

**Submission  
No 38**

## **PROFESSIONAL ENGINEERS REGISTRATION BILL 2019**

**Organisation:** Association of Professional Engineers Australia (APEA)

**Date Received:** 29 January 2020

29 January 2020

Mr Alex Greenwich MP  
Chair, Legislative Assembly Environment and Planning Committee  
Email: [sydney@parliament.nsw.gov.au](mailto:sydney@parliament.nsw.gov.au) and via Committee page submission link

Dear Mr Greenwich,

### **Submission on draft Professional Engineer Registration Bill**

The Association of Professional Engineers Australia (APEA) welcomes the opportunity to make a submission to the draft *Professional Engineers Registration Bill*.

APEA is a registered organisation representing degree-qualified, professional engineers in Australia. Our members perform design, scoping and project management roles across industries and services including mining, construction, road, rail, water, gas, power, defence, aviation and ITC. APEA is a division of Professionals Australia which is a nationally registered industrial organisation representing a wide range of professionals throughout Australia.

We note that the Inquiry is to consider the proposed *Professional Engineers Registration Bill*, including:

1. The most appropriate way to regulate professional engineers in the building and construction industry.
2. How engineers and other building industry professions are regulated and monitored, and proposals for reform under the Bill and consideration of alternate proposals.
3. Any other related matter.

APEA is very supportive of the *Professional Engineer Registration Bill* as it provides the most efficient, sensible way to ensure qualified engineers are carrying out engineering work, across vertical buildings and other infrastructure.

We also endorse the fact the Bill is consistent with the current Queensland and Victorian schemes which involves a 'co-regulatory' model. This model is also being used as the basis for draft legislation in the ACT. National consistency will underpin mutual recognition enabling engineers and businesses to be registered in one jurisdiction and work on projects in multiple states – which is a feature of the engineering industry.

The co-regulatory model which underpins this Bill is also the smart way to ensure best practice assessment at least cost, while still providing the guarantee of government oversight and legislative backing. This is because it sets up competition among assessment entities who compete on price and already run these schemes for neighbouring states and have the infrastructure, expertise, systems and processes in place to do so.

In contrast, a registration scheme run by the Government, rather than adopting a co-regulatory model, not only adds substantial additional cost to the taxpayer and increases prices by removing competition, it also compromises quality.

We also note that there is another proposal before the NSW Parliament, which is the Government's proposed *Design and Building Practitioners Bill*. At the outset, we want to make clear that this Bill need not be considered an "alternative proposal" under the Terms of Reference. In fact, the two Bills are complementary and mutually dependent.

There are good measures included in the draft *Design and Building Practitioners Bill* and there are good measures included in the *Professional Engineers Registration Bill*. At the start of our submission we want to urge the Committee to consider the sensible solution, which is the passage of both Bills, as a package of reforms to set NSW up as the model jurisdiction for building regulation. This solution would provide the best protection to the consumer and the public in the context of the building crisis in New South Wales.

More than being linked, the two Bills rely on each other and the Government's proposed *Design and Building Practitioners Bill* would be unworkable without the *Professional Engineer Registration Bill* because:

1. The proposed *Design and Building Practitioners Bill* only applies to the building industry, leaving all other sectors where engineers work exposed to unregistered practitioners. The *Professional Engineer Registration Bill* fills this hole by appropriately covering all engineers without an artificial differentiation between engineers who work on buildings and those who work on other infrastructure (i.e. bridges, roads, water, energy, rail).
2. Even in the building sector, the *Design and Building Practitioners Bill* would not provide the conditions under which the Secretary could properly assess an engineer for eligibility because whereas all other professions working in the building sector (builders, electricians, plumbers, architects) are required to be registered/licensed, engineers are not. That means that unlike those other professions the Secretary will not be able to refer to an individual's licencing/registration status when determining whether they have the necessary qualifications and skills to competently perform work. Again, this issue is resolved by the enactment of the *Professional Engineer Registration Bill*.

We note that NSW will soon be the only jurisdiction on the east coast of Australia without a *Professional Engineer Registration Bill* covering all engineers – from vertical buildings to civil infrastructure. Such a bill has been passed in the Victorian Parliament and has been in place in Queensland for some time. The ACT Government has publicly committed to introduce legislation mirroring the Victorian Act. We believe this places NSW at risk, since it will be the go-to jurisdiction for unqualified people seeking to work as engineers who have been barred from doing so in neighbouring states.

