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AIRAH has operated since 1920 and is the leading specialist membership association for professionals in the heating, ventilation, air conditioning and refrigeration industry (HVAC&R).

This hidden, innovative industry employees over 298,000 people in Australia, is worth $38 billion, uses more than 24 per cent of the country’s electricity and accounts for 13 per cent of our carbon dioxide emissions.

AIRAH’s primary aim is to develop the competence and skills of industry practitioners so that they can better meet society’s evolving health, safety and environmental demands, and the challenges of a rapidly changing world. AIRAH encourages world’s best practice within the industry through Continuing Professional Development, accreditation programs and a wide range of technical publications.

AIRAH is also the only body solely focussed on representing Mechanical Engineer – HVAC&R professionals.

As part of our commitment to the HVAC&R industry and the engineering profession, AIRAH has introduced a professional accreditation specifically designed for engineers operating in the HVAC&R industry. The AIRAH Registered Professional Engineer (ARPEng) designation accredits professional engineers in the Mechanical Engineer – HVAC&R discipline.

For more information about the Australian Institute of Air Conditioning, Refrigeration and Heating (AIRAH) and membership benefits, visit www.AIRAH.org.au
What is ARPEng?

AIRAH is the only body solely focused on representing Mechanical Engineer – HVAC&R professionals.

AIRAH Registered Professional Engineer (ARPEng) is the professional accreditation designed for engineers operating in the HVAC&R industry.

ARPEng accredits professional engineers in the Mechanical Engineer – HVAC&R discipline.

Those in the Mechanical Engineer – HVAC&R discipline are engineering professionals who plan, design, install, commission, operate, tune and maintain machines and systems in the built environment. This may include air conditioning plants, ventilation systems, chillers, cooling towers, refrigeration plants and coolrooms, fire and smoke systems, fans, pumps and control systems.

The AIRAH Register Professional Engineer accreditation provides a public demonstration that an engineer is qualified, competent, committed and ethical.

The ARPEng accreditation has been designed to meet the requirements of the Registered Professional Engineer of Queensland (RPEQ) and other state-based schemes as they are released.

www.airah.org.au/ARPEng
Mechanical Engineer – HVAC&R discipline

A discipline is a subgroup of the engineering profession that practitioners align their skills and work activities with. Formal education, informal education and work experience will influence how an engineering practitioner identifies with a discipline.

AIRAH is focused on representing Mechanical Engineer – HVAC&R professionals.

Professional engineers in the Mechanical Engineer – HVAC&R discipline are those whose work is associated with, but not restricted to, the heating, ventilation, air conditioning and refrigeration industry (HVAC&R).

ARPEng accredits Mechanical Engineer – HVAC&R professionals. This accreditation is aligned with registration as a professional engineer in the Mechanical Engineer discipline in state-legislated schemes.

Mechanical Engineer – HVAC&R is rapidly changing and multi-faceted. The Mechanical Engineering discipline does not fully capture the scope and specialisations of activities, some of which can crossover with other disciplines, for example, Energy Management Systems / Sustainability / ESD / Resilience. As a result, we also ask ARPEng applicants to identify, if relevant, sub-areas of practice that apply to their engineering activities. This is not, however, a mandatory requirement of the application.

See Appendix 1 for a description of the Mechanical Engineer – HVAC&R discipline.
Eligibility requirements

Applying for accreditation as an AIRAH Registered Professional Engineer (ARPEng) requires evidence that you have the required qualifications, knowledge and professional experience and competence.

The eligibility requirements for ARPEng were set to exceed the international standard for engineer registration and are aligned with the requirements of the Board of Professional Engineers of Queensland’s (BPEQ) requirements for Registered Professional Engineer of Queensland (RPEQ) status.

To be eligible for AIRAH Registered Professional Engineer (ARPEng) status you must:

- Be a member of AIRAH

- Have completed an acceptable qualification in one of the disciplines of engineering:
  - A four-year full-time Bachelor degree or a Master of Engineering from an accredited Australian Institution;
  - or a part-time equivalent degree;
  - or a previously recognised historical equivalent qualification;
  - or a qualification gained elsewhere that satisfies the requirements of the Washington Accord for recognition as a Professional Engineer.

