function photoluminescent exit signs is leaving buildings non-compliant with critical emergency lighting requirements.

Exit signage and emergency lighting serve distinct, complementary safety functions in buildings. Exit signage indicates the direction to and location of exits, while emergency lighting provides illumination for hazard avoidance and speedy, safe evacuation during power failures.

Electric exit signs are dual function products that combine both exit signage and emergency lighting capabilities in a single unit. These signs form part of both the exit signage and emergency lighting systems. Photoluminescent exit signs have no emergency lighting function. When electric exit signs are replaced by photoluminescent exit signs, emergency lighting is removed and not replaced.

This practice is causing buildings to become non-compliant with the emergency lighting performance requirements in the NCC. Under NCC deemed to satisfy rules, emergency lighting must be installed at specific points within buildings.[1] An emergency lighting performance solution is also possible.[2]

s 22

[redacted]

[1] *AS/NZS 2293.1:2018 Clause 4.5 Specific locations requiring emergency luminaires.*
[2] National Construction Code, E4V1, Emergency lighting verification method.

This indicates:

1. Certifiers and building authorities are receiving incomplete compliance documentation and oversight is focusing on exit sign compliance and not emergency lighting compliance.
2. A lack of knowledge regarding the dual functionality of electric exit signs and single function of photoluminescent exit signs.
3. A lack of understanding about NCC emergency lighting requirements and the possible conflation of exit and emergency lighting requirements.

Regulatory response gap

The FOI findings suggest that certifiers and building authorities are not distinguishing between exit signage and emergency lighting requirements and are approving installations that provide exit signage solutions without ensuring emergency lighting compliance.

Building authorisation process not being followed

State and territory building regulations require that amendments to fire safety documentation and alterations from deemed to satisfy compliance to performance solution compliance must follow the building authorisation process in each state. Compliant performance solutions and amended fire safety documentation must be submitted/issued prior to building works commencing.

Lighting Council Australia enquiries reveal the building authorisation process and in some cases the compliance documentation itself is an afterthought to exit and emergency lighting installation alterations.

I'm available to discuss any of the above with stakeholders including State and Territory building regulators. I can be contacted on s 47F

Yours sincerely

s 47F

National Technical Manager

s 22

s 22

From: Blake, Judith
Sent: Tuesday, 2 September 2025 10:13 AM
To: s 47F
Cc: s 47F ; s 22
Subject: FW: Monday meeting on Exit Signs [SEC=OFFICIAL]
Attachments: s 22

OFFICIAL

A quick follow-up s 47F , as I met with colleagues from Treasury's Competition and Consumer Law Branch. The following information might be of assistance:

False or misleading claims | ACCC

Kind regards

Judith

Judith Blake, A/g CEO, ABCB
Treasury Housing Group
Mob: s 22
Judith.blake@treasury.gov.au

OFFICIAL

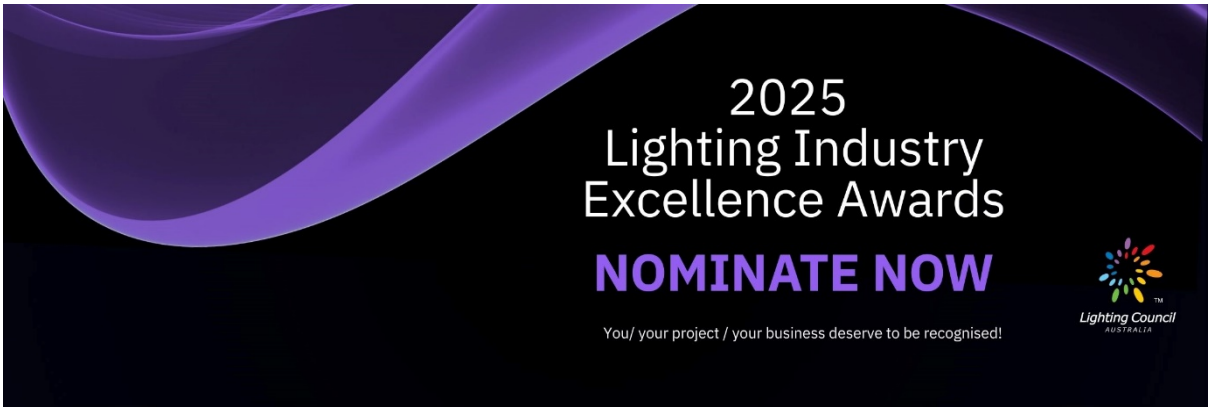
From: s 47F
Sent: Monday, 25 August 2025 1:45 PM
To: Blake, Judith <Judith.Blake@TREASURY.GOV.AU>; s 47F
Cc: s 22
Subject: RE: Monday meeting on Exit Signs [SEC=OFFICIAL]

Thanks Judith, Also for discussion is the attached.