It also creates an inefficient regulatory burden on NSW engineers. This is because the absence of a broad-based engineer registration scheme in NSW creates inconsistencies with neighbouring jurisdictions in Victoria, Queensland and the ACT. This will create additional costs for individuals and business who will have to register in multiple states, failing to take advantage of the streamlined mutual-recognition arrangements being set-up between the other states.

To avoid these issues, we urge the Committee to reflect on the opportunity to support the Professional Engineer Registration Scheme, to complement the proposed *Design and Building Practitioners Bill*, setting the state up as the best-practice model for regulating the building and engineering sector.

We look forward to our further involvement in the process, including through your formal hearings in February.

Yours sincerely,



Gordon Brock  
**Director NSW**

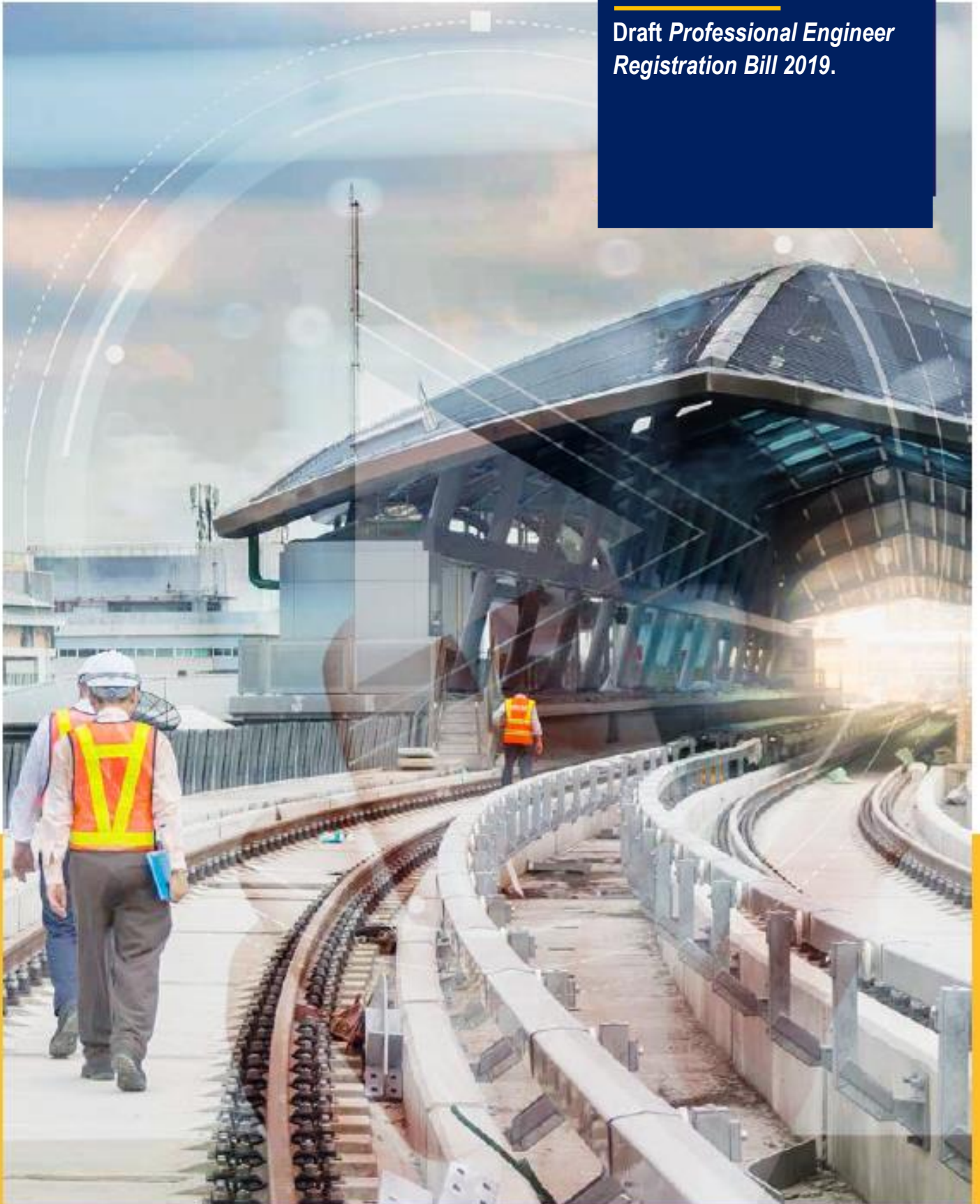




**ENGINEERING  
A BETTER FUTURE**

## **SUBMISSION:**

*Draft Professional Engineer  
Registration Bill 2019.*



## Contents

|  |    |
|--|----|
| The Association of Professional Engineers Australia..... | 5  |
| Introduction.....  | 6  |
| The risks.....   | 7  |
| The Bill before the Committee .....                      | 11 |
| Conclusion .....   | 16 |

