



AIRAH ADVOCACY

Queensland Building Plan

AIRAH RESPONSE



Prepared by

Phil Wilkinson, Executive Manager, Government Relations and Technical Services

Australian Institute of Refrigeration Air Conditioning and Heating (AIRAH)

3/1 Elizabeth Street, Melbourne, VIC 3000 | Tel: 03 8623 3000 | www.airah.org.au
email: phil@airah.org.au

About AIRAH

AIRAH is the recognised voice of the Australian air conditioning, refrigeration and heating industry. We aim to minimise the environmental footprint of our vital sector through communication, education and encouraging best practice.

Disclaimer

Information contained in this report may be copied or reproduced for study, research, information or educational purposes, subject to inclusion of an acknowledgment of the source.

The views and opinions expressed in this publication are those of industry participants and do not necessarily reflect those of AIRAH.

While reasonable efforts have been made to ensure that the contents of this publication are factually correct, AIRAH does not accept responsibility for the accuracy or completeness of the contents, and shall not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance on, the contents of this publication.

© AIRAH 2017



Table of Contents

Licensing Reforms	3
HVAC&R – An industry in transition.....	3
Mechanical services licence	3
Continuing Professional Development.....	4
Question 1.....	5
Question 2.....	5
Question 3.....	5
Question 4.....	5
Question 5.....	5
Question 6.....	5
Question 7.....	5
Building Certification	5
Building commissioning	6
‘cab rank’ certification	6
Sustainable buildings.....	6
Codes	6
Compliance - Dwellings	7
Compliance - Buildings	8
Environmental performance of government buildings.....	9
Question 1.....	9
Question 2.....	9
Question 3.....	10
Question 4.....	10
Key challenge	10
Non-conforming building products	10
Question 1.....	10
Question 2.....	11
Question 3.....	11
Question 4.....	11

Licensing Reforms

AIRAH supports the Queensland Government objective to simplify licence classes, modernise the approach, cut costs and timeframes, increase mobility and employability, and consult on Service Trades Council functions for Queensland Building and Construction Commission licenses.

HVAC&R – An industry in transition

The biggest issue confronting the refrigeration and air conditioning sector today is ‘refrigerant transition’, or more specifically the issues that arise when moving the industry from existing high global warming potential (GWP) refrigerant technology to newer environmentally friendly low-GWP refrigerant technology. Industry participants must now start to learn how to use a new set of low-GWP refrigerants with a new set of flammability, toxicity or pressure-related safety hazards that demand new design practices, new installation techniques and new operational and maintenance protocols.

The industry operates under a range of regulations including environmental, building, WHS, electrical safety, gas and hazardous atmosphere, dangerous goods, plumbing and energy efficiency. The complexity and inter-relationship between these regulatory requirements are often difficult for industry practitioners to fully understand leading to poor compliance outcomes.

All refrigerants have the potential to be dangerous if not treated correctly. The Australian industry has largely been trained in the application of non-flammable non-toxic refrigerants. As the industry transitions to refrigerants that are flammable, or toxic, or operate at very high pressures the safety hazards in the industry will rise and these will need to be correctly managed. This transition in refrigerant technology means preparing the refrigeration and air conditioning industry for changes in almost everything it does.

Any licensing scheme must address these changes, and these new skills and knowledge requirements, through the adoption of new VET competency units and continuing professional development and skills maintenance.

Mechanical services licence

AIRAH do not support the introduction of the new mechanical services licence class as proposed and outlined in the discussion paper and associated fact sheet.

The proposal is based on the current Victorian model; a state which has a history of mechanical services plumbing that is not replicated in other jurisdictions including Queensland. The proposal does not recognise the existing VET Refrigeration and Air conditioning qualifications or the national ARCTick licence scheme for handling synthetic refrigerants. Requiring refrigeration and air conditioning technicians to acquire certification in plumbing in order to be licensed for mechanical services is inappropriate.

