ENGINEERS
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Further Inquiry into the Regulation of Building Standards

Submission to the NSW Parliament Public Accountability Committee

27 August 2021

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Engineers Australia
11 National Circuit, Barton ACT 2600
Tel: 02 6270 6555
Email: policy@engineersaustralia.org.au

www.engineersaustralia.org.au

Table of Contents

1. Introduction

The engineering profession in NSW has seen major change in the building and construction industry since 2019, including the Residential Apartment Building Act, the Design and Building Practitioners Act and Regulation, and more.

Overall, there have been positive changes to the industry.

However, some issues caused by unintended consequences of the new legislation, and remaining gaps in implementation of some recommendations from the underlying Building Confidence Report, are causing serious concerns within the local engineering community.

Together with other factors including Covid-19 and hardening of the Australian insurance market it is alarming that, anecdotally, there are good engineers who have decided to stop practising in the residential apartment building market. This information has reached Engineers Australia through conversations with members from various locations who work in different disciplines and in companies of varying sizes.

To reflect the range of concerns raised by Engineers Australia members, this submission examines issues related to flammable cladding, and private certification and engineering reports for construction stages. It also extends to issues related to insurance and registration of engineers.

In addition to this submission, Engineers Australia is making a separate joint submission with Consult Australia and the Insurance Council of Australia specific to insurance issues.

Engineers Australia welcomes this further inquiry. Continual collaboration among the NSW government, practitioners and their professional and industry bodies will be critical to the success of the reform.

1.1 The importance of industry collaboration

The transparent and collaborative relationship between industry bodies and government has never been more important. Industry and professional bodies, with the help of their members, have shown great willingness to work together. Many initiatives that they've led have contributed to the overall discussion and solutions.

For example, through the Society of Fire Safety, Engineers Australia has been a strong advocate for a risk-based approach for existing flammable cladding, and previously published a practice guide on this topic.[1] Similarly, a practice guide for design practitioners and engineers that highlights key issues relevant to contracts and professional indemnity (PI) insurance was developed jointly by Engineers Australia, Consult Australia and the Australian Institute of Architects. It was published in August and is freely available to practitioners on the website of the Office of the Building Commissioner.[2]

Engineers Australia is also working with other industry bodies and members to explore ways to alleviate the insurance situation, including through education of relevant stakeholders.[3]

Finally, there is an opportunity for lessons to be learned from the implementation phase of the reforms and the new auditing processes. A benefit of a professional membership bodies is their delivery of Continuing Professional Development opportunities. Engineers Australia is committed to continuously working with the NSW government to promote the reforms and bring lessons back to the profession so that engineering practice can be improved. Engineers Australia suggests the government continue to support collaboration such as joint training modules based on the trends in design and construction errors and industry tools such as CROSS-AUS, a confidential safety report system for professionals to share concerns and experiences regarding structural safety.

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[1] Engineers Australia, *Practice Guide on Façade External Wall Fire Safety Design* (2019) <https://www.engineersaustralia.org.au/sites/default/files/Learned%20Society/Practice%20Guide%20on%20Fa%C3%A7ade%20External%20Wall%20Fire%20Safety%20Design.pdf> at 27 August 2021.
[2] Engineers Australia, Consult Australia, and the Australian Institute of Architects, *Guide for design practitioners and engineers: Contract terms, professional indemnity insurance and the Design and Building Practitioners Act 2020 (NSW)* (2021), available at NSW Government <https://www.nsw.gov.au/building-commissioner/construct-nsw/using-digital-platforms-to-drive-accountability> at 27 August 2021.
[3] Engineers Australia, Professional Indemnity Insurance <https://www.engineersaustralia.org.au/professional-indemity-insurance> at 27 August 2021.

1.2 Summary of recommendations

Flammable cladding

- It is recommended that consideration be given to how the Design and Building Practitioners Act and Regulation can accommodate circumstances where solutions for essential repair and maintenance work cannot practicably attain full-Building Code of Australia compliance.
- A better product assurance system for facades should be established to ensure the peace of mind for practitioners, insurers, and owners.
- With the hardening of the global and local insurance markets, Engineers Australia recommends that securing reliable access to suitable insurance policies for designers, including façade designers, is a high priority for the short/medium term future.

