Newsletter for the Refrigeration and Air Conditioning Industry

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Australian Government
Department of the Environment

COOLCHANGE

In this issue

All licences are NOT created equal

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Have you got the right licences?

In some states, various occupational trade-licences are required for building, plumbing, electrical and specific types of refrigeration and air conditioning (RAC) work. These licences cover safety and consumer protection.

The State based trade licences entitle you to undertake *some* 'refrigeration and air conditioning' work. However, when installing, servicing or decommissioning RAC systems, regardless of whether the state licence entitlements include 'refrigeration and air conditioning', you must have the appropriate ARC licence. The states do not have a substitute for an ARC licence.

The ARC licence is an environmental-based licence and the only national licence for the refrigeration and air conditioning trade. It is also qualifications based. Licence applications are not, and have not, been approved based on experience alone. This is important, as it confirms only appropriately qualified people can receive a licence. This equates to professionalism for the industry.

We receive anecdotal evidence from time to time from licence holders who are confused by the occupational licence requirements in their state, and communications received from their state regulators around licensing requirements for RAC work.

Our response is always clear and concise. If the system contains ozone depleting or synthetic greenhouse gas refrigerant, you need an ARC licence. It is also important that technicians find out what relevant state licences they need for the work they wish to do. Being compliant with all your licensing requirements should be a non-negotiable when it comes to running a business and performing trade services.

We will continue to work with state regulators to make licensing requirements clear for technicians, and just as importantly the ARC will continue to communicate to consumers about the importance and legal requirement of the ARC licence.

All licences are NOT created equal

Holding a plumbing licence through the Victorian Building Authority (previously Plumbing Industry Commission – PIC) doesn't allow you to legally work in the refrigeration and air conditioning sector with ozone depleting or synthetic greenhouse refrigerant in Victoria.

To do this work you require a national ARCTick licence. The competencies behind the PIC licence do not necessarily equal an ARCTick licence, unless the following qualifications and units have been completed:

- CPC 32513 – Certificate III in Plumbing (Mechanical Services); or
- CPC 32413 – Certificate III in Plumbing.

Individuals who attain CPC32513 or CPC32413 qualifications will be considered eligible to obtain the ARC Split-System Installation and Decommissioning licence on the condition that each of the following units are completed as part of the qualification/s:

- CPCPCM2043A – Carry out WHS requirements
- CPCPCM3023A – Fabricate and install non-ferrous pressure piping
- UEENEEJ105A – Position, assemble and start up single head split air conditioning and water heating pump systems; and
- UEENEEJ172A – Recover, pressure test, evacuate, charge and leak test refrigerants – split systems.

Life in the fast lane – ARC at the Auto Aftermarket Expo

For the third time, the ARC exhibited at the Australian Automotive Aftermarket and Collision Repair Expo, this year in Melbourne.

This event attracts a variety of delegates from the automotive and collision repair industries. Relevant to the ARC and the licence scheme are delegates representing – automotive licence holders and collision/smash repairers. Over the three days, the ARC stand had a steady number of visitors interested in a variety of ARC related services. The most common questions were about:

HFO 1234yf – There was a great deal of interest in this new automotive refrigerant, with people asking about its availability and whether they require a licence to handle it. As highlighted in the April edition of Cool Change, you do not require an ARCTick licence to handle HFO 1234yf and it is currently available at selected refrigerant wholesalers, as well as pre-charged in some imported vehicles. Interestingly, when we exhibited two years ago questions regarding hydrocarbon refrigerants were the most popular. This time around, the main interest was around this new gas.

Re-joining licence scheme – People who had let their licence expire 1-2 years ago were now interested in getting a licence again – indicating a renewed interest in the automotive air conditioning sector and use of ozone depleting or synthetic greenhouse refrigerants. This is consistent with the continued increase in licence numbers.

Interest in ARC promotional materials including – service stickers, hand-outs and code of practice booklets. As always, the free ARC promotional items were very popular.