- Have been working in the field of Mechanical Engineering – HVAC&R for a minimum of five years, have the relevant work experience and be able to demonstrate that this has translated into competence and commitment in your discipline

- Have two other suitable engineers vouch for your work experience

- Be able to demonstrate a commitment to the engineering profession by:
  - having undertaken 150 hours of Continuing Professional Development (CPD) over the last three years;
  - and continuously complying with AIRAH’s Code of Professional and Ethical Conduct.
Application process

Assessment to become an AIRAH Registered Professional Engineer (ARPEng) requires you to demonstrate that you’re qualified and competent. You will need to provide documentation in support of your application.

Your application to become an AIRAH Registered Professional Engineer (ARPEng) is submitted online. Physical documents will have to be scanned and saved. Please ensure you have prepared your documentation and have it ready to upload.

Documents must be uploaded as a PDF and should be under 10MB in size.

The online application process is designed so you can see the steps in the process, including which steps you have completed. You can return to your application if interrupted and you can view the documents you have uploaded at any time.

Your first step is to join AIRAH online and to prepare your documentation.

Click here for information on AIRAH membership.

Once you are ready, begin the online application process, there are three stages consisting of eight steps. These can be viewed on the following page.

The eight steps (referred to as "Units") need to be completed before recognition can be obtained. You can view your progress at any time during the application process. You will need to confirm each step is completed and include the date of completion to be able to proceed.

Once you have uploaded your detailed resumé, your application will be reviewed by the AIRAH Registrar for eligibility and completeness. The AIRAH Registrar will mark this step as “Complete” and then distribute your application to an assessor who will be in contact to conduct the interviews.
The online application process involves three stages and eight steps:

### A. Membership and enrolment

1. **AIRAH membership**
   
   You must be a member to apply for ARPEng.

2. **Contact details and identity verification**
   
   You must confirm your contact details and, if applicable, indicate an area of specialisation in which you operate within the Mechanical Engineer – HVAC&R discipline.

3. **Identity verification**
   
   You are required to confirm your identity in accordance with the recognised 100-point identity check utilised within relevant State and Federal Government Agencies. Supporting documents will need to be certified by an authorised witness.

### B. Eligibility and experience

4. **Qualifications**
   
   You will need to input qualifications and upload documentary proof.

5. **Professional and Ethical Conduct**
   
   You will be asked to confirm your commitment to AIRAH’s Code of Professional and Ethical Conduct.

6. **CPD Diary**
   
   You will need to download and submit your CPD activities from the online AIRAH Diary or use your own list and upload it as a separate document.

7. **Resumé**
   
   You will need to upload your detailed resumé containing work experience; demonstration of your competence and commitment; and referee details. This step requires the most information. A resumé template is available for download to help you with this step.

### C. Assessment

8. **Interview and assessment**
   
   You will be contacted to arrange an interview. Your two professional referees will also be interviewed.
Qualifications

You need to provide a certified copy of your bachelor’s degree or other historically equivalent or internationally recognised equivalent qualification that satisfies the requirements of the Washington Accord for recognition as a Professional Engineer.

If you have completed your degree overseas, you can meet the eligibility requirements if either of the following applies:

1. Your degree was completed in a country which is a signatory to the Washington Accord, and the degree is accredited as a bachelor’s degree equivalent. Washington Accord signatories can be found by visiting www.ieagreements.org and using the Qualification Checker search tool.

2. You have had your degree certified by an accredited body of the Washington Accord, such as Engineers Australia.

All qualifications must be submitted in English and must be certified by an authorised witness. Only authorised witnesses as set out by the Australian Attorney-General will be accepted.

You can view the list of acceptable authorised witnesses by visiting www.ag.gov.au and searching authorised witnesses.

For translated documents, please note the following:

If the documents are translated in Australia...

- The translator must be accredited by the National Accreditation Authority for Translators and Interpreters (NAAT) – www.naati.com.au
- The Australian Institute for Interpreters and Translators (AUSIT) Directory of Translators provide a current list of qualified, active AUSIT members who have NAATI accreditation in translating – www.ausit.org

If the documents are translated in a country outside Australia...

- The translator must be approved by the authorities in the country where the translation is made
- The International Federation of Translators (IFT) provide a list of translation associations, some approved by authorities to provide certified translation – www.fit-ift.org
Detailed resumé

As part of your application for AIRAH Registered Professional Engineer (ARPEng), you must provide evidence that you have gained adequate professional work experience; that your experience has translated into engineering competence; and that you are committed to high standards of professional and ethical conduct.

To demonstrate you have the work experience, competence and commitment you will need to prepare a detailed resumé.