AIRAH support national licensing, including harmonised state systems. A National occupational licensing system for refrigeration and air conditioning should be competency based and require a high standard of training to Certificate III and IV levels in refrigeration and air conditioning VET courses. Harmonisation of technical and competency requirements (with mutual recognition between jurisdictions) is important so that state licensing schemes do not become a barrier in a national industry. AIRAH suggest that the Queensland Government engage with PRIME, the HVAC&R industry low-emission initiative, and work collaboratively with all industry stakeholders to develop a system that can work (and potentially form the basis of a harmonised system for the states).

Work such as installing and commissioning air-conditioning systems, testing air-conditioning systems for leaks, repairing, altering and maintaining air-conditioning systems and components and the safe handling of refrigerant gases is specialised work requiring training and apprenticeship. This work is usually undertaken by Refrigeration and Air Conditioning (RAC) technicians not plumbing technicians. These trained technicians would usually hold a UEE32211 Certificate III in Air-conditioning and Refrigeration or UEE20111 Certificate II in Split Air-conditioning and Heat Pump Systems depending on their scope of work.

If accepted, this new mechanical services licence proposal for Queensland would mean that almost all existing skilled Refrigeration and Air Conditioning technicians would not qualify for a license, and only plumbing technicians that are unskilled and untrained in refrigeration will qualify to be licensed for this work. This will generate a lot of training costs and productivity reductions as existing technical service providers move to comply. The proposal also conflicts with the Commonwealth supported ARCTick licence because plumbing technicians that are unskilled in refrigeration won't qualify for a refrigerant handling license.

In the interest of energy productivity, emissions reduction, community and worker safety and the environment the Queensland Government should acknowledge HVAC&R as a specialised trade and allow only technically competent HVAC&R tradespeople to undertake RAC work.

AIRAH suggests that the Queensland Government engages with the with HVAC&R industry's current National Licensing work being undertaken within PRIME and also within ARC. Various industry groups within PRIME are keen to progress a National Licensing program that covers the environmental, health and safety, consumer protection and other occupational-based considerations into an industry-lead licensing scheme which could potentially be supported by the states and territories as well as the Commonwealth.

Continuing Professional Development

AIRAH support the introduction mandatory Continuing Professional Development (CPD) for building and construction licensees. This will improve the professionalism of the industry and provide individuals with the skills to address 21st century issues.

Question 1

QBCC can encourage widespread industry participation in the CPD scheme by making the requirement a mandatory condition of licence renewal.

Question 2

AIRAH agree that certain licence types or classes may be required to obtain more 'CPD points' than others depending on the complexity of the work.

Question 3

There are a range of topic areas suggested as topics for a CPD scheme in AIRAH's Discussion Paper "*Transition to low-emission HVAC&R: Issues and solutions*" available here – <https://tinyurl.com/jyvfgbc>

See sections 5.2.10, 5.2.12 and 5.4.11 of the discussion paper for topic lists.

Question 4

The type of activities that should be eligible for CPD points include attending seminars, training courses, industry events, tertiary study, participating in industry events, mentoring, and sharing technical expertise with others.

See the [Discussion-paper](#) for further discussion on this topic. <https://tinyurl.com/jyvfgbc>

Question 5

CPD activities should be available in a range of delivery models including online, face-to-face, self-paced, massive open online course (MOOC), and mentoring. There are a range of activities that are currently available and provided by a range of organisations that would qualify for CPD.

Question 6

A range of providers should be eligible to deliver the CPD activities e.g. QBCC, industry groups, RTOs, Universities, and overseas organisations.

Question 7

A voluntary and self-managed recording system is the best way to record and report CPD activities with random audits undertaken to check validity of claims.

Building Certification

AIRAH generally support the Building certification reform proposals.

Building commissioning

Introducing a mandatory requirement for building commissioning for commercial buildings (either in the National Construction Code or directly in Queensland building legislation) would improve compliance levels and potentially significantly simplify the building certification process. Building commissioning essentially requires designers, installers and builders to work together to ensure building and systems compliance prior to the building certification process.

If a standardised building commissioning process and associated documentation was mandated in Queensland there would be no need for Improving the inspection guidelines for class 2-9 buildings to clarify and better highlight the risks associated with fire separation.

