Newsletter for the Refrigeration and Air Conditioning Industry

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COOLCHANGE

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R22 on the way out

2016 marks the final period of the Hydrochlorofluorocarbons (HCFC) phase-out schedule with only 2.5 ozone depleting potential (ODP) tonnes allowed to be imported annually.

This marks a significant reduction to the 10 ODP tonnes allowed for the last two years, and provides a big incentive for refrigeration and air conditioning technicians to consult with their customers about the management of their cooling systems. HCFCs (such as R22) are ozone depleting substances and are being phased out globally under the Montreal Protocol on Substances that Deplete the Ozone Layer. Australia has adopted an accelerated phase-out of HCFCs. The level of permitted imports and manufacture decreases every two years, as specified in the table below.

Year	Annual import limit (ODP tonnes*)
2012, 2013	40
2014, 2015	10
2016 – 2029	2.5
2030	0

*1 ODP tonne equates to approximately 9 metric tonnes of HCFC-141b or 18 tonnes of HCFC-22

To read more about the phase-out of R22 refrigerant and other HCFCs visit the Department of the Environment website at www.environment.gov.au and type in R22 phase-out into the search bar.

Industry Leadership: Environmental Leadership

As the world celebrates a global commitment to the phase-down of HFCs, it is worthwhile remembering that Australia has had controls on HFCs in place for over ten years.

While Australia's and the international community's commitment to reduce HFC emissions attracted attention in 2015, our end-use controls – like the ARCTick licence scheme – have been regulating HFC gases since 2005.

Australia is a world leader in managing HFC's, CFC's and HCFC's thanks to the foresight of key refrigeration and air conditioning (RAC) industry groups.

The three pillars of Australia's environmental protection scheme to control these Ozone Depleting Substances (ODS) and Synthetic Greenhouse Gases (SGG) are import licensing, domestic licensing (ARCTick) and refrigerant recovery and destruction (Refrigerant Reclaim Australia).

This environmental stewardship has been in place for over 10 years, preventing emissions and ensuring the right players are 'in the game' of refrigerants.

While there have been a small handful of similar schemes in the world, none, until more recently, had the vision to include HFCs.

The success of the scheme is testament to the commitment of the Australian RAC Industry. Credit must go to the licensed technicians, the heart and soul of the Industry, who have given the scheme effect.

Equally, credit must go to those key Industry groups who rose to the challenge early, joining Refrigerant Reclaim Australia, Refrigerants Australia and the Australian Government in seeking to environmentally 'future proof' Australia by putting a scheme in place that addresses the changing environmental challenges.

Those key groups are:

- Appliance Industry Association (AIA)
- Australian Institute of Refrigeration Air Conditioning & Heating (AIRAH)
- Air Conditioning & Mechanical Contractors Association (AMCA)
- Air Conditioning & Refrigeration Equipment Manufacturers Association of Australia (AREMA)
- Air Conditioning & Refrigeration Wholesalers Association (ARWA)
- Institute of Automotive Mechanical Engineers (IAME)
- Institute of Refrigeration & Air Conditioning Service Engineers (IRASE – RACCA QLD)
- Motor Trades Association (MTA)
- National Electrical & Communications Association (NECA)
- Refrigerants Australia (RA)
- Refrigeration & Air Conditioning Contractors Association (RACCA)
- Refrigerant Reclaim Australia (RRA)
- Victorian Automobile Chamber of Commerce (VACC)
- Vehicle Air Conditioning Specialists of Australia (VASA)

The domestic licensing scheme has been amazingly supported by industry, with 80,000 business and individual licences in place. This number continues to grow.

Since 2003, the work of ARC-licensed technicians has contributed to 24.37 megatonnes of CO2-equivalent direct emissions reductions. And refrigerant recovery and destruction has prevented the emission of 5,000 tonnes of CFC, HCFC, and HFC into the atmosphere, saving ten million tonnes of stratospheric ozone from being destroyed.

The Australian RAC industry has had a huge influence on the Aussie way of life. It has not only provided comfort indoors, but by minimising the negative impact refrigerant emissions has on our outdoor lifestyle, the industry has helped the farmers on the land and even animal habitats.

