

## PERA –Position Statement – AAAC

The [Australian Acoustic Society](#) (AAS) is the preeminent technical society for individuals working in acoustics, and the [Association of Australasian Acoustical Consultants](#) (AAAC) is a peak body representing member firms that are involved in delivering acoustic consulting services to a wide range of clients and the community. The members of both bodies are 'acousticians' and generally comprise acoustical consultants and practitioners.

A working group of representatives from the AAS - Victorian Division and the AAAC (The Working Group) has reviewed the Professional Engineers Registration Act 2019 (PERA) and its supporting guidelines. The Working Group has formed the view that the works undertaken by acousticians and acoustical consultants are best described as 'other engineering services' and not 'professional engineering services'. The rationale supporting this view is summarised in this position statement, which is not to be interpreted as legal advice.

The [Professional Engineers Registration Act 2019](#) (PERA) commenced on 1 July 2021. The Act requires people to be registered with the Business Licensing Authority to provide 'professional engineering services' in a prescribed area of engineering in Victoria, or from a location outside Victoria, if the services are intended for Victoria.

The Consumer Affairs guidance document [Guidelines on areas of engineering](#) (GAE) lists 'Acoustic Engineering' as an 'area of focus' of Mechanical Engineering, noting that Mechanical Engineering is one of the five areas of engineering prescribed for registration in the Act.

The Consumer Affairs guidance document [Guidelines on providing professional engineering services](#) (GPES) attempts to provide an explanation of the meaning of 'professional engineering services' as used in the PERA.

Many of our members have expressed confusion as to whether all acousticians and/or acoustic consultants are potentially captured by this inclusion within the GAE guideline, and those with a non-engineering based education are concerned that they would be unduly discriminated against if forced to adhere to the PERA registration process, or they lack a clear pathway for recognition of qualifications and experience that are otherwise suitable for the works they undertake. Members have also expressed uncertainty about whether their works qualify as 'professional engineering services' due to the inclusion of engineering-related aspects in their activities, such as applying mathematics, scientific principles, and requiring judgment, knowledge, and skill. Whilst some of our members have become registered Professional Engineers, it is not a prerequisite, and the facts show that indeed our profession encompasses a broad spectrum of education and qualifications.

To evaluate if a service is a 'professional engineering service' a relevant consideration in the GPES guideline relates to the requirement that it is 'consistent with the general attributes and competency profile as referenced in the *International Professional Engineers Agreement* (Washington Accord)'. It is important to note that the Washington Accord designation applies to 'Professional Engineers' and is one part of a suite of international agreements that pertain to the accreditation and recognition of engineering and related technology education programs at the undergraduate level, administered by the [International Engineering Alliance](#) (IEA).

To understand how our members would typically fit in the IEA's framework, the Working Group has reviewed its [Graduate Attributes & Professional Competencies](#) guideline. The category found to best describe the attributes and professional competencies relevant to most acousticians is that of 'Engineering Technologist', as covered by the Sydney Accord. However, the depth and diversity of our members indicates that we can not be exclusively categorised as Engineering Technologists or under the Sydney Accord.

The Working Group has also formed the view that the services typically provided by our members, which include services described in the GPES, such as 'carrying out the analysis of project plans, development of product designs, maintenance of equipment, closely following specifications and procedures, and writing reports' and best described as '**other engineering services**'. As noted in the GPES guideline the category of 'other engineering services', which aligns with the Engineering Technologist category, do not fall within the definition of *professional engineering services* for the purposes of the Act.

Furthermore, the necessary checklist requirement in the GPES guideline for professional engineering services of 'is an activity or work that is typically performed by a professional engineer and is related to one of the five areas of engineering listed in the Act', is not evidenced in the results of the comprehensive survey of our members and therefore not sufficiently satisfied by our industry.

It is important to note that the [GAE](#) guideline states that the 'Responsibility for deciding whether a particular engineering service is a professional engineering service lies with the person responsible for undertaking that activity'. The Working Group wishes to reiterate to our members that **'it is up to you as individuals to determine whether the work you are undertaking constitutes a professional engineering service'**. It is also your responsibility to meet your legal obligations which include to not undertake 'professional engineering services' or use the title 'Professional Engineer' unless you are registered as such.

A more fulsome explanation and background to the above is provided in Attachment A.