To help you prepare your resumé, AIRAH has created a template which can be downloaded at www.airah.org.au/ARPEng/Resources

Work experience

To demonstrate you have the work experience, competence and commitment you will need to prepare a detailed resumé which provides:

- Name of your employer(s)/organisation(s);
- Summary of the services/products provided by each employer/organisation;
- Job title;
- Length of employment;
- Brief description of your role;
- Examples of your work activities at each employer/organisation; and
- Demonstration that your experience has resulted in competence in the four defined areas (outlined below, under competence and commitment).

Your work experience should outline your use of theories, concepts and practices to solve real world problems related to your discipline. You will need to show that you have the required professional experience of the law, codes and standards; can identify, assess and manage risks; know and can apply engineering principles; can analyse problems and develop safe and sustainable solutions; and can work with others and make sound decisions.

Competence and commitment

Your competence and commitment should demonstrate that your experience has translated into engineering competence and that you are committed to high standards of professional and ethical conduct.
You will need to provide evidence that you have gained adequate professional experience in four areas, using examples from your own career. You will need to show:

1. Evidence you apply Mechanical Engineer – HVAC&R technical knowledge and understanding to your engineering activities, specifically:
   a) Applying appropriate theoretical and practical methods to identify or define problems, opportunities or projects;
   b) Combining ideas and contributions of different people and disciplines to arrive at appropriate engineering and technical solutions;
   c) Developing creative and innovative solutions, designs and technological approaches to engineering problems;
   d) Undertaking technical evaluation and optimisation to address the brief you were given or requirements you identified;
   e) Planning and execution of technical work and projects.

2. Evidence you can handle the wider implications of your work as a Mechanical Engineer – HVAC&R, specifically the ability to handle:
   a) Health, hazard and safety aspects and meet legal and legislative requirements;
   b) Sustainability and resilience aspects and to work effectively with other disciplines to achieve optimum outcomes for the built environment;
   c) Commercial and economic aspects.

3. Evidence of your interpersonal, leadership and communication skills, specifically:
   a) Managing interpersonal relationships;
   b) Demonstrating leadership in a professional role;
   c) Communicating ideas and plans by report writing and oral presentation.

4. Evidence of your personal commitment and of working to high standards of professional and ethical conduct, specifically:
   - Undertaking Continuous Professional Development – a diary of CPD activity must be provided in your application as a separate document;
   - Working in an ethical manner – complying with AIRAH’s Code of Professional and Ethical Conduct.

**Professional and ethical conduct**

Adhering to the AIRAH Code of Professional and Ethical Conduct demonstrates your responsibility and commitment to society and professional engineering. The Code is not a behavioural guide or rulebook. It provides the foundations of an ethical culture, sets ethical benchmarks, and inspires the public’s confidence in AIRAH members.

In summary the AIRAH Code of Professional and Ethical Conduct states the following:

- The welfare, health and safety of the community shall at all times take precedence over sectional, professional and private interests
- Members shall perform work only in their areas of competence
- Members shall apply their skill and knowledge in the interest of their employer or client, for whom they shall act in professional matters as faithful agents or trustees
- Members shall at all times act honestly and faithfully on behalf of their employers and/or clients, and equitably and fairly in dealing with others
- Members shall develop their professional reputation on merit and shall act at all times in a fair and honest manner
- Members shall continue their development throughout their careers and shall assist and encourage others to do so
- Members shall be mindful of their responsibility towards preserving the environment of the community
- Members shall strive to avoid all known conflicts of interest and to keep employers and/or clients fully informed on all matters, financial and/or technical, that could lead to such conflict
- Members shall prevent conflict of interest wherever possible.
Continuing Professional Development (CPD)

We need to make sure that engineers that hold ARPEng status are of the highest standard of contemporary practice. Relevant CPD is a vital pillar of our scheme.

The CPD requirements of ARPEng were established to meet expectations of the government, profession, industry and public.

To meet AIRAH’s CPD requirements, applicants must provide a record of 150 hours of completed CPD over the last three years, of which at least **70 per cent must relate to technical matters relevant to your engineering discipline.**

CPD can be completed in a range of different ways.

AIRAH provides its members with an easy-to-use online CPD Diary. Applicants can use this tool to collate and update their CPD activities in preparation for upload and submission alongside their ARPEng application.

CPD can be achieved in a variety of ways:

- Formal post graduate education
- Formal professional development activities
- Workplace learning/on the job training
- Conferences and meetings
- Leadership positions (service activities)
- Presentations
- Published works
- Informal learning activities.

