

Institute of Public Works Engineering Australia  
Queensland Division Inc



**Submission to the Productivity Commission**

**on**

**Public Infrastructure**

**Specifically addressing**

**Section 13 – Workforce Skills  
Registration/Accreditation of Engineers**

**IPWEA Queensland is making a submission to the Productivity Commission on Public Infrastructure, specifically relating to Section 13 Workforce Skills: Registration/accreditation of Engineers.**

IPWEA Queensland provides member services and advocacy for practitioners working in the local government and public works industries. Its members are from local government (60%), consulting engineers (35%), contracting (4%), with State Government agencies/utilities as a small percentage of members. Organisations can also join IPWEA Queensland and there are 23 Corporate Partners and 12 Corporate Members.

IPWEA Queensland members operate primarily in the Civil Engineering – Public Works field. It is in this area that IPWEA Queensland seeks to provide comment. IPWEA Queensland is an Assessment Authority for RPEQ: approved by the Minister for Public Works and Housing, and under the Board of Professional Engineers Queensland.

IPWEA Queensland offers its members the opportunity to gain CPD hours through our extensive professional development program, branch and state conferences (both presenting and learning), a national conference, manuals and guidelines (on working groups and use thereof). Our members also have the opportunity to sit on Boards, formal and informal committees and working groups. A Career Portfolio is provided to members to fulfil these aims.

Over the past two decades (and even earlier) IPWEA Queensland has produced a number of significant manuals and documentation including Queensland Streets (now Complete Streets: Guidelines for Urban Street Design); Standard Drawings; Queensland Urban Drainage Manual; NDRRA Guidelines for Restoration Works; and numerous water and sewerage manuals and fact sheets. These documents are each developed through a peer-reviewed structure with working groups established and a regular ongoing review mechanism.

Our membership is divested across Queensland and located within Branches (North Queensland, Central Queensland, South East Queensland, South-West Queensland). This placement of people allows IPWEA Queensland to draw on our highest level of membership, that of Fellow, to be our Assessment Panel for RPEQ. There are currently over 3000 RPEQs in Queensland, however there are 39 Councils without an RPEQ on staff. With IPWEA Queensland's coverage of Queensland's Councils there is an opportunity for this shortfall to be redressed.

Any queries relating to this submission should be addressed to

Suzanna Barnes-Gillard  
Chief Executive Officer

## Community Benefit of Competent Professional Engineers

Wherever Professional Engineering Services are not provided by competent persons, there is the risk of enormous cost to the community through numerous mechanisms such as –

- the early failure of infrastructure,
- inefficient processes and practices, and
- in extreme cases catastrophic asset failure or loss of life

where appropriate standards are not recognized and met.

Given the asset value of public and private infrastructure nationally, even a small level of inefficiency in construction or operation, reduction in asset life or failure in service has a significant impact on the national economy. For this reason, a system setting and maintaining the level of competence of those responsible for delivery of professional engineering services is clearly warranted.

IPWEA Queensland believes the registration of engineers is the best system currently available in Australia to achieve this and proposes that registration of Professional Engineers significantly raises the standard of performance and delivery of services by professional engineers for the following reasons:

- Individual responsibility is carried by the professional engineer,
- Continuing professional development is recorded and monitored; and
- A formal system to deal with complaints is established.

Registration provides a balancing mechanism to oppose commercial pressures. For example, in the approval of infrastructure to be provided to Local Government, some operational works approval processes identify poor design or inadequate engineering supervision of construction, with engineers expected to compromise professional standards when a developer places commercial pressure on them to deliver for lower cost. A registration system provides professionals with a justifiable position which they are not prepared to compromise when negotiating with the client in relation to engineering services required. Loss of registration is a serious deterrent to the lowering of standards due to pressure from employers or clients.

## Reliance on Businesses or Clients to Assess Competence

Reliance on an organisation's ability to hire and fire staff does not in isolation provide any safeguard for the competence of staff engaged or dismissed, given that it is difficult under privacy law to discover the true history of an employee and their capability. Dismissal of an employee or release of a contractor will rely on some justifiable evidence of shortcoming being clearly evident (and determined to be legally enforceable) and by that time the cost to the community has already been incurred. Further, the business carries only financial or commercial risk given that there is no system of registration of businesses supplying engineering services in place nor is there any compulsion to employ professional staff in the first instance.

Clients or employers of Professional Engineers are commonly ill equipped to assess the competence of those providing professional services on their behalf. The potential and often unidentified cost of poor standard of engineering services provided to the community is substantial. The collective impact of premature asset failure results in huge costs to the community. The infrastructure backlog at a national level in Australia is well recognized and has been the focus of reports by numerous recognized Industry Bodies in addition to Federal and State Government making the aim of reaching design life of vital importance. It is recognized that many failures in urban infrastructure assets can be attributed to the lack of professional engineering input at design, construction or operation and maintenance phases of asset life. Premature failure of expensive public assets can be hard to detect but cause an insidious drain on limited public and private capital investment funding.