What training is required for the Automotive licence – information can be accessed from the new website licence page – www.arctick.org/licensing/licence-types/

Making the effort will cost customers less – and make you more

It's preaching to the converted telling licensed refrigeration and air conditioning technicians that regular maintenance of cooling systems equals less long-term operating costs and more energy efficient performance for the owner.

But try telling that to a money conscious building owner worried about short term costs, a home owner who has just forked out big bucks for a new install, or a car owner who sees air conditioning as a 'free' part of their vehicle's performance.

With the help of the Australian Government, the ARC is developing handouts for you to give to your customers outlining the 'real' costs of not getting preventative maintenance done on their cooling systems – as well as the savings that can be made if they do.

The added bonus is that the handouts will hopefully help to secure more regular work for you. Look out for an announcement on these promotional items in the lead up to summer. The ARC will be working with many groups – including the Facility Management Association of Australia – to increase awareness of the importance of regular maintenance of RAC systems.

On a related note, ARC member the Australian Institute of Refrigeration Air Conditioning and Heating (AIRAH) included a useful training manual on Maintenance Strategies in the Skills Workshop section of the April edition of HVAC&R Nation. The information explores the link between maintenance practices and – in this case – a building's performance, looking at a range of considerations including programs, contracts staffing and safety. Visit www.airah.org.au to access the workshop.

Refrigerant Code of Practice – your on-the-job bible

The refrigerant handling codes of practice provide guidance for working safely with refrigerants, both in stationary and automotive sectors, and were developed with the intention of reducing emissions of fluorocarbon refrigerant into the atmosphere.

All ARCTick licence holders must follow the mandatory practices outlined in the codes of practice, and consider the best-practice suggestions for further work.

Particularly for technicians new to the industry, the codes of practice are a fantastic reference tool that should be part of their everyday work life in the industry.

Two important areas of refrigeration and air conditioning work that can be overlooked or miscommunicated relate to 'topping up' systems with refrigerant and correct labelling of systems after service. We have provided guidance in these areas below, taken from the codes of practice, and encourage all licence holders to read over their copies of the booklet to ensure they continue to follow the mandatory processes.

No 'topping up' of air conditioning systems

The act of 'topping up' an air conditioning system with refrigerant is not allowed under the Australian refrigerant handling Codes of Practice for both stationary and automotive systems.

The **Australian automotive code of practice 2008** states 'The addition of refrigerant to an existing system charge to "top up" **must not** be carried out.' (A.4.1)

The **Refrigerant handling code of practice 2007** states 'Users are advised that persons who service refrigeration and air conditioning equipment are required by legislation to observe this code of practice and not to "top up" systems known to be leaking.' (Part 1 – 10.3; Part 2 – pg. 27.)

The ARC has also created Government-branded information handouts for you to pass on to customers highlighting your legal obligation to check and repair leaks. If you would like a pack sent to you please visit www.arctick.org and go to the Free Promotional Materials page.

Correct labelling of systems after service

Labelling of systems after servicing is mandatory for all relevant ARC licence holders. To help licence holders with this, the ARC provides service stickers and tags for both stationary and automotive work – free of charge. Click here to order

The relevant codes of practice outline the requirement for labelling:

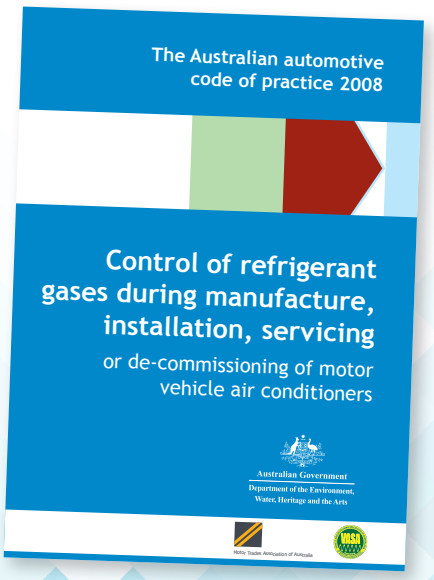
- Stationary refrigeration and air conditioning (9.1 and 9.2)
- Automotive air conditioning (A.18.6)

The ARC provides free service stickers and tags for stationary and automotive air conditioning work. Please visit www.arctick.org and go to the Free Promotional Materials page to order your pack.