## The Association of Professional Engineers Australia

The Association of Professional Engineers Australia (APEA) is a registered organisation representing degree-qualified, professional engineers working in Australia.

Our members perform design, scoping and project management roles across essential industries and services including mining, construction, road, rail, water, gas, power, defence, aviation and ITC.

We provide a scheme for the assessment of professional engineers and are approved to undertake assessments of professional competency for the Board of Professional Engineers of Queensland (BPEQ).

APEA is a division of Professionals Australia which is a nationally registered industrial organisation representing a wide range of professionals throughout Australia.

Our members include professional engineers, scientists, managers, pharmacists, architects, contractors, consultants and more. They are employed in all levels of government and are spread across the private sector.

We provide support and advocacy on behalf of our members so that they can focus on providing our community with safe and reliable infrastructure and with vital goods and services.

This purpose has driven APEA to make this submission, as better regulation of the building and construction sector means better community outcomes, better use of taxes and better recognition of the important role our members play in Australian society.

APEA would like to thank the NSW Parliamentary Committee for the opportunity to make a submission on the draft legislation.

## Introduction

High profile residential construction failures have highlighted an emerging crisis in the engineering sector. While failures in the building sector are currently the most topical, this is the tip of the iceberg and the issues extend to all aspects of engineering.

In NSW anyone can call themselves an engineer and this has wide-reaching consequences. The existing registration system is ad hoc and largely voluntary, which means that neither the engineering profession nor the community are protected. There is no scheme or system in place to ensure competence and enhance the integrity of the engineering profession. Practicing architects, electricians, plumbers, builders and many other trades and professions must be registered. The irony is that we licence skilled trades, but do not require registration for the engineers who supervise them and who design key elements of, and oversee the execution of, the projects they are working on.

It is true that engineers wishing to issue construction, occupation, subdivision, compliance and complying development certificates under the Environmental Planning and Assessment Act 1979 (NSW) must be accredited by the Building Professionals Board under the Building Professionals Act 2005 (NSW). However, there is no requirement for the person issuing the certificates to be an engineer which can mean that plans are prepared, approved and construction is checked off by people who do not possess appropriate engineering qualifications and skill, or who have not updated their skills through ongoing professional development.

The current accreditation system is further limited insofar as it only applies to the building industry and even in that industry, competency standards are not able to be enforced. Engineers and others claiming engineering expertise cannot be prevented from providing services even where there is evidence of misconduct or incompetence.

While the Government has proposed some improvements to certification and through the *Design and Building Practitioners Bill*, this Bill would only apply to a narrow group of engineers – those working on vertical buildings. There is simply no rational argument that an engineer working on a bridge, road, rail or other major infrastructure project should be less qualified than an engineer working on an apartment building, or that the registration requirements should be less robust for one area or the other.

The absence of a registration scheme for engineers operating in NSW is simply a regulatory gap which must be closed. It poses major risks in relation to public safety, cost to government, consumer confidence and undermines the integrity and respect for the profession.

There are also two external factors which add immediacy and urgency to the reform before the Committee.

1. Over 5,000 engineers now enter Australia every year under our visa system, many of whom do not have their skills checked before they enter the country. NSW is the destination of choice for more than half of these engineers.
2. All neighbouring jurisdictions on the eastern seaboard have either legislated or are in the process of legislating a Professional Engineer Registration Bill like the one before the Committee. These are broad-based, coregulatory schemes.

Without a registration system in place across all industries, NSW risks becoming the go-to destination for unqualified engineers, migrating from overseas or interstate and seeking to practice.

