



31 January 2020

Mr Alex Greenwich MP
Chair, Committee on Environment and Planning
Parliament House,
Macquarie Street,
Sydney NSW 2000

email: environmentplanning@parliament.nsw.gov.au

Dear Mr Greenwich

**Submission to New South Wales Legislative Assembly Committee on Environment and Planning
inquiry into the Professional Engineers Registration Bill**

This submission is made in response to your invitation to Professor Robin King FTSE, Honorary Secretary of the NSW Division of the Australian Academy of Technology and Engineering (ATSE)¹.

ATSE strongly welcomes the NSW Professional Engineers Registration Bill 2019. Following similar Acts in Queensland (2002) and Victoria (2019), professional engineers' registration in New South Wales would further strengthen the nation's trust and confidence in the work of professional engineers.

The provisions of the Bill covering the education, experience and continuing professional development (CPD) of registered professional engineers are consistent with those in the other States, as is critical for a nationally and globally mobile profession.

The six areas of practice for which registration is defined in the NSW Bill are identical to those specified in Victoria's Professional Engineers Registration Act and are a subset of the 26 defined in Queensland's Professional Engineers Act. The six areas clearly cover the principal areas of professional engineering associated with building and construction.

¹ The Australian Academy of Technology and Engineering operates as a Learned Academy of independent, non-political experts helping Australians understand and use technology to solve complex problems. Bringing together Australia's leading thinkers in applied science, technology and engineering the Academy provides impartial, practical and evidence-based advice on how to achieve sustainable solutions and advance prosperity.

Expanding the areas of practice in the NSW Bill would be desirable, given the increasing reach of engineered products, systems and services into all aspects of modern society. For example, professional engineers practising in software engineering should be accountable for their designs in financial and telecommunication systems; likewise chemical engineers for the integrity and safety of chemical processes, and biomedical engineers for prosthesis design. All areas of engineering have the potential to impact the community, either through safety incidents or unnecessary costs arising from poor practice and misconduct in design, construction and maintenance.

The establishment of candidate assessment schemes proposed in the NSW Bill are also substantially similar to those in Victoria and Queensland. Furthermore, as in Queensland, the NSW Bill proposes an independent Board to administer the Register.

Turning specifically to the questions posed for your inquiry:

1. The most appropriate way to regulate professional engineers in the building and construction industry.

Voluntary registration, such as encompassed by the National Engineer Register (NER) of professional engineers in Australia, has served society reasonably well, but with low visibility outside the profession. A significant proportion of professional engineers providing services (as defined in the Bill) has sought and attained the Chartered Professional Engineer (CPEng) status operated by Engineers Australia, which requires similar qualifications, experience and continuing professional development (CPD) to those proposed in the Bill. These standards are consistent with those of many nations, particularly those that are members of international agreements².

Internationally, legislated registration (or licensure) of professional engineers in the form now operating in Queensland and Victoria is common. For example, the Canadian provinces enacted licensure legislation from the 1920s; Singapore legislated its Professional Engineers Act in 1991. The areas of engineering practice covered by the Singapore legislation are those most closely associated with construction and major infrastructure.

ATSE therefore considers that the Bill is an appropriate measure to regulate professional engineers in the building and construction industry. Importantly it goes beyond the scope of that industry to strengthen the community's trust in professional engineering services delivered to all sectors.

2. How engineers and other building industry professions are regulated and monitored, and proposals for reform under the Bill and consideration of alternate proposals.

This question relates to regulation of engineers who are not qualified to be professional engineers, such as engineering technologists and technicians, and those in other professions associated with the building industry. Clearly, the current Bill does not, by definition, cover those persons who are not professional engineers. ATSE would not wish to see the power and value of a future NSW Professional Engineers Act complicated by inclusion of those not qualified to be professional engineers.

Engineering technologists and technicians working in the building industry would normally be carrying out well-defined work under the supervision of a professional engineer. Engineers Australia

² Engineers Australia is one of the 16 economies/jurisdictions in the International Professional Engineers Agreement (IPEA), and one of the 15 economies/jurisdictions in the APEC Engineer Agreement of the International Engineering Alliance (<https://www.ieagreements.org/>).

operates qualification and practice standards for these occupations to international standards. Persons working in these occupational categories within the building industry may have responsibilities for certification (see below).

Other professions associated with building appear to be already adequately covered by individual State registration schemes. These all contain adequate and appropriate provision for ensuring that those who are registered have appropriate qualifications, experience and CPD.

- Architects are covered by the NSW Architects Registration Board.
- Land Surveyors are registered with the Board of Surveying and Spatial Information
- Certifiers in the building industry are covered in the Building Professionals Board Registration Scheme. We note that many of the accreditation statements in the Schedule 2 refer to the National Engineer Register for the occupational category of professional engineers. These statements will need to be brought into line with the provisions of a future NSW Professional Engineers Act. The Schedules published by the Board must also be updated to reflect the current qualifications offered (and where appropriate, accredited by relevant bodies) for each category of certifier. A detailed review of these qualifications, especially those at sub-degree level may be in order.

Work in and for the building industry is also undertaken by persons in occupations not covered by these provisions, including licenced tradespeople and those holding home-building licences. It is assumed that these licencing requirements are sufficiently rigorous and that the certification processes, as laid out in relevant legislation and regulation, together with applicable standards and codes of practice for procedural work, are adequate.

In addition, off-site manufacture of standardised building components should increase building quality, while increasing the complexity of quality control. Ensuring that such building and construction work is delivered the required standard falls to the professionals and certifiers: the requirements to which they need to work are already adequately spelled out in the proposed Bill, and existing legislation and regulation.

In conclusion, ATSE welcomes this opportunity to respond to your Committee Inquiry, and to support the intent and principles of the Professional Engineers Registration Bill 2019. This will strengthen performance and trust in professional engineering services provided to the building and construction industry and to other sectors of the economy. Should you or your Committee require elaboration of any part of this short submission, please contact Professor Robin King (kingrp@bigpond.com.au or 0418 823 415).

Yours sincerely



Professor Hugh Bradlow FTSE
President