

September
2016

Response to Consultation Paper

A statutory registration scheme for Victorian engineers

Submitted to: **Department of Treasury and Finance**

By: **Australian Institute of Refrigeration Air Conditioning and Heating
(AIRAH)**



Submitted by:

Tony Gleeson

AIRAH CEO

Prepared by:

Vince Aherne, Technical Manager and **Phil Wilkinson**, Executive Manager

Australian Institute of Refrigeration Air Conditioning and Heating (AIRAH)

3/1 Elizabeth Street, Melbourne, VIC 3000 | Tel: 03 8623 3000 | www.airah.org.au | email:
vince@airah.org.au phil@airah.org.au

About AIRAH

AIRAH is the recognised voice of the Australian air conditioning, refrigeration and heating industry. We aim to minimise the environmental footprint of our vital sector through communication, education and encouraging best practice.

Disclaimer

Information contained in this report may be copied or reproduced for study, research, information or educational purposes, subject to inclusion of an acknowledgment of the source.

The views and opinions expressed in this publication are those of industry participants and do not necessarily reflect those of AIRAH.

While reasonable efforts have been made to ensure that the contents of this publication are factually correct, AIRAH does not accept responsibility for the accuracy or completeness of the contents, and shall not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance on, the contents of this publication.

© AIRAH 2016

Introduction

Please find the following as AIRAH comments on the questions raised in the consultation paper prepared by the Department of Treasury and Finance to consult with stakeholders to ensure that future registration arrangements are not burdensome to the engineering sector or industry.

AIRAH supports the Victorian Government's efforts in regards to the introduction of a mandatory, statutory registration scheme for Victoria and its commitment to work with other jurisdictions to develop a national or harmonised system to help maintain high standards across the engineering profession and reduce the risk of harm and loss to the public and the Australian economy.

AIRAH has consulted with our membership base in the development of these comments. AIRAH's members work across all sectors of the built environment, from residential heating and cooling systems through to complex HVAC design and construction for larger buildings, through to the cold chain and industrial refrigeration.

The work of AIRAH's members not only impacts on construction industry productivity, it also has significant impact on the productive use of assets over their lifetime.

These comments are offered in good faith by AIRAH as a constructive submission in support of the Victorian Government's efforts to develop and support an effective statutory registration scheme for Victorian engineers.

AIRAH

The Australian Institute of Refrigeration, Air Conditioning and Heating (AIRAH) welcomes the opportunity to work with the Victorian Government to promote the professional development and recognition of one of Victoria's most important professions; a profession which is central to any future improvements in productivity and economic development for the Victorian community.

AIRAH is an industry-led organisation that represents the entire value chain, from trades people to university-educated engineers and business leaders. This overarching perspective – and reach to more than 25,000 industry participants – positions AIRAH to promote and develop the most efficient, productive and resilient heating, ventilation, air conditioning and refrigeration (HVAC&R) industry for Australia's future.

The 21st century imperatives of emissions reductions and energy productivity present our nation with significant change, challenges and opportunities. It is important that all stakeholders from the built environment come together to meet these challenges, because all of us have a part to play in the move towards low emissions and in ensuring specific safety concerns and challenges are mitigated.

AIRAH is keen to work with the all levels of government to improve the environmental performance of existing and new HVAC&R (heating, ventilation, air conditioning and refrigeration) systems. AIRAH believe that increased professionalism within the industry will be a significant step in the emission reduction journey.

AIRAH responses to Consultation questions

Question 1: What benefits and opportunities are likely to arise from a more highly skilled engineering workforce? (page 7)

- A higher level of professionalism within the engineering workforce, working to agreed standards and a minimum level of service quality.
- A greater awareness and respect for engineers and engineering among the public and within allied fields.
- An enhanced ability to export highly skilled engineering services, regionally and globally.
- A more mobile and robust profession where a national harmonised national registration system is in place.