## The risks

The absence of a professional engineer registration scheme for all engineers in NSW has widespread consequences for:

- **Public safety:** the community ultimately deserves to know the bridges, roads, buildings and other infrastructure they use has been designed, scoped and developed by an engineer with the professional training and experience to do the work; and that they have maintained their skills through continual professional development.
- **Consumer confidence:** When a consumer (whether household, business or government) employs an engineer they should have the confidence the person they are dealing with is a verified professional.
- **Significant economic waste:** While safety is always the first concern, poor scoping of engineering dependent/critical projects can contribute to cost over-runs and delays on major infrastructure projects.
- **The profession:** It is sometimes overlooked that professional registration schemes are supported by all engineering professional bodies and the professionals themselves who want their profession protected from unscrupulous operators. The profession simply wants the respect which is afforded to other related trades and professions.

### Risk to public safety

Threats to the public – and workers – from provision of engineering services by unqualified or incompetent persons have three elements, namely:

- Health – through such things as contaminated drinking water, ‘sick’ buildings and other environmental incidents
- Property damage – where the effect is primarily measured in economic terms
- Safety – through collapse of buildings, bridges, dams and other structures or through failure of hazardous services such as gas, electricity or mechanical works.

Poor or deficient engineering work may present a threat to public and workplace health and safety in the form of unsafe water, gas and electricity systems, inadequate fire proofing and unsound structural integrity.

#### Case study – Lane Cove tunnel collapse – Lane Cove, NSW, 2005

During construction on 2 November 2005 the roof of a ventilation tunnel for the \$1.1 billion Lane Cove tunnel project collapsed causing a 10 by 10 metre crater which damaged a 3-storey residential building and forced the evacuation of 47 people. Emergency crews were forced to pump 1,000 cubic metres of concrete into the hole to try to stop the housing block from collapsing into it. The project was a disaster for the owner and operator of the tunnel, Connector Motorways who went into receivership in January 2010 after a string of losses. Flaws in the civil engineering design and geotechnical engineering assessment were found to be among several causes of the collapse.

At best, these issues undermine public confidence in the regulatory system which oversees the construction industry and incurs unnecessary additional costs to the community in the form of building rectification and repair. At worst, failures in civil, residential and commercial engineering design and construction may be life threatening.



Unfortunately, we have already witnessed the consequences of such failure in Australia. In Victoria we had the Longford Gas explosion and the Westgate Bridge collapse, among others. The Canberra Hospital implosion and the Thredbo landslide are also both etched in the Australian psyche. The HMAS Westralia fire and the Sea King helicopter crash drove change in the Australian Defence Forces.

While these major tragedies may be our most stark reminder of the risks associated with engineering failure, closer to home, many Australians bear the costs of receiving poor engineering advice every day.

For example, sub-standard soil testing and construction design can cause cracked homes and financial heartache for decades. Many apartments are covered top to bottom in flammable cladding, placing families at risk. And millions of Australian's travel by car every day and are faced with delays and potential safety risks due to poor design and execution on our roads.

### **Case study – The collapse of the Canterbury Television building – Christchurch, NZ, 2011**

During the 2011 Christchurch earthquake in New Zealand, the Canterbury Television building collapsed, killing 115 people. Subsequent investigations found that appropriately qualified and experienced engineers had not been engaged during the building's construction, contributing to engineering failure with catastrophic consequences.

The independence, competence and integrity of our engineer workforce is vital to ensuring our homes, places of work, the water we drink, the energy we use and the roads and bridges we drive on are safe and remain fit-for-purpose.

A comprehensive formal registration scheme of engineers is already required in Queensland and Victoria. The ACT Chief Minister has also committed to adopting a mirror scheme. This will leave NSW the only jurisdiction on the east coast of Australia without the protection of a system for registering engineers working across all forms of infrastructure maintenance and construction.

The absence of a similar regulatory regime in NSW may have the effect of attracting a higher number of unqualified and unskilled engineers to the state than would otherwise be the case. Unable to practice in any other state on the east coast, those practitioners who claim to be engineers but are either unqualified or have not maintained their skills through professional development will be forced to relocate to NSW where they can continue to operate, unhindered by any requirement to register in a manner that confirms their qualifications and skills.

This would give NSW the unenviable status as being the state for 'poorest engineering practice' and would likely amplify the range of safety problems previously articulated.

A requirement for work to be completed by an appropriately qualified and competent engineering professional, selected from a credible register, will mitigate risks to public safety.

We sincerely hope it won't take a bridge collapse or some other catastrophic event for comprehensive action to be taken and this critical safety reform to be introduced.