Australia should be proud of the impact of the RAC Industry. As the Hon Greg Hunt, Environment Minister, has publically stated, the Australian RAC sector has delivered more emissions savings than any other sector in the Australian economy.

FREE handouts for your customers

Consumers often do not understand that regular maintenance of cooling systems equals less long-term operating costs and more energy efficient performance.

With the help of the Australian Government, the ARC has developed 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.

Email enquire@arctick.org or call 1300 884 483 to order your FREE pack today.

Note: These are specific to home air conditioning and refrigeration. Automotive and commercial versions will be made available soon.

Training Quality – ARC and ASQA partnership

Over 60,000 licensed and qualified technicians have driven the standard and skill of the industry, and been the recipients of high level, nationally recognised training standards across the country. However, as with every high-performing sector there are challenges to maintain this level of excellence.

Appropriate qualifications are the cornerstone of the ARCTick scheme. That is why we take the matter of the standard of training in achieving those qualifications extremely seriously.

One of ARC's objectives is to encourage best practice in the training procedures for refrigeration and air conditioning operations. To this end, ARC has worked with The Australian Skills Quality Authority (ASQA) – and other education authorities – on a number of occasions to improve training quality in the refrigeration and air conditioning sector.

ASQA is the vocational education and training regulator tasked with ensuring the quality of training in Australia. While ARC has no power to sanction training providers directly, we do assist ASQA to achieve quality training outcomes.

If you have concerns about the quality of training in the refrigeration and air conditioning sector, we have a dedicated page on our website with links for you to report concerns about training quality to ASQA.

Visit http://arctick.org/training/training-quality/ to read more.

What is RPL?

If a person can demonstrate they have the relevant skills and/or experience, they can get a recognition of prior learning (RPL) assessment. This is done against a qualification, without having to complete the full training and assessments.

RPL is a detailed and thorough assessment process that assesses a person's previous experience and training to determine whether they have the required learning and competencies as they relate to a specific qualification.