Private Certification and Engineering Reports

- The Government is encouraged to utilise the ABCB's model guidance to introduce new rules for:
    - mandatory inspections, and
    - independent third-party reviews.

Insurance

- It is recommended that work to develop practical proposals for project-based insurance, such as the Decennial Liability Insurance product which is already being led by the NSW government, be expedited.
- Engineers Australia calls on the government to review the effect of liability provisions within the Design and Building Practitioners Act and Regulation and develop ways to minimise their adverse impact on insurance availability.

Registration

- It is recommended that greater clarity is provided regarding the long-term intentions for the implementation of the three pathways for engineer registration in NSW. This is with respect to (a) how the pathways will interact and how consistency in competency standards will be achieved and (b) how the NSW registration scheme can assure consistency in competency standards across jurisdictions.
- It is recommended that further consideration is given to, and an implementation timeframe provided for, extending the scope of registration for engineers to all industries.

Other issues

- Engineers Australia recommends that the regulatory duplication that has emerged be addressed to improve industry compliance and reduce red tape.
- Enforcement of requirements from the Environmental Planning and Assessment Act 1979 to require more complete, better-quality manuals, is needed.

2. Flammable Cladding

Flammable cladding continues to present "low likelihood, high consequence" risks to consumers and the industry. There are three main issues that engineers are facing:

- Remediation
- Products and conformance
- Insurance

In addition, there is some confusion arising from the legislation changes and members have raised a concern that Fire and Rescue NSW may be insufficiently resourced to respond to consultation with, and provide guidance to, engineers.

It should be noted that each issue represents a serious challenge to façade, and sometimes fire safety, engineers practising in NSW beyond flammable cladding.

2.1 Remediation

As most cladding products are designed, fabricated, and installed with little consideration for removal and replacement, replacing non-compliant cladding remains a difficult and costly task. It must be noted that combustibility/fire performance is only one aspect of the external façade design. Other aspects, such as waterproofing, wind loading, thermal performance, acoustic performance, structural performance, and aesthetics all have to be taken into account when existing flammable cladding is being removed and replaced. It is important to clearly define the scope of remediation projects and identify where responsibility for the work lies.

For designers who are involved in cladding remediation works a constant challenge is providing services that deliver a reasonable and practicable solution that complies with the new legislation. For example, in a recent project some members of Engineers Australia encountered a curtain wall system[4] in a class 2 building that has a very small area of combustible cladding and some water leakage. The nature of the leakage is such that it cannot be eliminated unless the entire façade is replaced, with the cost in the order of millions of dollars and unavoidable disruption to residents' life. The leakage problem could be greatly reduced with reasonably low-cost maintenance that could previously be undertaken as exempt development. However, that solution can no longer be offered because the engineers could not declare the solution as compliant with the Building Code of Australia (BCA), which is required under the Design and Building Practitioners Act and Regulation, because of the existence of the residual issues, (i.e., remaining water leakage, although greatly reduced). For the same project, replacing the combustible cladding cannot be offered either. That is because the engineers could not certify the replacement cladding—just one component in the existing curtain wall system—is weatherproof once integrated into the system until after claddings are replaced and a detailed testing process is undertaken to prove that a suitable outcome has been achieved.

For engineers, the problem is exacerbated under the Design and Building Practitioners Act and Regulation because cladding remedial works are usually not exempted and hence declarations that they are fully compliant with the BCA need to be made. In many cases, it is difficult to achieve full BCA compliance for the enclosure of an aged building due to changing standards and general wear and tear. As a result, engineers are in some cases very concerned with providing any solutions to the owners other than costly full replacement. Owners, in return, would typically find themselves not in the financial position to take up the work. Therefore, no action will be taken by the owners which leaves problems untended and will likely lead to bigger, more expensive, problems in the future.

Secondly, due to the duty of care introduced by the Act, there is the risk that future owners may make a claim against engineers who provide not fully compliant, but nonetheless the most realistic or practicable, solutions to the current owners. With this risk in mind, members have reported withholding technically feasible options that are more economically viable and greatly solve the problems for owners.