## **Consumer confidence**

As can be demonstrated with the recent public response to the Opal Tower and Mascot Tower debacles, the community expects government to appropriately intervene where there is a failure in the regulatory framework.

The NSW government should take steps now to avoid the further loss of public confidence in the engineering sector. Worryingly, deficiencies in work already completed may not become apparent for many years.

A broad-based registration scheme is designed to ensure that engineers are only working in areas for which they are appropriately skilled. That way, you can be sure the right engineer is doing the right job. This will enable the community and government to purchase engineering services with greater confidence and better-quality outcomes will be achieved.

The introduction of a registration scheme for engineers may be a significant step toward restoring public trust in the expertise of building and construction industry professionals and the regulatory system that oversees it as managed by the NSW government.

The introduction of a registration system for engineers should be a key component of a package of reforms that comprise the NSW government's decisive response to the emerging crisis in the construction industry. It would complement the Government's proposed *Design and Building Practitioners Bill*.

## **Significant economic waste**

The contribution of unqualified and inappropriately skilled engineers to increased construction costs and delays both in the private and public sector can be considerable and arise due to incomplete or deficient scoping of the initial project by poor quality or unqualified engineers.

While estimates vary, research by Deloitte for the Australian Constructor's Association estimated the average cost blowout at 6.5% across all projects and 12.6% for projects over \$1 billion.<sup>1</sup>

Based on a NSW government budget projection of \$80 billion to be spent on infrastructure over four years, a 6.5% cost blow out amounts to \$5.2 billion in taxpayer's dollars wasted. These funds could more appropriately be invested in further infrastructure projects focused on stimulating the state's economic growth.

The last independent Cost-Benefit-Analysis showed that engineer registration delivered real tangible economic benefits by preventing engineering failure. ACIL Tasman calculated the benefit-cost ratio of a scheme to be 3.14 in 2012.<sup>2</sup>

At a time of record infrastructure investment in NSW, we have to protect and build local industry, and leverage this boom to build a thriving local engineering sector which can export services across Australia and to the world.

Recognised standards of practice also have the potential to improve overseas trade and are essential for trading in accordance with the World Trade Organisation trade and services obligations, and under free trade agreements.

---

<sup>1</sup> <https://www2.deloitte.com/au/en/pages/economics/articles/major-infrastructure-projects.html>

<sup>2</sup> [https://www.consultaustralia.com.au/docs/default-source/skills/ACIL\\_Tasman\\_CBA\\_full\\_report.pdf?sfvrsn=0](https://www.consultaustralia.com.au/docs/default-source/skills/ACIL_Tasman_CBA_full_report.pdf?sfvrsn=0)

In many countries, engineering is seen as a critical profession, whose practitioners are recognised and registered by government. While registration models within Australia are complex and inconsistent. In contrast, many of Australia's trading partners, such as Japan, Malaysia, European Union, much of the United States, China and Singapore, have statutory registration and place faith in a legislated and comprehensive registration system. Some countries protect the term engineer by statute. As well as protecting the integrity of the profession and properly attaching societal and economic import to the profession, it protects the community.

A registration system in NSW can also provide a competitive edge for NSW companies tendering for international projects. This is because statutory registration is recognised as common currency in the international trade of engineering products and services, and certificates of compliance from registered engineers are required in most instances.

### **Giving the profession the respect it deserves**

Not only will a registration scheme reduce the incidence of poor-quality engineering work and cost overruns, it will enhance the standing of the profession in the community.

The concept has strong support from the NSW public, with Omnipoll research showing that 96% of the NSW public believe that engineers operating in the State who work on major infrastructure should be registered or licensed. This is higher (but similar to the level of support for a scheme that covers vertical buildings (95%).

But equally, the introduction of a registration scheme is widely supported by engineers themselves with, according to our internal polling, more than 4 in 5 supporting the establishment of engineer registration (85%).

This support exists despite the fact that it adds an additional requirement on engineers because they want their profession insulated from the unscrupulous individuals currently masquerading as engineers in the state.

## The Bill before the Committee

Registration of all engineers will protect the community and enhance safeguards. It will lift the standing of genuine qualified engineers and allow the profession to protect the community from unqualified engineers carrying out work.

The Bill before the Committee will enhance accountability, professional standards and underpin safety for workers and the community. The following outlines our detailed comments on the Bill.