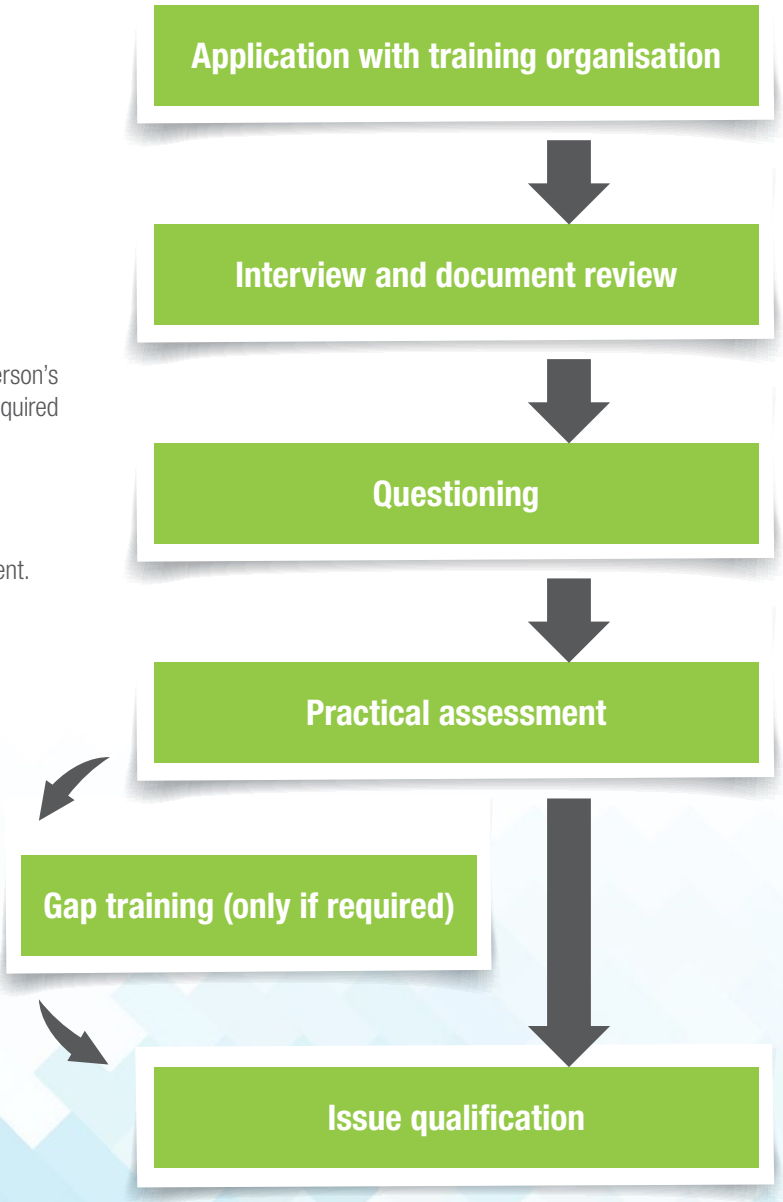
Document types used as Evidence

In order to recognise your prior learning through informal and formal sources, the assessor will need to have evidence that you are competent. Evidence can be in many forms, for example:

- other Qualifications
- in-house training certificates
- examples of work produced
- workplace reference
- statement of duties
- work project
- minutes of meetings attended or conducted
- documents showing organising/supervisor skills
- awards, commendations, certificates of merit
- a demonstration

This evidence presented will be matched against the Performance Criteria stated in the Unit of Competency. The assessor may find it necessary to ask questions about the evidence or ask you to perform work activities or a test to provide evidence where there are gaps between what you have provided and what is required.

Selected TAFEs and registered training organisations can perform RPL assessments, as well as VET assessment provider VETASSESS.



Certificate III – a case study

The UEE32211 Certificate III in air conditioning and refrigeration qualification is one pathway to achieving a Full ARCTick refrigeration and air conditioning licence.

Typically, to complete the UEE32211 course would take approximately four years part time, equating to a nominal duration of 1080 hours, at a registered training organisation, and in addition, be supported with four years full time on the job training.

Recognition of prior learning (RPL) may be applicable to people that can demonstrate that they have already achieved the stated competencies.

The following example is for a qualified electrician applying for a Certificate III qualification in refrigeration and air conditioning with recognition of prior learning (advanced standing). The highlighted dark blue units would have been covered in an electrical course and may be granted as RPL. As can be seen from this example, even with RPL, there is still substantive work necessary to obtain the qualification.

Unit Code Core	Unit Title	Hours
UEENEEC025B	Participate in refrigeration and air conditioning work and competency development activities	20
UEENEEE101A	**Apply Occupational Health and Safety regulations, codes and practices in the workplace**	**20**
UEENEEE102A	**Fabricate, assemble and dismantle utilities industry components**	**40**
UEENEEE103A	**Solve problems in ELV single path circuits**	**40**
UEENEEE105A	**Fix and secure electrotechnology equipment**	**20**
UEENEEE107A	**Use drawings, diagrams, schedules, standards, codes and specifications**	**40**
UEENEEE137A	**Document and apply measures to control OHS risks associated with electrotechnology work**	**20**
UEENEEJ102A	Prepare and connect refrigerant tubing and fittings	40
UEENEEJ103A	Establish the basic operating conditions of vapour compression systems	60
UEENEEJ104A	Establish the basic operating conditions of air conditioning systems	20
UEENEEJ106A	Install refrigerant pipe work, flow controls and accessories	60
UEENEEJ107A	Install air conditioning and refrigeration systems, major components and associated equipment	80
UEENEEJ108A	Recover, pressure test, evacuate, charge and leak test refrigerants	60
UEENEEJ109A	Verify functionality and compliance of refrigeration and air conditioning installations	20
UEENEEJ110A	Select refrigerant piping, accessories and associated controls	60
UEENEEJ111A	Diagnose and rectify faults in air conditioning and refrigeration systems and components	40
UEENEEJ113A	Commission air conditioning and refrigeration systems	40
UEENEEJ153A	**Find and rectify faults in motors and associated controls in refrigeration and air conditioning systems**	**60**
UEENEEJ170A	Diagnose and rectify faults in air conditioning and refrigeration control systems	80
UEENEEJ194A	**Solve problems in low voltage refrigeration circuits**	**60**
UEENEEK142A	Apply environmentally and sustainable energy procedures in the energy sector	20
UEENEEP012A	**Disconnect / reconnect composite appliances connected to low voltage installation wiring**	**60**
UEENEEP017A	**Locate and rectify faults in low voltage composite appliances using set procedures**	**20**
UEENEEP024A	**Attach cords and plugs to electrical equipment for connection to a single phase 230 Volt supply**	**20**
UEENEEP025A	**Attach cords, cables and plugs to electrical equipment for connection to 1000 Va.c. or 1500 Vd.c. supply**	**20**
Electives Group A		
UEENEEC001B	**Maintain documentation**	**20**
	Complete further units from a list of 35 electives for a total of at least 40 hours	20