PRIME, the HVAC&R industry roadmap to a low-emissions future, identifies the professional registration of engineers as a key component of professionalising the entire industry. Low emission HVAC&R means new technologies and new methodologies are continuously being introduced into the field so a highly skilled and professionally recognised engineering profession is a key component of what is required. Professionalism is one of the key pillars of the PRIME initiative.

There is a range of information available on PRIME and this is available at the following address -

http://www.airah.org.au/Web/Industry_leadership/PRIME/AIRAH/Navigation/Industry_leadership/PRIME/PRIME_2.aspx?hkey=f08e9b21-b639-4e60-818a-4c200b2e7493

Question 2: What eligibility requirements (such as qualifications and experience) are appropriate for registration to undertake engineering work? (page 8)

In the HVAC&R industry many practitioners hold tertiary qualifications in engineering but also in fields related to engineering or who may have post-graduate qualifications in engineering, and some participants in the HVAC&R industry have no engineering qualifications but have developed significant competencies in specific areas due to substantial experience in engineering work.

AIRAH believe that registration should be limited to specific identified areas of regulated engineering services:

- Engineers should be required by legislation to be registered if offering or providing regulated engineering services.
- Persons who are not registered should be prohibited from offering or providing professional engineering services in the regulated areas.
- There should be exceptions for individuals who practice under the direct supervision of registered professional engineers.

A statutory registration scheme for Victorian engineers

AIRAH advocate for a national or harmonised state/territory based system, encompassing common rules and transportable recognition.

AIRAH believe that a mandatory national registration system for engineering practitioners would minimise risks to public safety, would facilitate national workforce mobility and incentivise skills acquisition and maintenance, consistent with Australia's economic and development objectives.

AIRAH advocates for a nationally consistent system of registration of engineering practitioners, individually enacted by each State and Territory, and leveraged off existing registration/assessment systems already established by the engineering professions, with the full support of the peak industry bodies and with active ongoing participation by State and Territory governments.

There should be multiple pathways for an engineer to achieve registration, for example:

1. High level tertiary engineering qualifications plus 3-years documented relevant industry experience.
2. Lower level engineering tertiary qualifications or high level tertiary non-engineering qualifications plus 10-years documented relevant industry experience.
3. No tertiary qualifications plus 20-years documented relevant industry experience.

All pathways could require an interview and checks to ensure that all qualifications and experience claimed is relevant and that character is suitable.

Any registration scheme would benefit from working with existing professional assessment schemes but there also needs to be a non-academic pathway recognised.

Question 3: What types of registration or license should be included under an engineers' registration scheme? (page 9)

- The registration system should be limited to a technical competencies and include registration of the individual.
- Company or corporate registration is a different beast.
- There should be a full registration level and a trainee registration level available.
- Trainee registration should be for graduate engineers who are on the pathway to full registration (i.e. pathway 1 only)

The registration system, and the participation rules and cost structure, needs to be able to recognise the SME and sole trader and ensure that these small businesses are not disadvantaged by the registration system.

Question 4: What is the appropriate period of registration renewal for engineers? (page 10)

3 years seems a reasonable renewal period.

A statutory registration scheme for Victorian engineers

During this period, and prior to registration renewal, minimum standards for continuing professional development should be required.

Question 5: What role should professional engineering associations have (if any) in the registration process? (page 10)

AIRAH strongly support the co-regulatory approach. Professional engineering institutions such as Engineers Australia and the Chartered Institute of Building Services Engineers already have engineering skills and competency assessment systems in place that could be used in a registration system.

There is no need for government to re-invent the wheel here and government should use these existing systems to support the registration system, i.e. Government could oversee and regulate the profession based on established competency criteria.

There may be a need for an alternative approach, possibly administered separately through government, to recognise a non-academic pathway to reaching competency in specific practice areas. People with non-engineering qualifications, lower-lever engineering qualifications or even no tertiary engineering qualifications at all, should be recognised within the registration system if their industry experience and career pathways has provided the required skills and competencies. In the main however it would be expected that the most common pathway to competency assessment would be through recognised professional institutions.