### 1. The model: Co-regulatory

The proposed approach is consistent with the current Queensland and Victorian schemes which involves a 'co-regulatory' model. This model is currently operating in Queensland with great success.

Under a co-regulatory model, the assessment of a person's suitability as a registered professional engineer is undertaken by the profession itself, with oversight and enforcement undertaken by a statutory body.

A co-regulatory model would require the industry or professional body to develop a code of practice (or accreditation or rating scheme) in consultation with the government, and the Government then provides legislative backing to the code/schemes.

Once established, professional engineer associations would establish engineer assessment schemes which meet the requirements detailed in the responsible legislation and, when approved, would be responsible for administering the assessment of engineers on behalf of the statutory body with appropriate oversight.

By having industry bodies carry out the assessments on behalf of Government, it will create competition between those assessment entities, helping to minimise costs.

This approach also ensures the scheme remains more contemporary than a wholly state-run process. Engineering bodies like ourselves are required to maintain knowledge of best practice in their sector. We already run engineer registration schemes (in our case RPEng), including in Queensland and Victoria, meaning we have deep experience and established systems and processes. This Bill capitalises on that existing capacity.

We therefore strongly support the co-regulatory model of registration contained in the Bill

### 2. Responsible Minister

We recommend the Minister responsible for engineer registration be the Minister for Innovation and Better Regulation, as the Minister responsible for Fair Trading.

### 3. Legislation and mutual recognition

We support the Bill as drafted to mirror the legislation currently in effect in Queensland. We strongly recommend having discussions with officials in Queensland and Victoria about the process currently underway to support mutual recognition.

The ebb-and-flow nature of demand for professional engineering work and the portable nature of their services means these professionals are required to undertake works in multiple states, without necessarily having to be physically located in that state.

It is important that the state-based schemes encourage mutual recognition so that labour mobility is not impeded by costly and time-consuming registration processes.

The legislation would also define the scope of which engineers need to be registered. The proposed scope is that all engineers who perform engineering services without supervision must be registered – see 4.12 for further detail.

#### 4. Definition and eligibility requirements and coverage

For any registration scheme to be successful, it must set minimum acceptable and assessable standards. It is also crucial that the eligibility criteria are comparable to the other local and international registration schemes to facilitate the mobility of labour.

Professional engineering services refer to an engineering service that requires, or is based on, the application of engineering principles and data to a design, or to a construction, production, operation or maintenance activity, relating to engineering, and does not include an engineering service that is provided only in accordance with a prescriptive standard.

We believe all engineers who perform these services must be registered or must work under the direct supervision of a registered engineer.

As with other professional registration schemes for professionals including teachers, doctors and lawyers, the minimum assessable eligibility components should include qualification; experience; and continued learning.

APEA supports the approach taken in the Bill which is:

- To cover individuals who provide ‘professional engineering services’; and
- To cover all engineering services that fall within one of the six areas of engineering: civil, structural, fire safety, electrical, geotechnical or mechanical engineering.

We believe individual engineer registrations is the best fit for the stated purpose, rather than company or organisational registration. This supports limiting the types of registration to practicing and non-practicing professional engineers. This recommendation aligns with existing engineer registration models.

We do not believe graduate engineers should be required to be registered until they meet the eligibility criteria for a professional engineer, which includes working at a professional level for a minimum of five years.

We also support the approach which sets the minimum requirements engineers must possess to qualify for registration as follows:

- a four-year Washington accord degree which is a 4 or 5 year undergraduate engineering degree
- five years’ relevant professional experience in each area of practice to be approved for registration and
- mandatory continuing professional development (CPD) in order to ensure that the practitioner providing engineering services is up to date in knowledge, skills, and innovation

A defining element of professionalism is a commitment to practice ethically, and we therefore also recommend New South Wales requires all registered engineers to comply with a code-of-conduct. Assessment entities in a co-regulatory system should be charged with upholding the integrity of the profession and develop and enforce codes-of-ethics.

We support a fitness to practice test which aligns to Queensland, which is included as part of an engineer's application to the Board of Professional Engineers of Queensland (BPEQ). We recommend a fitness to practice test be included in the application form to the statutory body and that all applications to become an assessment entity be accompanied with a mandatory code-of-ethics.

These eligibility requirements are consistent with existing registration schemes – both voluntary and mandatory – in Australia, as well as international schemes.