It is recommended that consideration be given to how the Design and Building Practitioners Act and Regulation can accommodate circumstances where solutions for essential repair and maintenance work cannot practicably attain full-BCA compliance.

[4] A curtain wall system is the outside covering of a building. The outer walls are usually non loading bearing but are utilised for such things as weather protection.

2.2 Products and conformance

Façade engineers typically face challenges when selecting cladding products due to confusing datasheets, inconsistent compliance statements and misleading testing certificates. Simply, the single source of truth is hard to find and, although exercising due diligence, façade engineers are unlikely to have the same expertise as suppliers to thoroughly check and ensure product compliance.

The Design and Building Practitioners Regulation requires *registered design practitioners – façade* to declare the compliance of the product (cl 9(1)(a)). However, façade engineers do not have full control of the product fabrication and installation process and could only exercise reasonable care to a certain extent.

Moreover, insurers are increasingly seeking to limit coverage for express warranties made by engineers in relation to the performance of a product. In many cases, claims arising from product certification may not be covered by façade engineers' insurance, which fundamentally undermines the efficacy of the declaration.

Therefore, a better product assurance system for façades should be established to ensure the peace of mind for practitioners, insurers, and owners. Two examples recommended for investigation are as follows:

- Require cladding product suppliers to provide a clear and concise certificate from local product and testing engineers with the right knowledge and credentials so that design engineers can rely predominantly upon this single source of truth.
- Introduce stronger legislation requiring manufacturers to be accountable for the compliance of their products so that designers can rely upon a better regulated 'CodeMark' system and incur no further liability to verify the compliance of the product.

2.3 Insurance

Insurance for façade engineers remains a severe problem. Due to accessibility and affordability issues, Engineers Australia members are reporting that some façade engineers are deciding to stop offering façade engineering design services either entirely or in certain market sectors. More details on insurance issues are provided at Section 4 but it is necessary to highlight the insurance problem in this section specific to façade engineering as well.

Under the Design and Building Practitioners Act and Regulation, *registered design practitioners – façade* will be required to provide declarations on the complete façade design, with underlying inputs from other disciplines. It is unclear how the additional responsibility would affect insurance for façade engineering businesses. Anecdotally, many façade engineers have decided to stop working on residential projects until the impact becomes clear.

Besides issues with affordability and availability of insurance, it should be noted that unreasonable policy exclusions are frequently inserted into insurance policies. It is very rare for façade engineers to receive a policy that properly covers all façade related works (except for exclusions on non-conforming cladding products). Instead, policy exclusions appear to have been broadened to exclude more aspects of façade engineering. This poses challenges to façade engineers who must interpret the changing insurance policies from engineering, commercial, legal and products perspectives. It presents a potential issue for clients and the engineering businesses if accessible insurance policies don't cover actual risks.

With the hardening of the global and local insurance markets, Engineers Australia recommends that securing reliable access to suitable insurance policies for designers, including façade designers, is a high priority for the short/medium term future.

3. Private Certification and Engineering Reports

3.1 Private certification – general comments

Members of Engineers Australia welcome the positive changes from the regulators' auditing process. However, there is the continuous need for stricter control over private certification through audits and enforcement actions. To help principal certifiers discharge their duty in accordance with the code of ethics, it is important for other parties to understand the public interest that principal certifiers must uphold. The collective industry needs to respect that certifiers—when acting on behalf of the public interest as principal certifiers—should avoid being involved in design due to the potential emergence of conflicts of interest and their code of ethics obligations.

Additionally, members have raised the concern that principal certifiers should have the registration, competency, and experience for the type of building for which they are issuing certification or engage suitably qualified practitioners to provide the necessary technical advice. There is also a need to better promote the career paths for certifiers.

With new requirements from the Design and Building Practitioners Act and Regulation on variations, it is reassuring to see that variations to building elements need to be declared before any related construction work starts. Although the definition of variation remains to be clarified in the Regulation—which remains a serious problem during the construction stage—it is still worthwhile for principal certifiers to carefully scrutinise any variations received during the construction stage.