Question 6: How important is skills maintenance/continuing professional development (CPD) for the engineering sector and to what degree is appropriate CPD reflected in current practice? (page 12)

Skills maintenance and continuing professional development is an essential component of any registration scheme. Engineers and engineering is not a static subject area and requires a continuous focus on skills development and maintenance.

Technology and design practice is constantly evolving and all engineers must take steps to maintain a high level of skill and competency in their chosen field. This is particularly true of the HVAC&R industry which has been going through significant changes due to a variety of environmental and technological factors. The pace of change is rapid so it is particularly important for engineers to constantly update their skills and knowledge.

The engineering qualifications provide the fundamentals and work experience curves that fundamental knowledge into industry specific skills. continuing professional development (CPD) is an essential part of every engineers need to keep their skills up to date and technologically relevant.

Question 7: What is the most appropriate and practical approach to ensuring that necessary skills and knowledge are maintained? (page 12)

Legislating/Regulating that engineers maintain their skills is the best way to ensure that registered engineers undertake recognised CPD. Requiring a certain minimum level of CPD activity should be part of the registration renewal process.

The requirement for skills maintenance should be legislated but the detail of how that is achieved must remain flexible. There are a variety of methods for an engineers to maintain skills and third-party training is only one method. The legislation does not need to specify how CPD is achieved, this can be left up to the registration process and guidelines. Existing CPD systems should also be recognised in these guidelines.

CPD can be in the form of formal training, informal training, face-to-face/distance or online, networking, research and publishing, participating in technical committee work, mentoring and being mentored and a range of other activities. There needs to be a broad recognition of what comprises CPD for engineers.

Auditing of CPD claims should also be carried out as part of the registration system. Audits can be both random and targeted with the level of investigation consistent with the expected level of gaming.

Question 8: How is the need for skills maintenance/CPD being impacted by the current pace of technological change across industry sectors? (page 12)

There is a significant impact within the HVAC&R industry, which is undergoing unprecedented levels of technological change.

There is currently not enough CPD uptake and there should be a greater diversity in format and content of CPD availability.

A legislative imperative, a broad definition and flexible nationally recognised rules would all help to standardise the quality, and improve the uptake, of CPD activities in all sectors.

For example, the current and increasing focus and emphasis on emissions reduction is now requiring engineers to look at downstream impacts and life cycle impacts. All engineers must consider emission levels associated with their work and designs, not only considering the design engineering aspects but also accounting for how the design will be implemented, operated, maintained etc.

The technology is changing including a global transition towards low GWP flammable refrigerants requiring, new technologies, new construction methods and constantly evolving standards and regulations.

Engineering knowledge cannot simply standstill while the industry is in rapid technological change.

Question 9: Would it benefit consumers and the industry for the regulator to have a complaints-based investigation power? What disciplinary actions should be available to the regulator? (page 13)

AIRAH agree that the system should include for complaints-based investigation power but also a background auditing system.

- There is little point in having regulation if there is no intention to enforce it.
- Enforcement makes regulation real.
- There is no realistic possibility of enforcement if there are no penalties to pay for breaking the rules.

A 'complaints-based investigation power' is one approach, a small level of random auditing can also help to drive system quality, as a complimentary action.

Random auditing of registered engineers and third party engineering registers and assessment systems could help to maintain consistency across the system.

Disciplinary actions could include;

- Warnings, written and verbal.
- Written instructions or limitations on practice
- Suspension or cancellation of registration

There would also need to be an appeals process, and the entire process must be managed for transparency and equity.

Question 10: What is an appropriate basis for determining coverage of a statutory engineering scheme? If category-based, what engineering categories should be included? (page 16)

AIRAH believe the registration system should be category-based for individual engineers.

Categories selected should reflect the scope of work that is regulated in Australia.

The HVAC&R industry is heavily regulated and operates under a wide range of Commonwealth, State/Territory and Local Government regulation.