## 5. Period of registration renewal for engineers

The period of registration renewal for engineers should reflect existing mandatory and voluntary schemes already operating in Australia and be aligned with other international standards.

The BPEQ requires an annual renewal fee and a renewal process whereby the application must declare that they have undertaken the minimum requirement of Continuing Professional Development (CPD) within a three-year period. We support this approach being adopted for consistency and to maintain an industry standard.

## 6. Administering authority

We support the Bill's proposal to legislate for the establishment of a Board of Professional Engineers. The primary function of the BPEN would be to administer the functions of the Act. Additional functions would be:

- To register persons who are eligible for registration under the act and to issue certificates of registration;
- To maintain a register of registered professional engineers;
- To assess and appoint suitable assessment entities; and
- To advise the Minister and the relevant Department about the ongoing operations of the scheme.

At a minimum, we propose the structure of the Board to consist of:

- An independent Chairperson appointed by Government;
- Equal representation by each of the assessment entities;
- A representative from an Engineer Consulting association; and
- A lawyer of at least 10 years standing with experience in building and construction; and
- A consumer representative.

Where the member of the board is an engineer, that person would be required to obtain registration. It would be the responsibility of the Minister to appoint the Board.

## 7. Investigations

In our view, where a complaint is made and/or an investigation is required under the Act, the Board should be advised by a qualified and authorised professional on those investigations.

The Board would also be required to enter into a performance agreement with the Minister to ensure that there is adequate level of reporting and accountability in relation to authorised investigations.

## 8. Disciplinary actions available to the regulator

Consumers of engineering services should have confidence that the regulation of professional engineers will deliver high-quality engineering outputs and that the engineers undertaking these services will do so in an ethical manner. To provide this confidence, there should be an avenue for complaints against engineers registered under the scheme.

We support the development of a robust and practical 'show cause' process, which gives the engineer the benefit of the doubt.

Uninformed purchasers/consumers can become disgruntled or dissatisfied with an engineering service, even if they have acted against advice. Following a 'show cause' process which identifies non-compliant practice by a registered professional engineer, we support disciplinary action, which would include:

- Written warnings;
- Undertaking to do or not to do something;
- Imposition of conditions of registration; and
- Suspension or cancellation of registration.

An additional benefit of the complaints-based investigation approach is that it may assist in eradicating unethical practices of employers.

## 9. Assessment entities

Under a co-regulatory model, assessment entities are appointed to undertake the assessment of an applicant's qualifications, competency, professional standing and continuing professional development (CPD).

This means significantly less resourcing is required by the authority, which lowers the required registration fee. Having multiple entities also allows for competition, which, if adequately scoped and regulated, results in more affordable and more practical alternatives for prospective registered engineers.

The co-regulatory model would require the industry or professional body to develop a code of practice (or accreditation or rating scheme) in consultation with the Government, and the Government then provides legislative backing to the code/schemes.

The Queensland system implements a co-regulatory model and the statutory body is the BPEQ. In this system, professional engineer associations would establish engineer assessment schemes which meet the requirements detailed in the responsible legislation and, when approved, would be responsible for administering the assessment of engineers on behalf of the statutory body with appropriate oversight.

Under this scheme, the professional body would assess applicants':

- Qualifications: are they suitably qualified to practice as a professional engineer?
- Competency: have they completed an acceptable level of work experience?
- Continue Professional Development (CPD): have they completed enough professional development to ensure they remain at the leading edge of engineering services?

Importantly, professional engineering associations – or any other assessment entity – should be required to have provisions for the assessment of non-member engineers.

We propose that any application to become an assessment entity would first need to be approved by the authority (Board); with ultimate agreement required by the Minister.

## 10. Skills maintenance and continuing professional development (CPD)

Surveys show that engineers believe it is critical to undertake continued learning in order to maintain an ability to practice at a professional level, and that majority of professional engineers are already undertaking self-directed professional development.

The minimum amount of CPD required under the QLD scheme is 150 weighted hours over three years – or, 50 hours per annum – which is consistent with the requirements of Professionals Australia's scheme, Engineers Australia's National Engineering Register, and international equivalents such as CEng in the UK.

We recommend New South Wales adopts the same model as the Queensland scheme where engineers are required to renew with the statutory authority every year but must provide evidence of their CPD and ongoing registration status with the assessment entity every three years.

We also support legislating the requirement to undertake CPD, with applicants having flexibility to demonstrate compliance with the requirement to the assessment entity they use.

