

HVAC&R Nation

AN AIRAH PUBLICATION



Hot prospect

Heat pumps: the new
must-have home appliance?

Skills WORKSHOP

Humidifying and
dehumidifying



Higher Education

The steps to upgrading our
national RAC training package

Photo by Juan Photography,
courtesy of TAFE SA.



ELEVATING OUR EDUCATION

For many years the Australian training package for refrigeration and air conditioning has been in need of a thorough revision. Now it is under way.

Australia's Electrotechnology Training Package is a massive store of knowledge. It provides nationally recognised vocational education and training (VET) qualifications for refrigeration and air conditioning. It also covers other occupations such as electronics, electrics, communications, controls systems, instrumentation, lifts, renewable/sustainable energy, fire and security, appliances and rail.

The package has been delivered by registered training organisations (RTOs) across Australia since 1998 – more than 30 years. In 2014, a much-anticipated review was announced, but when a change of government resulted in large-scale reform to the national training landscape, the review was shelved.

As part of this reform, the Australian Industry and Skills Committee (AISC) was created in late 2015 to manage and provide industry leadership of the national training scheme. The management

of the electrotechnology training package then came under the auspices of the Australian Industry Standards (AIS).

In 2015, another review of the package was announced. On this occasion, an Electrotechnology Industry Reference Committee (IRC) was appointed to drive the priorities for the review.

This transition review, now under way, will see the existing training package revised to meet the Standards for Training Packages 2012. All qualifications and units of competency will then be in the same format and meet the same requirements.

Representing the refrigeration and air conditioning (RAC) industry on the 15-member IRC committee are Kevin O'Shea, president of the Refrigeration and Air Conditioning Contractors' Association (RACCA) and Noel Munkman, M.AIRAH, technical and training manager at the Australian Refrigeration Council (ARC).

Both men (and the RAC industry) enjoy the support of the committee's chairman, Larry Moore. They are further supported by a RAC Technical Advisory Committee (TAC) made up of industry members.

"The TAC is the engine room of the whole training package," says O'Shea.

"On the TAC, we have many people representing the RAC industry that have been involved in training for a long time. These people have the knowledge and the skills to be able to amend the training to suit our industry.

"The IRC is fed information from the TAC, and the IRC assists in bringing their requests to fruition."

One of the members of the TAC is TAFE NSW product manager and long-time educator, Steve Smith, M.AIRAH.

Smith says as part of the transition review, the committee identified a range of issues that they judged were inhibiting course delivery and required immediate rectification.

These include the separation of the two units on refrigerants and motors into four. New technologies are continuing to expand the content in these topics, leading to the change.

Another three units will also be restructured.

"The existing versions focused on the skills of installing, commissioning and fault-finding," says Smith, "whereas the proposed replacements focus on the skills in relation to an application – for example, medium temperature cabinets and rooms."

The changes to the Certificate III in Refrigeration and Air Conditioning trade units of competency include:

- New-generation refrigerants including CO₂, ammonia, hydrocarbon and HFOs
- Energy efficiency
- Control systems
- Variable speed drives
- Maintenance.

This additional work has subsequently been inserted into the current transition review. The drafts of the proposed revised units have been regularly released for public and industry feedback.

INDUSTRY ROUND TABLE

A RAC industry round table meeting was held in Sydney in August 2018. Key industry bodies and organisations discussed the issues affecting the industry and how these would be addressed as part of the training package review.

In attendance were representatives from AIRAH, AMCA, ARMA, ARC, RACCA, AREMA, Refrigerants Australia, Refrigerant Reclaim Australia and the Department of Environment and Energy.

“The main training issues affecting the industry were discussed, including what should be added or removed from the current trade qualification,” says Munkman.

“There is general agreement on what must be added, including those changes as outlined (above).”

While the proposed changes to the training package are undoubtedly both important and necessary, they may fall short of the expectations of some who would like to see the trade course realigned to better meet the needs of the industry into the future.

But Munkman says rather than completely overhauling the training package, we would be better served by updating it regularly.

“The current training package was approved in 2011, but that represented a minor revision on the 2006 training package,” he says. “A lot of changes have occurred since then in equipment, refrigerants, technologies, standards and regulations. It just needs updating to keep up with these changes.”

“

Once this overhaul is complete, we will still need maintenance of the training package going forward

THE OLD AND THE NEW

One of the challenges facing the IRC and TAC committees – and the industry more broadly – is the sheer scale of training required.

Just as new technology is being introduced at a rapid rate, older systems continue to operate and require servicing. It means both old and new technologies must be covered in the training package.

“The main difficulty is that more has to be added, but very little can be removed,” says Munkman. “Older systems are still working, and still need to be maintained.”

It’s an issue Smith says affects all trade courses.

“In NSW, the first version of our trade course was created in 1969 and was aligned to the functions and system types in existence in those days,” he says.

Fast-forward to 2019, and as a result of new content being added to the original course to reflect new technologies, the training package has more than doubled in size and scope.

“The course I did as an apprentice contained 12 subjects,” says Smith. “The course version we are using today contains 27 subjects, yet the duration is still three years.”

In simple terms, today’s apprentices are required to learn all that was taught in 1969, as well as an additional 50 years’ worth of change.

“This includes new technologies in compressors, motors, valves, electronics and computers, an ever-expanding array of refrigerants and the prolific collection of regulations and legislation,” says Smith.

“I’ve had the luxury of adding all this to my original skillset as they were introduced – as everyone in my generation has. But we have this flawed expectation that a new apprentice will be able to absorb it all in the 100 days they spend at a TAFE or college.”

Despite the challenges, O’Shea says the rewrite will enhance the training package significantly, and be of great benefit to the RAC industry more broadly.

“I know that at the end of this review, the training package will be better than when we went into this exercise,” he says.

“But what we need to remember is that once this overhaul is complete, we will still need maintenance of the training package going forward.”

The review of the package should be complete by the end of June and ready to use by the first term of 2020. For updates, go to www.australianindustrystandards.org.au/stakeholder-registration/ ■