Environment Minister named 'best Minister in the world'

Australia's efforts to reduce carbon emissions – including work to forge a new agreement to get refrigerant gases out of the atmosphere – has seen Environment Minister the Hon Greg Hunt receive the 'best Minister in the world' award at the World Government Summit in Dubai.

Minister Hunt has been a public supporter of the refrigeration and air conditioning (RAC) industry. He said in 2015 that the RAC industry had delivered a great service to the Australian community, delivering more emissions savings than any other sector in the economy.

L to R: *Glenn Evans (ARC CEO) and the Hon Greg Hunt.*

What you can and can't do with your licence

Licence entitlements: home and commercial refrigeration and air conditioning work

It is essential that licence holders work within the scope of their licence and communicate to consumers what they are entitled to do.

It is an offence under the Ozone Protection and Synthetic Greenhouse Gas Management Regulations 1995, to perform services outside the scope of a licence. This is likely to result in loss of licence and, consequently, an inability to provide these services. It is not worth the risk.

The following table sets out the entitlements for each of the qualified persons' licences in relation to home and commercial (stationary) refrigeration and air conditioning work.

Licence Name	Entitlement of licence	Important to note
Full refrigeration and air conditioning licence	To handle a refrigerant for any work in the refrigeration and air conditioning industry, other than the automotive industry.	
Restricted domestic refrigeration and air conditioning appliance licence	To handle a refrigerant for either or both of the following:	The Regulations outline specific definitions for domestic refrigeration or air conditioning equipment; and commercial stand-alone refrigeration equipment:
	• Any work on domestic refrigeration or air conditioning equipment;	Domestic refrigeration or air conditioning equipment means refrigeration or air conditioning equipment that: (a) is designed primarily for household use; (b) is designed not to be permanently connected to the power supply of the premises where it is installed; (c) Does not require the installation of pipework to enable the movement of refrigerant. *Note: This definition does not cover split system air conditioners.*
	• Any work on commercial standalone refrigeration equipment.	Commercial stand-alone refrigeration equipment means refrigeration equipment that: (a) is designed primarily for commercial use; (b) is designed not to be permanently connected to the power supply of the premises where it is installed; (c) Does not require the installation of pipework to enable the movement of refrigerant.
Restricted heat pump (split system) installation and decommissioning licence	To handle a refrigerant for the installation and decommissioning of any of the following: • A single-head split system air conditioner of less than 18kW; • A 2-part hot water heat pump of less than 18kW;	This licence does not entitle a holder to: • service / and or maintain a heat pump (split system) which involves handling refrigerant.

Demolitions targeted for refrigerant recovery

With the demolition of buildings comes a high risk of refrigerant emissions.

ARC has been working with Standards Australia to enshrine refrigerant recovery requirements within AS 2601 – Demolition Code. The value of including refrigerant recovery within AS 2601 is that demolition contractors will be bound legally, and, in all likelihood, will also be bound by contract – which often calls up AS 2601 for demolition works.

In addition to working with Standards Australia, the ARC has, and will continue to, work with Demolition Contractors Associations around Australia to reinforce these legal requirements.