# PERA - Position Statement - Attachment A

The purpose of this attachment is to provide further explanatory background information in support of the [Australian Acoustic Society \(AAS\) – Victoria Division](#) and [Association of Australasian Acoustical Consultants \(AAAC\)](#) Position Statement in respect to the Victorian *Professional Engineers Registration Act 2019* as it applies to Acousticians and Acoustical Consultants.

## 1.0 Introduction

The [Professional Engineers Registration Act 2019](#) (PERA) commenced on 1 July 2021.

The Act requires people to be registered with the Business Licensing Authority to provide **professional engineering services** in a **prescribed area of engineering** in Victoria, or from a location outside Victoria, if the services are intended for Victoria.

The five areas of engineering prescribed for registration in the Act are:

- fire safety engineering
- civil engineering
- structural engineering
- electrical engineering
- mechanical engineering.

The Consumer Affairs guidance document [Guidelines Areas of Engineering](#) (GAE) lists 'Acoustic Engineering' as an 'area of focus' of Mechanical Engineering.

Whilst it is true that some acousticians and those working in acoustic consulting firms may have a mechanical engineering qualification, indeed some of our members have already become registered Professional Engineers, it is not a prerequisite, and the facts show that indeed our profession encompasses a broad spectrum of education and qualifications (See **Section 2.2**).

Many of our members have expressed confusion as to whether acousticians and/or acoustic consultants are potentially captured by this inclusion within the GAE guideline. Also those with a non-engineering based education are concerned that they would be unduly discriminated against if forced to adhere to the PERA registration process, or they lack a clear pathway for recognition of qualifications and experience that are otherwise suitable for the works they undertake. Members with degrees that are not covered by the Washington Accord, for example degrees from non-signatory countries and postgraduate degrees (including those relating to engineering disciplines), reported similar concerns.

The Consumer Affairs guidance document [Guidelines on providing professional engineering services](#) (GPES) attempts to provide an explanation of the meaning of professional engineering services as used in the Professional Engineers Registration Act 2019 (PERA). A working group of representatives from the AAS and AAAC (The Working Group) have reviewed the PERA & supporting guidelines and have formed the view that the work typically undertaken by our members is best described as “other engineering services” and not “professional engineering services”.

## 2.0 Review Summary

From feedback received from members of both the AAS and the AAAC, we understand that both the GAE and GPES guidance documents has left them less than certain as to whether their work as acousticians and/or acoustical consultants is classified as 'professional engineering services', as there are aspects of what our members may typically do in their work that include aspects of engineering activity, (e.g. the application of mathematics and scientific principles, judgement, knowledge and skill required to provide those services). However, there are two important points within the GPES guideline

that The Working Group has formed the opinion as being pertinent to our industry, which we believe our members should consider.

- Distinguishing 'professional engineering services' from 'other engineering services'.
- Activity or work that is typically performed by a professional engineer.

## 2.1 Distinguishing 'professional engineering services' from 'other engineering services'

The GPES guideline provides some direction with respect to distinguishing 'professional engineering services' from 'other engineering services', and provides the following:

**A professional engineering service** includes the design, development and analysis of systems, applications and equipment relating to construction, production, operation or maintenance.

A person who performs a professional engineering service for a client or an employer is responsible for applying engineering principles, data and specialist knowledge of mathematical and natural sciences to their work, consistent with the attributes and competency profile as referenced in the International Professional Engineers Agreement (Washington Accord)<sup>1</sup>.

**Other engineering services** includes the adoption and application of technologies or development of related technologies to create, operate, maintain and improve the systems, applications and equipment.

Other engineering services may also include carrying out the analysis of project plans, development of product designs, maintenance of equipment, closely following specifications and procedures, and writing reports.

These services do not fall within the definition of *professional engineering services* for the purposes of the Act.

For '**professional engineering services**' the relevant consideration relates to the requirement that it is 'consistent with the attributes and competency profile as referenced in the *International Professional Engineers Agreement* (Washington Accord)'.

It is important to note that the Washington Accord designation applies to 'Professional Engineers' and is one part of a suite of international agreements that pertain to the accreditation and recognition of engineering and related technology education programs at the undergraduate level, administered by the [International Engineering Alliance](https://www.ieagrements.org/) (IEA).

To understand how our members would typically fit in the IEA's framework; the Working Group has reviewed the tabulated attributes and competencies relating to each of the categories. The category found to best describe attributes and professional competencies relevant to most acousticians is that of '**Engineering Technologist**'.