Copies of the codes of practice can be downloaded from the ARC website www.arctick.org

Auto Code of Practice under review

The Mobile Air-Conditioning Code of Practice Working Group has been formed to review the content of the Automotive Code of Practice.



Technicians beware!

Care must be taken regarding refrigerant selection.

Replacing 'like with like' refrigerant is relatively simple however, with a number of new refrigerants coming into the market technicians need to inform themselves of the appropriateness and characteristics of any substitute refrigerant. In the first instance it is critical that refrigerant only be used in equipment that is fit for purpose.

The equipment should be designed for the type of refrigerant to be used. Technicians need to be mindful of their legal responsibilities should they wish to substitute one refrigerant type for another. Product warranty may be void, and there are both consumer law and health and safety laws to consider.

Safety requirements under state and territory work health and safety legislation, which places obligations on importers, designers, manufacturers, suppliers, installers and others to ensure that the work health and safety risks are assessed and eliminated or mitigated, need to be considered when contemplating using or retrofitting refrigerants. If you are contemplating substituting or retrofitting substitution refrigerants, the Department of the Environment has a useful checklist available on their website. Some of the areas that need to be considered include:

- Is the equipment for use only for a specific HFC whereby substituting with an alternative gas could introduce safety hazards?
- Has the unit's manufacturer and the refrigerant supplier approved the use of a flammable, toxic or high pressure refrigerant in the system?
- If a retrofit is to be undertaken, how can you assess the safety and suitability for purpose?
- Has the equipment manufacturer given approval for retrofitting the equipment using an alternative refrigerant?

For a more detailed checklist for installing and maintaining equipment with alternative refrigerant, visit www.environment.gov.au and write 'alternative refrigerant;' in the search bar.

For more information about requirements in each state and territory, visit Safe Work Australia at www.safeworkaustralia.gov.au

International news: Hydrocarbon refrigerant seller hit for $300K

A US company has agreed to cease sales of unapproved hydrocarbon refrigerants and pay a $300,000 civil penalty.

According to the two-count complaint, filed simultaneously with the settlement in the Central District of Illinois, Enviro-Safe Refrigerants Inc of Pekin, Illinois, allegedly breached US Clean Air Act requirements through the marketing and sale of two flammable hydrocarbon refrigerants products ES 22a and ES 502a as substitutes for ozone-depleting refrigerants without providing the requisite information to the US EPA for review and approval. EPA (USA) has not approved any flammable hydrocarbon as a replacement for ODS in systems not specifically designed for flammable refrigerants and has warned that use of flammable refrigerants in those systems presents a risk of fire or explosion.

"With this settlement, Enviro-Safe will pay a penalty, stop its nationwide sales of unapproved flammable refrigerants and ozone depleting substances, and notify consumers of potential safety hazards from these products," said assistant attorney general John C Cruden of the Department of Justice's Environment and Natural Resources Division. "This civil action illustrates how the requirements of the Clean Air Act guard consumer safety and the health of our environment each and every day."

"The actions Enviro-Safe will be required to take under this consent decree will protect consumers and the environment from a potentially dangerous product," said regional administrator Susan Hedman of EPA.

In addition to paying a penalty and halting non-compliant sales, the company will also state on the label of any flammable refrigerant, its website and other marketing materials that the refrigerant is 'flammable to an open flame or spark' and to 'proceed with caution if used in systems designed for non-flammable refrigerants.' Labels must also include any use restrictions for approved substitutes. The company will notify by mail all known past customers that purchased products labeled 'ES 12a,' 'ES 22a' and 'ES 502a' of potential safety hazards associated with such products. The consent decree is subject to a 30-day comment period and final approval by the court.