If you see any instances of buildings or houses being demolished and you are sure that the cooling systems still contain refrigerant, we have a dedicated page on our website for you to lodge complaints against breaches of the Ozone Act. Visit www.arctick.org and type 'complaint' into the search bar.

ARC MEMBER PROFILE

Refrigerant Reclaim Australia

Refrigerant Reclaim Australia (RRA) is the not-for-profit environment protection trust established and funded by industry to collect and safely dispose of ozone depleting substances (ODS) and synthetic greenhouse gas (SGG) refrigerants.

RRA was originally established to collect chlorofluorocarbon (CFC) refrigerants as an important component of Australia's response to the depletion of the stratospheric ozone layer. The program was then expanded to incorporate hydrochlorofluorocarbons (HCFC). In early 2003, the industry representative Board of RRA decided to further broaden the scope and collect the synthetic greenhouse gases, hydrofluorocarbons (HFC).

From commencement in 1993 RRA was a voluntary program. Changes to the Ozone Protection and Synthetic Greenhouse Gas Management Act in 2003 made it mandatory to recover and dispose safely of ODS and SGG refrigerants.

The RRA Board of Directors is made up from representatives of many industry sectors: including importers of refrigerant, both in bulk and contained in equipment, wholesalers; and contractor organisations from the refrigeration and air conditioning (RAC) and automotive sectors. This representative mix ensures RRA is able to understand the issues faced by the industry and respond accordingly.

RRA is funded by the importers of ODS and SGG refrigerants and works closely with the wholesalers and sellers of refrigerants. Any company or person with a Refrigerant Trading Authorisation is obliged to take back recovered refrigerant and ensure its safe disposal. There are more than 400 locations around Australia where recovered refrigerant can be taken. After acceptance by the wholesalers, RRA collects the contaminated and unwanted refrigerant and transports it to the destruction facility.

The Australian RAC industry has now recovered and supplied to RRA more than 5,500 tonnes of unwanted refrigerant. This has many positive environmental impacts. The hard work and contributions by contractors, technicians, and wholesalers mean that more than 10 million tonnes of stratospheric ozone has been saved from destruction, and more than 10 million tonnes of carbon dioxide equivalent has been saved from emission.

REFRIGERANT RECLAIM AUSTRALIA

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auto-AC future:gas ROADSHOW

Seminars to help auto businesses prepare for R1234yf and R744

VASA, Refrigerants Australia, Refrigerant Reclaim Australia and ARC have partnered to deliver a national roadshow of educational seminars called **future:gas**.

These seminars are being designed to help businesses and technicians in the automotive air-conditioning industry prepare for two new refrigerants, R1234yf and R744 (carbon dioxide) that have been adopted by the global vehicle manufacturers. Due to the A2L (mildly flammable) rating of R1234yf and the high operating pressures of R744, both new gases and the systems designed for them will present significant changes to the tools, working practices, component standards and safety considerations relating to repair, service and refrigerant recovery.

This year, tens of millions of new vehicles will be manufactured around the world with air-conditioning systems using the new industry standard automotive refrigerants R1234yf and R744. In the future it is expected that almost every new car sold in Australia will use either of these new gases.

Vehicles with R1234yf air-conditioning systems started arriving on the Australian market in imported cars from mid-2014 and the first local workshop use of the gas came soon afterwards, on a late-model European car that required smash repairs.

The arrival of R1234yf will be followed by R744. So far only Mercedes-Benz has revealed production cars that will use R744, but recently announced legislation that will make it easier to import vehicles from overseas is expected to accelerate the uptake of both R1234yf and R744 systems in Australia.

future:gas seminar details:

Newcastle NSW Wed July 6	**Perth WA** Thu July 28
Sydney NSW Thu July 7	**Townsville QLD** Tue August 2
Melbourne VIC Wed July 13	**Darwin NT** Wed August 3
Hobart TAS Thu July 14	**Brisbane QLD** Thu August 4
Adelaide SA Wed July 27	**Auckland NZ** Wed August 10

Visit www.futuregas.ac for further information or email support@futuregas.ac