A brief explanation that supports this finding is included below:

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<sup>1</sup> International Engineering Alliance Attributes & Professional Competencies, <https://www.ieagrements.org/assets/Uploads/Documents/IEA-Graduate-Attributes-and-Professional-Competencies-2021.1-Sept-2021.pdf>

The International Engineering Alliance (IEA) seeks to improve engineering education and competence globally. It fulfils this mission through its constituents: education agreements that are concerned with standards, best practice accreditation processes and mutual recognition of accredited engineering programmes and agreements for defining and recognising professional competence.

The oldest constituent of the IEA, the Washington Accord dating from 1989, is concerned with mutual recognition among its signatories of accredited educational programmes designed to provide the educational foundations for professional engineers. Similarly, the Sydney Accord (2001) and Dublin Accord (2002) are concerned with programmes providing the education foundation for engineering technologists and engineering technicians respectively.

The [International Engineering Alliance - Graduate Attributes & Professional Competencies](#) guideline (IEAGAPC) outlines the requisite Graduate Attributes and Professional Competences as they apply to:

1. Engineers, covered by Washington Accord
2. Engineering Technologists, covered by Sydney Accord and
3. Engineering Technician, Covered by Dublin Accord

In reviewing the tabulated attributes and competencies relating to *Range of Problem Identification and Solving, Range of Engineering Activities, Knowledge and Attitude Profile, Graduate Attribute Profiles* and *Professional Competence Profiles* it is apparent that the category that best describes the attributes and competency of our members is that of Engineering Technologist.

As acousticians and acoustical consultants:

- Our work and projects more typically include *broadly defined engineering problems* (e.g. related to the field of acoustics) rather than *complex engineering problems*.
- We are more typically providing solutions that involve the application of developed technology, rather than a fundamentals based, first principles analytical approach.
- We provide specialist sub-discipline input (acoustics) to a broader team that is working to deliver an overall design.
- Our work and projects include mainly broadly defined activities, which require the best possible resolution of occasional interactions between technical, non-technical, and engineering issues.
- We work on aspects of a project that have reasonably predictable consequences that are most important locally, but may extend more widely.
- In terms of knowledge our members are required to have:
  - a systematic, theory-based understanding of the natural sciences applicable to the sub-discipline (acoustics) as opposed to the discipline (mechanical engineering). e.g. it is important that we understand the principles of sound propagation, however, it is not critical if we aren't as familiar with laws of thermodynamics.
  - conceptually-based mathematics, numerical analysis, data analysis, statistics and formal aspects of computer and information science to support detailed consideration and use of models applicable to the sub-discipline (acoustics) as opposed to the discipline (mechanical engineering). e.g. it is important that we are able to make 1/3 octave prediction models and evaluate statistical percentiles, however, it is not critical if we are unable to do complete a Finite Element Analysis of a structure.
  - A systematic, theory-based formulation of engineering fundamentals required in an accepted sub-discipline (acoustics) as opposed to the discipline (mechanical engineering).
  - Engineering specialist knowledge that provides theoretical frameworks and bodies of knowledge for an accepted sub-discipline (acoustics) as opposed to the discipline (mechanical engineering).

The GPES guideline description of **‘Other Engineering Services’**, (which aligns with the ‘Engineering Technologist’ category above), includes services such as ‘carrying out the analysis of project plans, development of product designs, maintenance of equipment, closely following specifications and procedures, and writing reports’.

A typical breakdown of the above as it may be applied to the typical role of an acoustician/acoustical consultant is as follows:

