



Association of Professional Engineers,
Scientists & Managers, Australia



Institute of
Public Works
Engineering
Australia

THE NATIONAL ENGINEERING REGISTRATION BOARD

safeguarding the community

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29 February 2012

Committee Secretary
Senate Education, Employment and Workplace Relations Committees
PO Box 6100
Parliament House
Canberra ACT 2600

Via e-mail: eewr.sen@aph.gov.au

Submission: The shortage of engineering and related employment skills.

The National Engineering Registration Board (NERB) is supported jointly by Engineers Australia, Consult Australia, The Institute of Public Works Engineers, Australia (IPWEA) and the Association of Professional Engineers, Scientists and Managers, Australia (APESMA). The NERB has representation from state and territory governments, community organisations and professional associations. It supervises the operation of the following National Registers which are administered by Engineers Australia:

- National Professional Engineers Register (NPER)
- National Engineering Technologists Register (NETR)
- National Engineering Associates Register (NEAR).

NPER is the main vehicle for the registration of professional engineers in Australia. While registration on the NPER is voluntary, it is widely recognised by local authorities and most state and territory governments. NPER has been included in regulations relating to the design, certification, and health and safety of buildings and building services. NPER also appears in other regulations relating to engineering practitioners, which include for example, coalmine health and safety and dam safety assessment.

However, there is currently no uniform regulatory regime covering engineers in Australia. Engineering services are regulated by a number of different Acts, regulations, by-laws and orders-in-council. Many of these relate to the building and construction industry. Queensland is the only state where engineers must be registered to provide professional engineering services. A number of other states have de facto registration systems, where engineers performing particular work must be registered on the NPER.

The peak bodies representing Australian professional engineers – Engineers Australia, Consult Australia, APESMA and IPWEA – consider this situation to be unacceptable and support the establishment of a national, statutory, mandatory registration scheme for engineers (national registration). Through the NERB, we welcome this opportunity to make a submission in this regard to “The shortage of engineering and related employment skills” inquiry conducted by the Senate Education, Employment and Workplace Relations Committees.

Representatives of these peak engineering bodies have been able to meet with Ministers and key government representatives in every jurisdiction, as well as principal stakeholders in both industry and unions. We have secured the support of a number of large engineering firms, the Australian Constructors Association (ACA), The Australian Institute of Mining and Metallurgy (AusIMM), the CEPU and the CFMEU.



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Government, community and profession cooperating to maintain national registers in the community interest

Only Queensland has a registration scheme for engineers, which has existed for many years. It became apparent from our consultations that, in addition to the 14 existing inconsistent and partial registration schemes that currently exist, at least two other jurisdictions would be establishing registration schemes in the near future. Nevertheless, there was an understandable reservation from many jurisdictions that required us to quantify the economic benefits and productivity gains from our proposal. Accordingly, we commissioned ACIL Tasman, who performed a quantitative economic analysis of the case for the national registration.

The fact that the ACIL Tasman analysis has found real economic benefit in the establishment of national registration for engineers should now remove any need for hesitation. ACIL Tasman has found that after combining the present value of total costs and total benefits associated with the proposed national registration scheme, the net present value of the scheme is estimated to be \$7.4 billion under a 7 per cent real discount rate while its benefit-cost ratio is calculated to be 3.14.

ACIL Tasman also identified two key market failures in the current largely self-regulatory regime for the regulation of engineers:

- The information asymmetry which exists in the current model for the procurement of engineering services, where the purchaser cannot properly assess the quality of the service they are obtaining;
- Externalities which include impacts on health and safety or the environment, both of which have a real cost to taxpayers. These are what we have referred to previously in our submission to government as the consequences of engineering failure. Often not only costly, but potentially fatal. ACIL Tasman has identified the key estimated key benefits of the establishment of a national scheme as:
 - Reduction in large engineering failures (\$13.2m p.a.);
 - Reduction in botched engineering projects (\$207.08m p.a.);
 - Benefits relating to migrant engineers (\$29.91m p.a.);
 - Resulting generation of engineering construction activity by addressing skills shortages (\$185.58m p.a.)
 - Efficiency gains (\$207.6m p.a.).
 - They also state that these efficiency gains are estimated on the basis of improved productivity mobility of engineers, which we believe is of key interest to government in a time of acute engineering skills shortage.

Accordingly, the key benefits of a national system for the registration of engineers as they relate to the deliberations of your inquiry are as follows:

- Registration prevents unqualified personnel being used in professional engineering positions as a stop gap;
- In conjunction with appropriate procurement and delivery models, a national registration scheme would improve the effectiveness of engineering resources by reducing badly executed, botched or unnecessary work and improving the quality and efficiency of outcomes. This is achieved by enhancing the consistent level of competence across engineering practitioners. This would help ensure that government was deriving full value from its infrastructure investment by appropriately qualified and registered engineers conducting design and scoping works, mitigating against cost over-runs and delays;
- A national registration scheme would increase the status of the profession and its attractiveness as a career choice, including for VET qualified engineering personnel who may consider articulating to professional engineering. It would assist in lifting the profession to a similar standing to that enjoyed by other registered professions such as the legal and medical professions.



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We attach a copy of ACIL Tasman's report for your information, together with three copies of the executive summary. A draft of this report was submitted by way of response to the Business Regulation and Competition Working Group's "Future COAG regulatory reform agenda, Stakeholder Consultation Paper", in conjunction with a stakeholder consultation report and a copy of "The Regulation of Engineers, Finding the right approach for a national economy". It should be noted that this discussion paper identified engineering as a potential future area of reform, which we welcome.

We look forward to consideration of these matters by the committee, and of your support in establishing a national, statutory, mandatory registration scheme for engineers.

We would be pleased to answer any further questions that you may have and also to give evidence to the inquiry. Please don't hesitate to contact the Registrar of the NERB, Michael Bevan or

Yours sincerely,



Rolfe Hartley FIEAust CPEng EngExec
Chairman



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