Regards,

s 47F
Chief Executive Officer

s 47F
Email | Website



From: Blake, Judith <Judith.Blake@TREASURY.GOV.AU>
Sent: Monday, 25 August 2025 1:33 PM
To: s 47F
Cc: s 22
Subject: RE: Monday meeting on Exit Signs [SEC=OFFICIAL]

OFFICIAL

Hello s 47F

FYI that I received the attached documents from photoluminescent industry representative; main question I'm being asked relates to the statement in the first document:

"The Lighting Council is working with Government regulators to have then withdrawn from sale and banned".

I would appreciate your advice as to what the above is entailing.

Thanks, and chat soon.

Kind regards

Judith

Judith Blake, A/g CEO, ABCB
Treasury Housing Group
Mob: s 22
Judith.blake@treasury.gov.au

OFFICIAL

From: s 47F
Sent: Friday, 22 August 2025 2:13 PM
To: Blake, Judith <Judith.Blake@TREASURY.GOV.AU>; s 22
s 47F
Subject: Monday meeting on Exit Signs

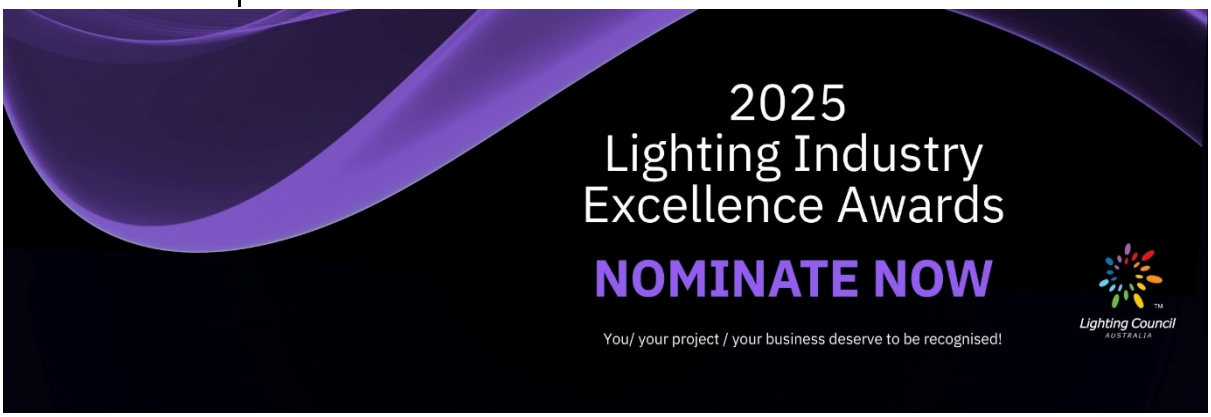
Judith, s 22

Please find a short proposal from s 22 for our meeting on Monday. See you then.

Regards,

s 47F
Chief Executive Officer

s 47F
Email | Website



s 22

OFFICIAL

From: s 47F
Sent: Thursday, 16 October 2025 4:49 PM
To: Blake, Judith <Judith.Blake@TREASURY.GOV.AU>
Cc: s 22 s 47F
Subject: Invitation to Collaborate on Critical Exit Sign Performance Research

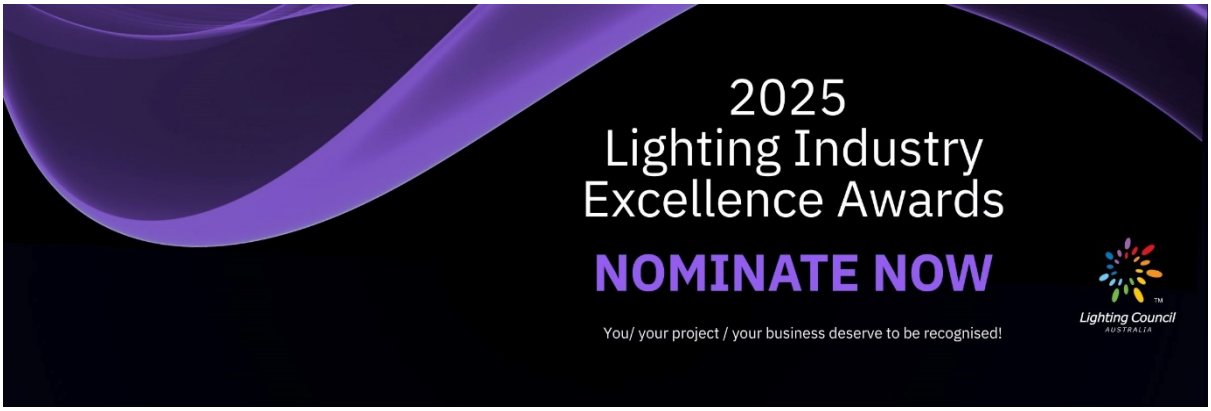
Judith,

Please find attached correspondence from LCA inviting ABCB to collaborate on our exit sign research project.