GPES area of service	Building Acoustics Project	Environmental Noise Project
<b>carrying out the analysis of project plans</b>	<p>Review HVAC mech drawings.</p> <p>Complete “down duct” calculations.</p> <p>Specify acoustic lined duct lengths to achieve internal design noise goal.</p>	<p>Review proposed quarry plans and equipment lists.</p>
<b>closely following specifications and procedures</b>	<p>Determine noise emissions from specifications (e.g. product test data, empirically derived sound reduction index data).</p> <p>Determine appropriate noise goal from standards, codes and guidelines (e.g. Australian and international standard AS/NZS 2107, National Construction Code, Apartment Design Guidelines etc.)</p>	<p>Determine noise emission from specifications or measurement (e.g., manufacturer specifications, Australian and international standards such as AS 2436-2010, ISO 3744, AS 2012 etc.)</p> <p>Determine noise limit from regulations, standards, guidelines.</p> <p>e.g. EPA Vic publication 1826 (Noise Protocol), Australian Standard AS 1055, EPA Vic publication 1834 Civil construction, building and demolition guide etc.</p> <p>Use standardised algorithms to calculate noise levels at receptors (e.g. ISO 9613)</p>
The work we complete is typically only contributing to the overall <b>development of product designs</b>	<p>The conceptual advice provided by us is typically incorporated into ‘as built’ drawings by others e.g. Architect, Mechanical.</p> <p>We are typically detailing broad parameters or performance-based specifications to be adopted into a design e.g. façade wall construction to have a weighted sound reduction index rating of X dB</p>	<p>The advice provided by us may be incorporated into the broader design e.g. noise bund locations, conceptual acoustic treatment and/or performance specifications.</p> <p>We are typically detailing broad parameters or performance-based specifications to be adopted into a design e.g. noise wall needs to be X metres high.</p>
<b>writing reports</b>	<p>Our advice is typically contained in reports / memos etc. with information conveyed in text, tables and indicative schematics, we don’t typically provide detailed, dimensioned “for construction” drawings.</p>	<p>Our advice is typically contained in reports / memos etc. with information conveyed in text, tables and indicative maps or figures, we don’t provide detailed, dimensioned “for construction” drawings</p>

In summary the IEAGAPC guideline category that best describes the tabulated Attributes and Professional Competencies, for acousticians and acoustical consultants (our members), is that of '**Engineering Technologist**'. This category is not covered by the Washington Accord.

The types of activity generally undertaken by our members is best described in the GPES guideline as *other engineering services*. As noted in the GPES guideline the category of 'other engineering services', which aligns with the Engineering Technologist category, do not fall within the definition of 'professional engineering services' for the purposes of the PERA Act.

## 2.2 Activity or work that is typically performed by a professional engineer

The Consumer Affairs guidance document [Guidelines on providing professional engineering services](#) (GPES) concludes with a simplified checklist of requirements to determine if the service provided is a professional engineering service as it relates to the Act.

### Checklist for determining professional engineering services

It is a professional engineering service if it:

- ✓ involves performing an activity such as giving engineering advice or assistance, and/or undertaking work regardless of whether sign-off or certification is required, and
- ✓ **is an activity or work that is typically performed by a professional engineer and is related to one of the five areas of engineering listed in the Act, and**
- ✓ is based on or requires the application of engineering principles and data to the development or analysis of a design, construction, production, operation or maintenance activity, and
- ✓ is not provided only in accordance with a prescriptive standard.

It is important to note that the items on the list are appended with an 'and' requirement, requiring all four categories to be satisfied in order to qualify as a professional engineering service.

Whilst the work of our members may satisfy some of the check points, it is the second point which is important. We have examined this requirement in more detail as follows:

#### **'is an activity or work that is typically performed by a professional engineer'**

The AAAC and AAS have recently jointly completed a comprehensive membership survey that includes acousticians and those working in acoustical consulting firms, to quantify the diversity of our qualifications and depth of our experience.

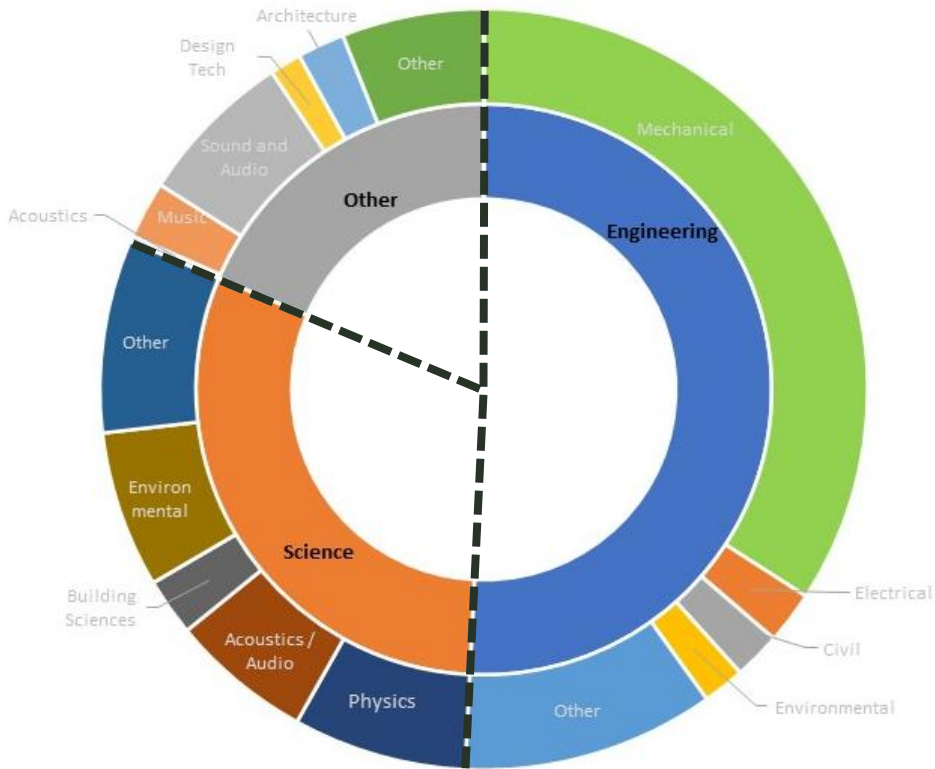
The result shows that our industry is comprised of broad mix of educational backgrounds, which when categorized by primary degree/qualification can be grouped between 'Engineering Degrees', 'Science Degrees' and 'Other', which include a mix of degrees and diplomas often in areas such as music, acoustics, audio, sound, recording, architecture and a variety of others.