FBI investigations

The FBI began an investigation into flammable refrigerants in July 2013. In particular it sought any individual who might have bought Super-Freeze 22a, Super-Freeze12a, Super-Freeze 134a and Enviro-Safe 22a. It warned that the refrigerant had been marketed as a drop-in replacement, second generation, non-ozone depleting hydrocarbon refrigerant. According to the FBI, they were targeted at home owners and do-it yourselfers and could be purchased online and over the telephone by anyone; a refrigeration license was not required to make the purchase.

The FBI advised anyone who had had a flammable refrigerant installed in their air conditioning system to call a licensed heating and air conditioning professional, and to not attempt to service the system themselves. Enviro-Safe hit the headlines in 2013 when four people were injured, three seriously, as a result of an explosion at its own hydrocarbon refrigerant bottling plant in Pekin, Illinois. The blast in March of 2013 tore through the brick walls and roof of the Enviro-Safe Refrigerants plant.

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New ARC website – new services for you

If you have re-visited the ARC website in the last month or two you will have noticed some exciting changes in the layout and services provided.

We have listened to your feedback, as well as taken some cues from the best online administration websites around and created what we think is an easier to navigate and use website for licence holders. So, what's changed?

Easier to use

- We have streamlined the online applications process, effectively cutting out 4 pages from the process, to make applying for your licence quicker and easier
- The most popular facilities on our website are now front and centre. Need to renew? From the homepage you are now one click away from renewing your licence
- Got some questions regarding the online application process? Check out our YouTube page for easy to follow video-tutorials on how to apply/renew/change your details, as well as training videos for refrigerant recovery. Content will be updated on a regular basis.

New services to make your work easier

- New online Air Con / Refrigerant wholesaler directory
  - On a job and need to know where your nearest wholesaler is to get supplies? Click on the new directory and find an authorised wholesaler nearest to you.
  - Online APP directory will be available soon.
- Create your own services stickers and handouts
  - You can now download the files for our numerous service stickers and handouts and add your own logo and contact details. For Free!

We are always keen to keep refining the website, so please let us know if you have any suggestions for further improvements – just email enquire@arctick.org

Training – RAC Qualification review

As reported in the July 2014 and April 2015 editions of Cool Change, E-Oz Energy Skills Australia is conducting a major review of its refrigeration and air conditioning trade qualification (UEE32211 Certificate III in Refrigeration and Air Conditioning) to ensure it meets the current and future skill needs of Australia's Heating, Ventilation, Air Conditioning and Refrigeration (HVACR) industry.

A wide variety of stakeholders are being consulted including associations, training organisations and government regulators.

In March this year, consultation was also extended to the current refrigeration and air conditioning apprentices, with 490 completing a survey on the types of systems and tasks that they will be required to carry out with their current employer and at the end of their apprenticeship. The results were that:

1. Industry Sectors

- The majority of the apprentices (56%) were expected by their employer to work on both refrigeration and air conditioning systems
- A large number of apprentices (38%) only work on air conditioning systems, and
- A small number of apprentices (6%) only work on refrigeration systems

2. Common Applications

- The vast majority of the apprentices (over 60%) were expected by their employer to work on split and packaged (unitary) air conditioning systems which include RACs, Split A/C, Packaged A/C and Evaporative Coolers
- A large majority (over 40%) were expected by their employer to work on cool rooms and freezer rooms, as well as small air conditioning chillers, VRF splits A/C and VAV A/C

Due to the range and number of different applications an apprentice cannot achieve competency in all of them during the term of their apprenticeship. Therefore, they need to gain the Essential Performance Capabilities which cover the core generic skills that are common across all of the applications. For example refrigeration, air conditioning and electrical principles, hand and trade skills, working safely with electricity and all classes of refrigerants, relevant regulatory/licence requirements, etc. Then apply this to install, commission, test, fault find and repair, and maintain a range of both refrigeration and air conditioning applications.