Some of the regulations that Victorian AIRAH member engineers encounter in their day-to-day activities include:

- Building regulations - National Construction Code requirements and Victorian state based building and plumbing administration system.
- Planning regulations - including specific local requirements imposed through local government-based planning or development consent conditions.

A statutory registration scheme for Victorian engineers

- Environmental regulations - Including Commonwealth Ozone and SGG regulations, State based environmental noise, and national air pollution regulations.
- Energy regulations - including Commercial Building disclosure (incorporating NABERS), and MEPS/GEMS for appliances and equipment.
- Electrical regulation - including AS/NZS 3000 and safety certification for appliances and equipment.
- Plumbing regulations - Including NCC Volume 3, AS 3500 series, and sewage acts etc.
- Licensing regulations - For refrigerant handling through the Australian Refrigeration Council, and state-based contractor (plumbing, building) licences.
- Health regulations – Legionnaires disease, indoor air quality (IAQ), microbial control, Victorian OH&S regulations.
- Safety regulations - Essential services inspection testing and maintenance, safety in the workplace.

Our members operate across the entire lifecycle of a building or system; design, install, commission, operate, maintain, decommission. For this reason, AIRAH would recommend adding the following fields or categories to the registration lists:

Building Services Engineer – Engineers involved in the design, construction, operation and maintenance of building services systems and related fields

Refrigeration Engineer – Engineers involved in the design, construction, operation and maintenance of commercial and industrial refrigeration systems.

Perhaps a category for engineers involved in modelling and simulation as these approaches are becoming so intrinsic to engineering design and construction.

AIRAH disagree that risk should be the only criteria that requires a high standard of engineering.

Energy efficiency, energy productivity, emission reductions, indoor environment quality, indoor air quality, comfort and wellness are all impacted by engineers and engineering quality.

Of course risk is important, such as in essential services in a building, fire and smoke control, building transport systems, microbial control in cooling towers, but there are many other societal objectives that demand a high standard of engineering. The refrigeration cold chain for instance, enables entire industries whereas adequate air quality and comfort is considered a non-negotiable minimum standard in developed societies.

The best way to cover the detail of the activities that are covered under the registration system would be through the regulations and associated guidelines rather than inside the legislation itself. At the end of the day the registration system needs to be flexible and accommodating to future technological changes and changes in societal objectives. Enshrining detail in legislation can produce a very inflexible system.

Question 11: Is Queensland’s definition of professional engineering services appropriate for a Victorian scheme? (page 16)

Yes

Question 12(a): Given the social, economic and technological context, do you have a general view on how a registration scheme could assist to develop and grow the profession, including in relation to Victoria’s export opportunities (page 17)

Creating a Victorian Registration system for engineers that is designed to be compatible with existing and future state and national registration systems would position Victoria as one of the market leaders in professional engineering standards.

National harmony would allow Victorian registered engineers easily export their skills and services or apply their skills and services in other jurisdictions. Early adoption by Victoria will assist local engineering service providers who wish to practice in other national or international jurisdictions.

A National registration system would certainly help to develop the profession and Victoria, in the development of its own scheme, should keep sights clearly set on the medium term objective of developing a national scheme. The Victorian scheme should be designed to be compatible with other state schemes and build in flexibility for harmonisation across multiple jurisdictions.

The registration system needs to include clear pathways and competency standards.

The registration system needs to value-add to the profession not sit outside it.

The registration system and assessment infrastructure that sits behind it, needs to be transparent and open, so it is a trusted mark of quality. That is why co-regulating the scheme with industry associations is very important and worthwhile.

Question 12(b): Given the social, economic and technological context, do you have a general view on how a registration scheme could assist to build the resilience of the engineering profession in the face of the technological change currently occurring? (page 17)

The best way to introduce resilience into the engineering profession is to ensure that all participants in the registration scheme maintain their skills and competencies through continued professional development. An engineer with a high level of CPD activity is an informed engineer, an up-to-date engineer, a resilient engineer.

End of submission