Guidelines should be made for completion of CPD as part of a scheme, but we warn against attempting to legislate categories or weight, as this will become too prescriptive and would not reflect the nature of professional development activities for engineers. Engineering as a lead innovation profession is changing rapidly, and so too is how and where engineers work – including how they complete CPD. Onus should be on the assessment entities to detail the conditions of their CPD requirements as they are best placed to stay abreast of the daily professional lives of their members.

We do not support a reliance on random auditing of CPD but instead believe that, every five years, applicants must provide evidence to the statutory body of their completed CPD and that this evidence should be provided by the assessment entity. Randomised auditing can – and has – resulted in some registered engineers going many years without audit.

Professional bodies already collect and store completed CPD activities for registered professional engineers in easy-to-use dashboards which allow applicants to easily submit CPD activities and monitor the progress toward the 150-hour requirement.

We recommend the Parliament legislates a requirement to undertake continued learning, and that the onus be on the individual to undertake these activities in-line with requirements detailed in the assessment entities individual assessment schemes.



## Conclusion

The *Professional Engineer Registration Bill* will close the loophole in NSW which exposes the state (and by extension, the public/taxpayers) to significant regulatory risk on other infrastructure such as electricity, gas, water, bridge, rail and road assets.

Given that a similar scheme to that proposed in this Bill already exists in Queensland, has recently been legislated in Victoria and is about to be legislated in the ACT, the introduction of an engineer registration scheme is urgent avoid NSW becoming a destination of preference for those practitioners who claim to be engineers but are either unqualified or have not maintained their skills through professional development.

Additionally, the introduction of a scheme which is compatible with those in the other eastern states will enhance the viability of the engineering industry in this state and ensure that NSW is well placed to transition to a nationally consistent registration scheme at some time in the future. Importantly, a compatible scheme like the one being proposed here will reduce the burden on industry, who often work across state boundaries.

We again note that the related draft *Design and Building Practitioners Bill* – which the Committee will no doubt look at under the Terms of Reference which refer to other potential schemes – only applies to the building industry. In the case of engineers, those providing engineering services in areas such as civil engineers on roads, rail, bridges, water, energy and other infrastructure would remain totally unregulated under that Bill

The risks posed by the practice of unskilled and unqualified engineers are not limited to the certification process. Nor are they limited to the building sector. An unskilled or unqualified engineer on a road project, a bridge project, in an energy generator, on a coal mine or designing a dam, poses all the same risks. The consequences of these risks can materialise at any point from design, to approval and monitoring of construction.

The *Professional Engineer Registration Bill* deals with a glaring regulatory gap. It would also streamline the assessment process for the Secretary under the *Design and Building Practitioners Bill* and bring it into line with other professions subject to his/her assessment for eligibility.

The implementation of a NSW registration scheme may be a key component of the government's decisive response aimed at restoring public confidence in the construction and engineering sector and enhancing the value of the engineering profession in the eyes of the community. This has the added benefit of a likely increase in the export of engineering services, particularly to Asia, as purchasers have confidence they are contracting recognised professional services.

We genuinely feel that limiting the registration scheme to the building sector will leave an unacceptable risk in other areas of infrastructure such as bridges, roads, rail, energy and water. These are sectors where engineering failures would be even more devastating than those we have seen in vertical buildings. We flag now that this is a risk to life, as well as a financial risk – these are issues the Committee should reflect on carefully.

It is also an unnecessary burden on the profession and industry if engineers need to meet different requirements in each state.

The *Professional Engineer Registration Bill* will:

- **Protect public safety** by ensuring that professional standards are in place for all engineering work;
- **Re-build consumer confidence** by making NSW a model-jurisdiction for the regulation of the building and engineering sector;
- **Minimise cost to the taxpayer** by ensuring buildings and infrastructure are properly scoped, designed and delivered by those competent to do so;
- **Minimise cost to engineers** by embedding competition in the assessment process,
- **Give engineers the respect they deserve** by placing them on the same footing as their colleagues in other professions and trades such as architects, electricians, plumbers, builders and others who work to the engineers' designs.

APEA urges the NSW Parliament to enact this Bill to complement the *Design and Building Practitioners Bill*, not just for engineers in the building and construction sector, but consistent with the successful Queensland scheme for all those purporting to provide professional engineering services in the community.

The *Professional Engineer Registration Bill* has the support of all key engineering representative organisations.