The proposed Certificate III qualification will have a large core set of units so that all apprentices cover;

- Refrigeration and air conditioning Essential Performance Capabilities, and
- licensing requirements, and
- residential and commercial unitary refrigeration and air conditioning applications, and then
- select from a wide choice of AQF level 3 electives covering a range of other unitary equipment applications, from beverage vending cabinets, small A/C chillers to large single unit cool rooms

The proposed Certificate IV qualification will have the same core as the Certificate III and a choice of AQF level 4 electives covering a range of more complex applications, from large central plant A/C chillers and industrial refrigeration systems. Both will have a nominal apprenticeship term of 4 years or until the relevant competencies are achieved.

The end goal will be for E-Oz Energy Skills Australia to finalise their draft recommendations and submit the revised/new qualification and competency standard units for endorsement by the end of 2015.

For further information go to the E-Oz website http://www.e-oz.com.au/ and then go to Industry Projects/ Electrotechnology Projects.

To comment on the review, email: racreview@e-oz.com.au

ARC MEMBER PROFILE

Air-Conditioning and Mechanical Contractors' Association (AMCA)

Established in 1961, the Air Conditioning & Mechanical Contractors' Association (AMCA) is a nationwide trade association that represents member companies operating in the commercial and industrial air conditioning and mechanical services industry.

AMCA members are highly skilled with expertise in the design, manufacture and installation of air conditioning, ventilation systems and mechanical services, as well as the ongoing service and maintenance of plant, equipment and building infrastructure. The AMCA provides a variety of services to support members in these activities, and to promote a prosperous, socially and environmentally responsible industry.

As a people-oriented organisation, AMCA members value a highly skilled workforce. Therefore, the AMCA is committed to working with all industry stakeholders and vocational education training providers to deliver the highest quality of training possible.

In Victoria, the AMCA has partnered with Box Hill Institute (BHI) to develop the new Refrigeration and Climate Control Centre of Excellence (RCCC), and has a Memorandum of Understanding with Holmesglen Institute for the delivery of mechanical service plumbing training. In Queensland, the AMCA and other employer associations have joined with the Queensland Plumbers Union in forming Services Trades Queensland (STQ) to deliver innovative training and safety initiatives. And in South Australia, the AMCA has partnered with NECA and the CEPU to form the Plumbing, Electrical, Electronic and Refrigeration (PEER) training organisation. As a registered training organisation (RTO) itself, AMCA is also able to deliver industry tailored courses in Mechanical Services Drafting and Project Management.

AMCA

WE SPEAK FOR AIR CONDITIONING

To further support members address challenges emanating from shifts in the legislative, regulatory and day-to-day operating environments, the AMCA has a mature network of committees that provide advice on workplace health and safety; industrial relations; training and workforce development; and various other regulatory, service and technical matters. These committees create an active, inclusive and consultative community within the membership; and impart valuable technical expertise to ensure that AMCA policy positions are well considered, and provide credibility when advocating on behalf of industry to government and other stakeholders.

Over the past 12 months, AMCA members have been represented on several working groups that will shape the future of our industry. These include the Section J review of the National Construction Code; the Energy Skills Australia Steering Committee for the Refrigeration and Air Conditioning Trade Qualification, and the Ozone Protection and Synthetic Greenhouse Gas Legislation technical working group.

Having collaborated on a range of information and education initiatives in the past, most recently the free online *Refrigerant Gas Management information* resource, the AMCA enjoys a strong relationship with the Australian Refrigeration Council, and we look forward to new opportunities to work together in the future.

Concerns about training quality? Contact ASQA

The Australian Skills Quality Authority (ASQA) is responsible for training quality.

The courses that are prerequisites for ARC licences are referenced in the Ozone Protection and Synthetic Greenhouse Gas Management Regulations 1995. ARC has no power to alter them.

For any concerns regarding training quality the appropriate government authority is the ASQA.

The ARC has been in contact with ASQA on a number of occasions regarding issues around training quality in the refrigeration and air conditioning sector. ASQA, for their part, has been receptive to our advances. Indeed if you are able to provide actual evidence of courses not achieving required standards we are sure ASQA would want to hear of it.

Their contact details are:

Australian Skills Quality Authority (ASQA)

595 Collins Street
Melbourne VIC 3000
1300 701 801
www.asqa.gov.au