Regards,

s 47F
Chief Executive Officer

s 47F
Email | Website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ACN 130 217 613

16 October 2025

Ms Judith Blake
A/g CEO, ABCB
Via email: Judith.Blake@TREASURY.GOV.AU

Dear Ms Blake,

Re: Invitation to Collaborate on Critical Exit Sign Performance Research

As Chief Executive Officer of the Lighting Council Australia, I am writing to invite the Australian Building Codes Board to participate as a valued collaborator in a groundbreaking research initiative that should fundamentally shape the future safety standards for exit signage across Australia.

The lighting industry in Australia stands at a critical juncture regarding exit sign performance standards. Current regulations prescribe different luminance levels for electric and photoluminescent exit signs without a comprehensive analysis of the supporting evidence for this, creating uncertainty and legitimate concerns about public safety and regulatory compliance. As industry leaders, we have a shared responsibility to ensure that all exit sign technologies provide the required level of protection for the Australian public during emergency situations.

I am pleased to announce that Lighting Council Australia is facilitating an independent, academically rigorous research project through the s 11C to provide the evidence required for evidence-based standards for exit sign performance.

s 11C under the expert leadership s 11C , will conduct this comprehensive two-phase research project designed to provide the evidence base necessary to inform future development of the National Construction Code and Australian Standards.

Phase 1: Global Literature Review and Standards Analysis

The initial phase will undertake a systematic academic review of all relevant existing research conducted worldwide on exit sign performance. This comprehensive analysis will:

- Evaluate the current state of global research on exit sign luminance requirements for safe evacuation
- Assess the adequacy and applicability of existing studies to Australian conditions
- Compare international regulatory approaches and standards frameworks
- Analyse performance characteristics across different exit sign technologies
- Identify critical knowledge gaps requiring further investigation

The findings from Phase 1 will directly inform the scope, methodology, and necessity of Phase 2.

Phase 2: Empirical Testing and Validation (Subject to Phase 1 Findings)

Based on the outcomes of the literature review, Phase 2 may involve controlled, scientific experiments using different light sources and exit sign technologies. These rigorous empirical studies would evaluate:

- Visibility, recognition and cognitive performance under various emergency lighting conditions
- Effectiveness of navigation across different environmental scenarios and conditions
- Luminance, illuminance requirements and contrast ratios for optimal safety outcomes
- Comparative evacuation effectiveness across technologies

The first phase of this research project will be conducted with full academic independence by the s 11C . Once the necessity of human subject experiments is confirmed, the second phase will involve collaboration with additional universities in Australia. The research design, methodology, data collection, analysis, and conclusions will be entirely free from industry influence or commercial considerations. This independence is essential to ensure objective, credible, evidence-based outcomes that serve the public interest and provide regulatory certainty for our industry.

The research team brings exceptional credentials:

s 11C

s 11C As a collaborator in this vital research initiative, the Australian Building Codes Board will:

1. Receive progress reports and preliminary findings throughout both research phases.
2. Have the opportunity to provide additional research materials, technical documentation, and industry knowledge for consideration in the literature review.
3. Have priority access to research outcomes and recommendations before public release.
4. Participate in discussions about how these research findings should inform future regulatory frameworks and industry standards.

The uncertainty in Australia arising from the current debate around the performance of exit signs of different technologies serves neither public safety nor industry interests. Different luminance requirements for different technologies, without robust supporting evidence, create confusion for manufacturers, specifiers, regulators, and building owners. This

research represents our industry's opportunity to demonstrate leadership, responsibility, and commitment to evidence-based safety standards.

By participating in this research, we can collectively ensure that:

- All exit sign technologies meet required safety performance standards
- Regulatory frameworks are based on rigorous scientific evidence
- Industry stakeholders have clarity and confidence in product specifications
- The Australian public receives optimal protection during emergency situations
- Our industry maintains its reputation for safety excellence and technical leadership

The research findings will provide the evidence base necessary for informed regulatory decision-making, creating a pathway for industry certainty while maintaining the highest safety standards for the Australian community.

The lighting industry has always demonstrated leadership in adopting new technologies and safety innovations. This research project represents our opportunity to lead by example in evidence-based standard development, ensuring that regulatory frameworks keep pace with technological advancement while never compromising public safety.

We believe this collaborative research approach represents the most responsible pathway forward for our industry that prioritizes public safety while providing the technical clarity and regulatory certainty that enables continued innovation and growth.

I would welcome the opportunity to discuss this collaboration in detail and answer any questions you may have. Please contact me at your earliest convenience to confirm your participation or to arrange a detailed briefing.

s 11C

Together, we can establish the evidence-based foundation necessary for safe, effective exit sign standards that protect the Australian public while providing our industry with the regulatory certainty needed for continued growth and innovation.

Thank you for your consideration of this vital collaboration opportunity. I can be contacted on s 47F

Yours sincerely,

s 47F

CEO