3.2 Mandatory inspections and engineering reports

It is common for design engineers to be engaged during the construction stage to provide additional services. One of the most important tasks is to perform inspections and provide engineering reports on the construction progress and any problems to be fixed.

The level of service that design engineers provide to their clients during the construction stage is driven by commercial terms, which lead to varying quality in the level of detail of work performed and thus quality of engineering inspections reports. Engineers normally provide a fee proposal with a predetermined number of inspections and carry out further work on hourly rates. It must be made clear that, fundamentally, engineers (except for fire safety) are not required by legislation to provide inspection services. In NSW, the Environmental Planning and Assessment Act sets the minimum requirements for mandatory inspections to be conducted by the principal certifiers and, again, engineers (except for fire safety) are not required to be involved in the inspections. This presents several serious problems.

Firstly, the minimum legislated inspection requirements do not appear to be sufficient, and hence the project inspection scheme needs to be developed on a case-by-case basis. Some certifiers who are attending the mandatory inspections may not have all the knowledge on the project to develop a thorough inspection plan, nor be fully capable to perform the inspections on key engineering elements.

Secondly, engineers, even when engaged to provide some inspection services, do not have the same statutory power as principal certifiers to issue stop work orders. They have limited ability to prevent construction works from occurring even when they have serious concerns. Similarly, engineers' instructions are unlikely to be as effective as a Written Directions Notice (WDN) by principal certifiers.

Thirdly, design engineers' involvement during the construction stage has been reducing over the years. Clients frequently decline engineers' proposals to provide full inspection services, and some builders' practices may result in issues being concealed before any planned inspections can be made on site. Members have reported that, in their experience, when developers and builders decide on the number of engineering inspections without consulting the relevant engineers, quite often the number of planned inspections is insufficient. It is important for developers and builders to realise the value of engineering inspections and provide the necessary access for engineers to conduct them in a transparent and collaborative manner. It should be noted that given the very limited time that engineers are

usually contracted to spend on site for inspections, it is almost impossible for engineers to certify the construction is performed in accordance with their design. Therefore, pressure that is sometimes applied on engineers to produce such certificates is not realistic. The expectation needs to be reasonable with regards to the level of inspections engineers provide.

Engineers Australia emphasises that there is an urgent need for revisions to the relevant legislation regarding risk-based mandatory inspections, as well as the need to review the qualifications of those who should carry out the work.

It is noted that the Australian Building Codes Board (ABCB), on direction from the Building Ministers Meeting, is in the final stages of developing model guidance for all states and territories to act on the recommendations of the Building Confidence Report. This includes recommendation 18 for mandatory inspections. The Government is encouraged to utilise the ABCB's model guidance to introduce new rules for mandatory inspections in NSW.

3.3 Independent third-party review

Principal certifiers, when concerned with project quality, may request that designs be reviewed by an independent third-party. This is extremely important because principal certifiers may not have the necessary technical expertise for all design aspects and hence this should be encouraged to ensure public interest and overall building quality.

So far, the use of independent third-party review appears to be largely sporadic. Clients on major projects have seen the value of third-party reviews and frequently engage engineers to provide the service. However, with smaller sized projects, this is not common and often viewed as additional project cost or a cause for potential delay on the program, instead of as a valuable process to ensure long-term project quality. This presents an imperative problem to solve.

As explained in the Building Confidence Report, the safeguard that a qualified and experienced independent third-party reviewer can provide to a project is tremendous. The review activities should be legislated following a risk-based approach. This has been repeatedly recommended in government-commissioned reports such as the Building Confidence Report, Opal Tower Investigation Final Report, and Skyview Apartments Investigation Final Report. Engineers Australia encourages the NSW Government to act on those recommendations.

It is noted that the Australian Building Codes Board, on direction from the Building Ministers Meeting, is in the final stages of developing model guidance for all states and territories to act on the recommendations of the Building Confidence Report. This includes recommendation 17 for independent third-party review. The Government is encouraged to utilise the ABCB's model guidance to introduce new rules for independent third-party reviews in NSW.