Importantly, there are conditions attached to each variety of CPD.

Please visit [www.airah.org.au/CPD](http://www.airah.org.au/CPD) to read the complete CPD outline.
Referees

In your application for ARPEng, you must provide contact details for two professional referees. These individuals are required to verify that the work you have outlined in your resumé is true and accurate. They must meet strict eligibility requirements.

Applicants must ensure the professional referee details are accurate and current, and that the referees are aware of their nomination and that they will be contacted in relation to the application.

Professional referees must satisfy one of the following requirements:

- Be an AIRAH Registered Professional Engineer or hold RPEng, CPEng, CP, RPEQ or equivalent professional status

- Be an engineer with a bachelor’s degree (or other historically or internationally recognised equivalent or higher qualification) in the discipline or similar discipline to which the applicant is seeking accreditation. This referee must also have more than seven years of work experience in the discipline or similar discipline in which the applicant is seeking accreditation.

For each referee you will be required to provide the following information:

- Name
- Company
- Position
- Phone (business and home/cell)
- Email
- Accreditation status (e.g. ARPEng, RPEng, CPEng, RPEQ, CP)
- Academic qualifications
- Work relationship (e.g. manager, supervisor, colleague)
- Period of relationship (minimum of 12 months required)

Assessor interviews

After the assessor has reviewed the information and verified its acceptability, they will commence the interviews.

Both professional referees, plus the applicant, will be interviewed. The interviews may be conducted over the phone or in person.
Outcome of application

Once the interviews have been completed, the assessor will review the information provided in the application against the information obtained in the interviews. They will then decide on your suitability for AIRAH Registered Professional Engineer (ARPEng) status.

Once a decision has been made, it will be presented to the assessment committee for final approval.

Successful applicants

Successful applicants will be provided with a testamur and a letter of assessment certifying their AIRAH Registered Professional Engineer accreditation.

Successful applicants will be entitled to use the ARPEng post-nominal.

Unsuccessful applicants

If your application was unsuccessful, you shall be notified as to the reason(s) why and will be given the opportunity to appeal against the decision or, alternatively, to reapply for accreditation in 12 months.

A different assessor will be used for the appeal and assessment of a new application.

Appeals must be made within one calendar month of the date of notification of the applicant being unsuccessful. Appeals shall be addressed to ARPEng Appeals and emailed to AIRAHRegistrar@airah.org.au

Applicants should detail the reason the applicant believes the assessor’s decision warrants appeal and, if appropriate, provide further information to support the application.

Applicants are permitted to make one appeal per application. If unsuccessful, the applicant is encouraged to address the reasons they were unsuccessful and to reapply in 12 months.
Responsibility as an ARPEng

As an AIRAH Registered Professional Engineer, you have a duty to uphold the AIRAH Code of Professional and Ethical Conduct and to maintain your competence as an engineering professional.

AIRAH Registered Professional Engineers will:

1. **Apply Mechanical Engineer – HVAC&R technical knowledge and understanding to their engineering activities, specifically:**
   - Applying appropriate theoretical and practical methods to identify or define problems, opportunities or projects;
   - Combining ideas and contributions of different people and disciplines to arrive at appropriate engineering and technical solutions;
   - Developing creative and innovative solutions, designs and technological approaches to engineering problems;
   - Undertaking technical evaluation and optimisation to address the given brief or identified requirements;
   - Planning and execution of technical work and projects.

2. **Handle the wider implications of their work as a Mechanical Engineer – HVAC&R, specifically:**
   - Health, hazard and safety aspects and meeting legal and legislative requirements;
   - Sustainability and resilience aspects and working effectively with other disciplines to achieve optimum outcomes for the built environment;
   - Commercial and economic aspects.

3. **Demonstrate interpersonal, leadership and communication skills, specifically:**
   - Managing interpersonal relationships;
   - Demonstrating leadership in a professional role;
   - Communicating ideas and plans by report writing and oral presentation;

4. **Demonstrate personal commitment and of working to high standards of professional and ethical conduct, specifically:**
   - Undertaking and submitting evidence of their Continuing Professional Development;
   - Working in an ethical manner.
Retention of ARPEng status

Persons recommended for ARPEng must provide evidence of continuing eligibility no later than one month after the expiration date.