## Cost of a Registration System

The costs of operating a registration process is negligible compared to the benefits to the community and is largely borne by the applicants in initially seeking registration and subsequently maintaining their professional competence. Much of the service is provided to the professional engineers by the Assessment Authorities and industry bodies who do so at cost with little reliance on external funding.

Further, IPWEA Queensland argues that there is no evidence to suggest that consultancy cost or professional engineer remuneration is greater in those states with a formal system of registration than in those with partial or no system of registration. These costs are primarily market driven regardless of the presence of regulation of Professional Engineering Services.

## Portability of Skills

It is the view of the Queensland Division of IPWEA that regulation forms no barrier to the availability of capable resources and in our opinion this does not seem to be reflected in other professions either. Further, given that registration in its current forms allows work to be done by other capable people provided that the work is appropriately supervised, an argument suggesting any contribution to market failure could not, in our opinion, be sustained. The maintenance of the standard of engineering services provided to the community through regulation should be measured through infrastructure sustainability rather than the premise of a direct impact on cost caused by the mandated use of licensed professionals. IPWEA Queensland is not aware of evidence suggesting services provided in Queensland are more expensive than in unregulated States. In other industries, for example the medical profession, regulation is expected and demanded by the market. Even in the use of trade services, the market accepts that licensing of tradespersons is appropriate to protect the standard of trade work.

Professional engineers meeting the requirements of CPEng or other recognized accreditation are provided with Queensland RPEQ registration upon application. Little cost and a simple registration process is involved due to the acceptance of recognized competence. Further, many instances can be cited where appropriately competent professionals from overseas are similarly efficiently registered under the Queensland RPEQ process. IPWEA Queensland maintains that registration is no barrier to the availability of competent professional engineers.

## Improving engineer registration arrangements

It is the position of IPWEA Queensland that a thorough and robust application and assessment process should continue to be maintained in Queensland and expanded across Australia to ensure only appropriately qualified and experienced applicants achieve and maintain registered status. This ensures that all engineering services provided to the community are, at the very least, directly supervised by professionals possessing acceptable competence.

IPWEA Queensland believes that in order to appropriately assess the qualifications of Professional Engineers a significant amount of work will be required on behalf of an applicant, and that this is appropriate since assessment of post graduate experience is an essential part of the assessment of competence.

Significant progress has been made in industry acceptance of and compliance with the provisions of the existing Queensland Professional Engineers Act over the last 5 years. This is evidenced by the two-fold increase in registered engineers over this period. This industry acceptance assists significantly in providing a basis upon which to build a National system of accreditation. A portable and uniform system will provide cost savings to the community and benefit to the national economy for the reasons discussed above. Further amendment aimed at improving the Queensland legislation should be in line with the vision of providing a National system of registration for Professional Engineers and professional engineering services.

## **Maintaining fitness to practise and competency**

The requirements for continuing professional development by Assessment Bodies such as IPWEA Queensland or Engineers Australia provide consistent advice to assist professionals in order to retain competency and currency in the industry.

Industry organisations develop and improve guidelines for continuing professional development courses and their providers. The Code of Conduct of registered engineers can provide the basis upon which registered engineers are required to maintain their fitness to practice and competence and a routine audit process (undertaken as part of the RPEQ process) by bodies such as IPWEA Queensland and Engineers Australia ensures that this is measured.

The requirements of CPD have become consistently adopted by many professional bodies representing non-engineering professions to ensure members maintain fitness to practice and competency. The connectivity of IPWEA Queensland with its member networks throughout both city and regional centres enables support of personal and professional growth and development for industry.

## **Importance of the Engineering Profession**

IPWEA Queensland stresses the important contribution made to the community by the engineering profession.

Qualified and appropriately experienced engineering professionals impact on human life and economic sustainability in their daily work, although the benefits to the community are not necessarily recognised. The Engineering Profession has failed over recent decades to achieve recognition of their skills to deliver safe and viable infrastructure. Indeed, competing needs such as health and education enjoy higher public profile, often to the detriment of the standard of infrastructure and the public perception of the industry supporting it.

IPWEA Queensland supports the intent of the Professional Engineers Act Queensland to protect the community through ensuring an appropriate standard of engineering services are provided. Registration of Professional Engineers is a practical way to identify and maintain a prescribed standard of qualification, experience and competence for practicing members of the profession and the delivery of professional engineering service to the community.

IPWEA Queensland promotes the registration process under the Queensland Professional Engineers Act as the best model currently in place in Australia. We maintain our support for a uniform national scheme requiring the same standards of professional services as currently maintained in Queensland and seek a high level of compliance across all industries through uniformity and portability between States.

Suzanna Barnes-Gillard  
Chief Executive Officer