4. Insurance

In addition to this submission, Engineers Australia is making a joint submission with Consult Australia and the Insurance Council of Australia on insurance related issues. In that submission, the following issues are raised:

- Affordability and availability of insurance policies has been a constant challenge for the building and construction industry since 2018. The new legislated requirements for retrospective duty of care and onerous insurance requirement have had a negative effect.
- Insurers are not willing to underwrite the new risks that arise from the Act and Regulation. It is unlikely that this will change before the transitional exemption on insurance expires.

Insurance is a holistic topic that has implications not only on engineers and their clients, but also consumers. It should be made clear that no party is assured under the current situation. Professional indemnity insurance is not a product designed for consumer protection but, rather, a product to protect businesses and their clients. Whether or not the new duty of care provisions will increase consumer protection is yet to be tested. There are concerns that due to the retrospective nature of the duty, claims on past projects may be brought up again. Litigation is an expensive business and companies may become insolvent in the process of defending claims. This potential outcome does not protect consumers' interests. It is recommended that work to develop practical proposals for project-based insurance, such the Decennial Liability Insurance product which is already being led by the NSW government, be expedited.

Once the transitional exemption period expires in mid-2022, engineers who want to work on buildings that are captured by the Design and Building Practitioners Act and Regulation will have to demonstrate adequate coverage of insurance. Yet, given the fact that compliant insurance product is unlikely to become available, engineers will not be able to demonstrate they are covered by adequate insurance and hence won't be able to apply for registration and may choose to leave the residential apartment building industry. For engineers' clients, the consequence would be that only a limited number of engineers would remain to choose from. Again, consumers will not benefit from the situation. There is already feedback from members that there is increasing concern that clients are finding engineers reluctant to provide new fee proposals due to concerns about holding adequate insurance to cover the work.

It should be noted that insurance is not only a problem for small and medium size businesses. Large engineering companies, although they have more power in negotiations, are finding it hard to meet the insurance requirement required by clients, particularly government agencies. Anecdotally, the level of coverage becomes an increasingly decisive factor in tender selection. Even if able to meet the insurance requirements large engineering companies are concerned that if anything goes wrong, they, as the one with 'deepest pocket', would be targeted in litigation even if their degree of responsibility is small or non-existent. Equally, issues with exclusions and concerns with retrospective duty of care continue to be problems for large companies.

Engineers Australia members are finding challenges beyond Professional Indemnity Insurance. For example, 'run-off' insurance, which members entering retirement need to ensure they are covered for work done whilst they were professionally active, is becoming harder to secure.

The current undesirable insurance situation is not a new problem. Even before the new legislation the litigious nature of the building industry was well-known, and it is not sustainable in a hardened insurance market. Insurers are commercially driven so the only path back is a clear reduction of the risk profile of this industry.

Engineers Australia is confident that with the current reform proposals the risk profile of the industry should be improved—but it will only happen in the long term. A short to medium term imperative is the survival of many businesses. Therefore, Engineers Australia calls on the government to review the effect of liability provisions within the Design and Building Practitioners Act and Regulation and develop ways to minimise their adverse impact on insurance availability. Other proposals, such as independent third-party review and mandatory inspections, will help to fundamentally reduce design and construction risks.

5. Registration

The Terms of Reference for this inquiry provide an opportunity for consideration of other relevant matters. This section relates to the implementation of registration for professional engineers.

5.1 Pathways to registration

Implementation of the Design and Building Practitioners Act and Regulation includes multiple pathways for registration of professional engineers.

Pathway 1 is the first pathway to be phased in. This requires individuals who seek registration to apply directly to the NSW Office of Fair Trading and supply evidence of their eligibility, including of suitable qualifications and experience. Applicants are deemed registered until their application is assessed. This approach to the assessment of applicants is different to that of Queensland and Victoria. In those states, the competency of applicants is assessed by an independent government-approved assessment entity. Such assessment entities have expertise in the assessment of engineering competency to a benchmarked standard for independent practice.