Of all 451 respondents within **Australia** approximately 51% hold an Engineering Bachelor's Degree (Mechanical 34%, Other disciplines 17%) and the remaining 49% do not have engineering degrees. See **Figure 1**.

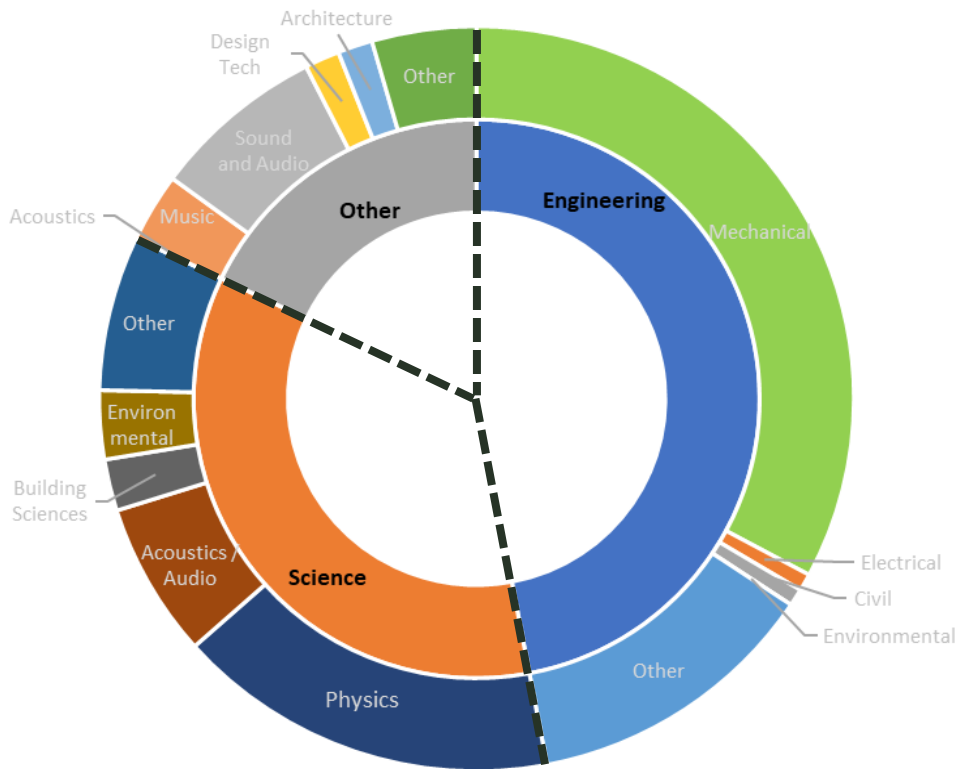
Of all 134 respondents within **Victoria** approximately 47% hold an Engineering Bachelor's Degree (Mechanical 33%, Other disciplines 14%) and the remaining 53% do not have engineering degrees. See **Figure 2**.