To remain an AIRAH Registered Professional Engineer, you are required to:

1. Maintain adherence to the AIRAH Code of Professional and Ethical Conduct
2. Abide to the AIRAH Membership and AIRAH Registered Professional Engineer By-Laws
3. Continue to practice as a professional engineer
4. Meet the 150-hour Continuing Professional Development requirements over the previous three-year period

Assessment Recommendations for registration are valid for, and will be re-assessed, **three years** after the conferral date as set by the assessment committee.

To remain an AIRAH Registered Professional Engineer, you must provide evidence of your continuing eligibility by submitting a written proposal consisting of:

1. Current contact details and employment position;
2. A detailed resumé highlighting three years of work experience in the Mechanical Engineering – HVAC&R discipline;
3. One professional referee who can support the work experience claims (this referee need not be a supervisor);
4. A record of Continuing Professional Development averaging no less than 50 hours per annum over three years.

An AIRAH assessor will verify the submission and make a recommendation on the outcome to the AIRAH registrar.
Cancellation of ARPEng status

A person’s ARPEng status shall be cancelled by the assessment committee if they:

1. Are no longer an AIRAH member;
2. Provide written notification that they wish to no longer be an approved ARPEng;
3. Fail to provide required details to retain ARPEng status within the outlined timeline;
4. Are not recommended for continuing eligibility by the assessor appointed to review their proposal for continuing ARPEng status;
5. Have been found to have engaged in unprofessional conduct.

After cancellation, a member’s rights and privileges of accreditation shall cease. The person must not represent themselves as an AIRAH Registered Professional Engineer and must cease to use the ARPEng post-nominal.

Notification of the cancellation shall be provided by the assessment committee stating the reasons for cancellation, as well as any further obligations of the individual.
Appendix 1

**Mechanical Engineer – HVAC&R**

Those working in the Mechanical Engineer – HVAC&R discipline work in the field of comfort, health and safety in controlled built environments. Mechanical Engineers (HVAC&R) are those engineering professionals who plan, design, install, commission, operate, tune, and maintain mechanical machines and systems in the built environment that include air conditioning plants, ventilation systems, chillers, cooling towers, refrigeration systems for food production and preservation applications, transport cooling systems, fire and smoke systems, medical facilities, and control systems.

**Work Experience**

Applicants shall have a minimum of five years’ work experience as a Mechanical Engineer – HVAC&R, in areas such as:

- Plan, design and supervision of the installation and commissioning of refrigeration, heating, air conditioning and ventilation systems
- Maintenance management of existing and new HVAC&R plant and equipment
- Interpretation and application of relevant Australian legislation, building codes, Australian Standards and International Standards during the design of HVAC&R systems
- Application of state workplace health and safety requirements for safety in design to integrate hazard identification and risk assessment methods early in the design process to eliminate or minimise risks of injury throughout the life of a product
- Interpretation and application of life safety requirements and standards covering refrigerants, smoke control, and the use of ventilation and air conditioning in buildings
- Interpretation and application of the mechanical services systems standards for maintenance of fire protection systems and equipment
- Participation in detailed engineering design involving application of theory, mathematical calculations, writing of specifications and drafting of mechanical drawings specific to mechanical components, machinery and plant
- Performance of computer-simulated building information modelling and analysis of resultant data on reaction of key mechanical systems subjected to thermal load and acoustic performance, including heat load calculations, energy simulations and computational fluid dynamics
- Adherence to applicable mechanical engineering processes and practices to ensure realisation of products and services
- Evaluation of mechanical design solutions against the requirements of original specifications
• Undertaking lifecycle costing to inform decisions on the capital and ongoing cost of HVAC&R design options

• Supervision of paraprofessionals, technicians and mechanical tradespeople during the manufacturing, installation and commissioning of HVAC&R systems

• Assessment of the condition of existing mechanical machinery and report writing highlighting recommendations on safety, maintenance, remaining life expectancy and replacement

• Writing of plans, standards, procedures, work instructions and forms

• Review and proposal of amendments to relevant Australian legislation, Australian Standards and International Standards

• Investigation and documentation of the causes of mechanical failure, providing subsequent recommendations on how to eliminate future occurrences

• Specification, evaluation and purchasing of engineering products and services

• Improving existing engineering products, processes and services

• Creating an awareness of new mechanical technology and, where applicable, attaining intellectual property rights

• Liaising with architects; building certifiers; and civil, structural, hydraulic, vertical transportation, electrical and fire engineers to ensure optimum integration of mechanical systems with other services.
Contact AIRAH

Website: www.airah.org.au/ARPEng
Email: AIRAHRegistrar@airah.org.au
Phone: +61 3 8623 3000