Pathway 2 will allow for recognised professional engineering bodies to directly assess and register individuals. This pathway proposes a co-regulatory approach. Engineers Australia has had preliminary discussions with the Department of Fair Trading regarding guidelines that are to be developed. The role of recognised professional bodies under Pathway 2 is different to the assessment entity model used in other jurisdictions. It is unclear what the rationale for these differences is. Engineers Australia will be able to provide additional comment on this pathway after the Pathway 2 guidelines are released. The issues of interest in the guidelines will include:

- Requirements for competency assessments in Pathway 2 to be at the same benchmark as other jurisdictions.
- Expectations regarding the role of the professional body in assessing the adequacy of insurance. This is not a usual area of expertise for engineering professional bodies.
- Practicalities and expectations of maintaining a section of the NSW Professional Engineer Register.
- Expectations regarding the investigation of possible failures of engineering practice, what disciplinary actions are expected to be done by professional bodies, and what the relationship with the regulator is.

Pathway 3 provides a pathway to registration for members of a Professional Standards Scheme.

Overall, it is recommended that greater clarity is provided regarding the long-term intentions for the implementation of these three pathways. This is with respect to (a) how the pathways will interact and how consistency in competency standards will be achieved and (b) how the NSW registration scheme can assure consistency in competency standards across jurisdictions. This is important to provide confidence with respect to the integrity of engineer registration under the Act, and implementation of the Mutual Recognition Act 1992 (Cth) for engineers who work across jurisdictions.

5.2 Scope of registration

The Design and Building Practitioners Act, at sections 31-32, provides for comprehensive registration of professional engineers in five prescribed areas of engineering. That is, the Act is drafted so that civil, structural, mechanical, electrical and fire safety engineers working in any industry in NSW are to be registered to practice without supervision. It is Engineers Australia's understanding that it was on this basis that the upper house passed the Bill in mid-2020.

However, section 31(2)(b) has been utilised to enable the Regulations to restrict the scope of registration for engineers to those who work on Class 2 buildings and mixed-use buildings with a class 2 part.

Engineers Australia supports registration for engineers and the intention of the Act for registration to apply beyond the current scope. Therefore, it is recommended that further consideration is given to, and an implementation timeframe provided for, extending the scope of registration for engineers to all industries.

6. Other issues

In addition to the issues that have been flagged in previous sections, there are other matters that require resolution.

6.1 Legislative duplication

Engineers Australia recommends that the regulatory duplication that has emerged be addressed to improve industry compliance and reduce red tape. For example, there is duplication across the Environmental Planning and Assessment Act/Regulation, Design and Building Practitioners Act/Regulation, and Building and Development Certifiers Act/Regulation.

To demonstrate the situation, a practical example provided by an Engineers Australia member is shown below. For context, this example is provided by a mechanical engineer who intends to take responsibility and certify the regulated designs for the mechanical services in a Class 2 residential development over 25m tall in NSW after 1 July 2021.

Registration/accreditation requirements

1. Industry registration/accreditation from one of several organisations, such as Engineers Australia or the Australian Institute of Refrigeration, Air conditioning and Heating. This is generally used when applying to NSW Fair Trading for state-based registration in a later stage; **and**

2. To endorse plans and specifications for the mechanical ducted smoke control systems (under the Environmental Planning and Assessment Regulation), either
    - C9 ("Engineer Mechanical") accreditation from NSW Fair Trading (which is noted as a relatively unutilised accreditation with less than 100 registrations); or
    - Fire System Design accreditation from the Fire Protection Association Australia for "Fire and Smoke Control Systems (Mechanical Services)"; **and**

3. To declare compliance of the design for the Design and Building Practitioners Regulation, to register as 'Professional Engineer – mechanical' registration in accordance with the Design and Building Practitioners Regulation; **and**

4. Register as 'Design practitioner – mechanical engineering' in accordance with the Design and Building Practitioners Regulation for the day-to-day ventilation systems (bathroom ventilation, general air conditioning, corridor ventilation, car park ventilation etc); **and**

5. Register as 'Design practitioner – fire systems (mechanical smoke control)' in accordance with the Design and Building Practitioners Regulation for the more complex forms of Heating, Ventilation, and Air Conditioning design such as stair pressurisation, zone pressurisation and the fire mode operation of the basic systems identified above.