**Figure 1 Australia – primary education of acoustical consultants**



**Figure 2 Victoria – primary education of acoustical consultants**



Further, our respondents include a balanced mix of early-career practitioners (with up to 5 years of industry experience), who are supported and mentored by both mid-career practitioners (5-15 years' experience) and our most experienced cohort with 15 years' experience or more. When these cohorts are filtered by those with a Bachelor of Engineering (Mechanical) - with a clear pathway to engineering registration - and those with other degrees, **nearly three quarters of Victoria's most experienced acoustical practitioners have an unclear or no pathway to PERA registration.**

**Figure 3 Pathway to PERA Registration and years of experience**



The survey asked respondents to indicate if they have achieved other forms of professional recognition through alternative existing registrations. A summary of the results are presented below.

State	Acoustical consultants	Individuals with registration RPEng/ NER/ CPEng	% with registration
ACT	13	2	15%
NSW	179	20	11%
QLD	57	18	32%
SA	28	2	7%
TAS	1	0	0%
VIC	134	8	6%
WA	39	6	15%
<b>Total Australia</b>	<b>451</b>	<b>56</b>	<b>12%</b>

Across Australia only 12% of the respondents have indicated that they have additional professional recognition through being a Registered Practicing Engineer, being listed on the National Engineering Register or being Chartered Professional Engineers. In Victoria the number was approximately 6%.

The above indicates that the requirement of 'typically performed by a professional engineer' is not satisfied by our industry.



**'and is related to one of the five areas of engineering listed in the Act'**

The five areas of engineering prescribed for registration in the Act are:

- fire safety engineering
- civil engineering
- structural engineering
- electrical engineering
- mechanical engineering.

It should be noted that Acoustic Engineering is not listed in the Act.

The Consumer Affairs guidance document [Guidelines on areas of engineering](#) (GAE) lists 'Acoustic Engineering' as an 'area of focus' of Mechanical Engineering.

It is clear from the data collected from our members that Mechanical Engineering is not the only educational pathway into becoming an acoustician or acoustical consultant, representing approximately only one third of our industry.

The AAS and AAAC are concerned that the inclusion of 'Acoustic Engineering' in the Consumer Affairs guidance document can mislead the broader community as well as our members in thinking that only degree qualified and professionally registered mechanical engineers can be suitably qualified and experienced acousticians / acoustical consultants in Victoria. The AAS and AAAC will advocate for the removal of the single dot point 'Acoustic Engineering' from the GAE document.

In summary, the necessary checklist requirement in the GPES guideline for professional engineering services, that it; 'is an activity or work that is typically performed by a professional engineer and is related to one of the five areas of engineering listed in the Act', is not applicable to our industry, as evidenced in the comprehensive survey results.

### 3.0 Conclusion

The [International Engineering Alliance - Graduate Attributes & Professional Competencies](#) (IEA-GAPC) guideline category that best describes the tabulated Attributes and Professional Competencies, for acousticians and acoustical consultants (our members), is that of '**Engineering Technologist**'. This category is covered by the Sydney Accord and not the Washington Accord. However, the depth and diversity of our members indicates that we can not be exclusively categorised as Engineering Technologists or under the Sydney Accord.

The types of activity typically undertaken by our members is best described in the GPES guideline as '**other engineering services**'. As noted in the GPES guideline the category of 'other engineering services', which aligns with the Engineering Technologist category, do not fall within the definition of 'professional engineering services' for the purposes of the Act.

Furthermore, the necessary checklist requirement in the GPES guideline for professional engineering services that it; 'is an activity or work that is typically performed by a professional engineer and is related to one of the five areas of engineering listed in the Act', does not apply to our industry.

The Working Group of representatives from the AAS and the AAAC have reviewed the supporting guidelines to the Professional Engineers Registration Act 2019 (PERA) and have **formed the opinion that the work undertaken by our members is best described as 'other engineering services' and not 'professional engineering services'**.

The AAS and AAAC will continue to vet applicants – with both engineering and non-engineering qualifications – for membership via multiple pathways which define minimum requirements (for which evidence and independent support are required), and advocate for the continued professional development of members (including those who are eligible and choose to pursue registration as Professional Engineers). Furthermore, the AAAC and AAS have no plans to change competency

requirements for membership in response to the PERA, additionally we will support those of our members that choose to become Registered Professional Engineers.

It is important to note that the [Guidelines on areas of engineering](#) states that the 'Responsibility for deciding whether a particular engineering service is a professional engineering service lies with the person responsible for undertaking that activity'. The Working Group wishes to reiterate to our members that **it is up to you as individuals to determine whether the work you are undertaking constitutes a professional engineering service.**

Our members are reminded that it is your responsibility to meet your legal obligations which include to not undertake 'professional engineering services' or use the title 'Professional Engineer' unless you are registered as such.