Many design practitioners and engineers are facing the significant burden of *multiple* registration requirements, which may cause potential disruptions to their work and the building construction industry. Therefore, we strongly urge the NSW Government to provide clear guidance to those affected.

Declaration requirements

Many fire safety system elements are both a 'regulated design' under the Design and Building Practitioners Regulation and a "relevant fire safety system" under the Environmental Planning and Assessment Regulation. For example, for stair pressurisation systems, a *design practitioner - mechanical* must now:

a) Prepare a five-page Design Compliance Declaration as a registered Design Practitioner to comply with the Design and Building Practitioners Regulation, as a part of the entire mechanical design package

b) For the same package of plans and specifications:

I. provide a 'compliance certificate' using an *engineer - mechanical* class of registration under the Building and Development Certifier Regulation, as required for Clause 136AA(2)(c) or 146B(2)(c) of the Environmental Planning and Assessment Regulation.
(Note: the "engineer-mechanical" could be the same design practitioner preparing the Design Compliance Declaration); **or**

II. provide an "endorsement" by an *accredited practitioner - fire safety* for compliance with the relevant provisions of the NCC, as an alternative compliance verification under Clause 136AA(2)(c) or 146B(2)(c) of the Environmental Planning and Assessment Regulation.
(Note: the *accredited practitioner - fire safety* is likely to be the same design practitioner again, with a Fire Safety Design accreditation as a potential future pathway); **or**

III. request that the project's private certifier authorise the design practitioner to undertake the regulated work regarding particular fire safety systems, again under 136AA or 146B of the Environmental Planning and Assessment Regulation.
(Note: this 3rd option came into existence when the government gazetted this opportunity, once the Commissioner for Fair Trading was satisfied that there is no person reasonably available who holds the necessary accreditation because only a limited number of certifiers are currently registered in the class of 'engineer mechanical'. As a result, option I is mostly frequently sought by certifiers).

Legislative duplications should be resolved as soon as possible to avoid confusion for designers.

6.2 Building manuals

Building manuals are an important tool for all buildings. Enforcement of requirements from the Environmental Planning and Assessment Act 1979 to require more complete, better-quality manuals, is needed. Currently, the Act forbids a certifier issuing an occupation certificate unless a building manual for the building has been prepared and provided to the owner of the building and provides for the regulation to provide further requirement on building manuals (s6.27). However, none of the requirements is included in the Environmental Planning and Assessment Regulation 2000 which leaves a void to be filled.

Building manuals are only useful if as-built drawings are a true reflection of as-constructed work. Checking and reviewing the submitted as-built drawings is critical. In particular, with respect to changes in accordance with variations made after the for-construction design documentation was issued.

Also, there need to be simpler statements of building functionality and systems in building manuals. This would help owners and underwriters to better understand the buildings for the purpose of assessing property investment risks and pricing property insurance more cost effectively for owners.

7. Conclusion

The building industry is going through a period of rapid change. With the continued collaborative and tireless efforts made by regulators, industry and professional bodies, and practitioners, Engineers Australia is confident that a better future will arrive in the long term.

However, there should be no less consideration on the short-term struggle many practitioners in the industry are going through. Amid Covid-19 and hardening of the global insurance market, many engineering businesses are encountering short-term problems that are so severe that some are considering stopping services in certain markets, especially for Class 2 buildings. This is a situation that NSW needs to avoid.

This submission explains the urgency of implementing other recommendations from the Building Confidence Report. In particular, independent third-party review and mandatory inspections, if adopted and managed properly, will significantly improve the quality of buildings and improve the risk profile of this industry.

In early 2022 a statutory review of the Design and Building Practitioners Act is to commence. That review is the next important milestone in the development of NSW's building sector reforms. It will be important that the review covers all aspects of the regulatory framework: the Act, Regulations, associated guidelines and their implementation.

Similarly, since the Act provides for registration of professional engineers across all industries (not just the building sector), the statutory review in 2022 should explore how the full intent of sections 31-32 of the Act can be achieved.

Together, we can make a bright future the reality for the Australian building industry and wider engineering profession.

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