AIRAH has worked with the HVAC&R industry PRIME initiative to develop a proposal for introducing a mandatory requirement for building commissioning that is currently being considered by the Australian Building Codes Board (ABCB) Building Codes Committee (BCC). The discussion paper can be accessed here [Building Commissioning Discussion Paper](https://tinyurl.com/hbgumey) .
<https://tinyurl.com/hbgumey>

'cab rank' certification

In regards to the 'cab rank' certification model for assigning AIRAH feel that the potential disadvantages outweigh the proposed benefits and suggest that the system be trialled in a designated jurisdiction to see what the true market responses are. In the commercial building sector certification is often a more complex and involved process than for residential buildings.

Sustainable buildings

AIRAH fully support the Queensland Government objective to improve the sustainability of commercial and residential buildings in Australia and make the following comment on the proposals -

Codes

Option 1—Develop a building code for 'living roofs' (also referred to as 'green roofs) and 'living walls' (or 'green walls') that would apply if a building owner chose to include them with their building

AIRAH support the development of a draft code for living/green roofs and living/green walls. This draft should reflect the significant research and development work carried out on this topic in Australia. AIRAH would rate this support at level 4.

Please refer to the work already done by RICS and others on cool roof/green roof design, specification and procurement. [RICS Guide https://tinyurl.com/z7bw94u](https://tinyurl.com/z7bw94u)

It should be noted that the green roof strategy impacts the heat load through the top floor only and also comes with a range of considerations about other things on the building and adjacent building's roofs (for example kitchen exhaust fans, cooling towers, toilet exhaust, solar PV, information and communications technology, etc). AIRAH propose that a 'Greener Buildings Standard' aimed at the specification and procurement of buildings with mid-range (good practice) sustainability characteristics could make more of an impact and could include for green roofs/walls within the mix of practical sustainability features that a building can readily incorporate over and above the minimum standards of the NCC.

Option 2—Develop a Maintenance Code for the energy features of commercial buildings

AIRAH strongly support the development of a Maintenance Code for the energy features of commercial buildings. Maintenance requirements have been removed from the NCC and it is now up to individual States and territories to encourage a focus on the performance of existing buildings. Existing buildings energy and water performance is an important element of overall sustainability of the property sector. Even well designed and constructed commercial buildings need to be maintained to ensure that energy consuming systems are performing optimally. The provision of maintenance and building tuning protocols will go some way to highlighting the opportunities for building owners and occupiers.

AIRAH also support the mandatory disclosure of energy performance (and water performance) for all commercial and residential buildings so that owners and users are aware of the existing buildings performance and the associated costs and risks of inadequate maintenance. This will help ensure that both owners and occupiers have an incentive to optimise energy and water performance. The existing suite of NABERS rating tools should be expanded to cover more building classes. The Commercial Building Disclosure program should be expanded to cover more building classes.

AIRAH collaborated with the NSW Government to produce the HVAC Optimisation Guide to help improve the performance of HVAC in existing buildings. The guide can be downloaded here -[HVAC Optimisation Guide . https://tinyurl.com/z9I4dug](https://tinyurl.com/z9I4dug)

AIRAH also produce the Industry maintenance guide **AIRAH DA19 HVAC&R Maintenance** which can be accessed here – [AIRAH DA 19 https://tinyurl.com/jh6q5qc](https://tinyurl.com/jh6q5qc)

Natspec have provided a useful TECHreport which outlines the basic principles of providing access for maintenance, current requirements in Australian legislation and standards, and good practice. This report is available here - [TECHreport-TR07.pdf . https://tinyurl.com/gnu6vlg](https://tinyurl.com/gnu6vlg)

Compliance - Dwellings

Option 1—Provide a requirement for house energy assessors to be accredited or licenced.

AIRAH support the introduction of an oversight requirement for house energy assessors in Queensland to provide minimum professional standards and improve industry practice for energy performance certification. AIRAH would rate this support at level 5.

Option 2—Improve the documentation requirements on house plans to clearly identify the energy efficiency features

AIRAH support the introduction of a minimum standard for what energy efficiency information should be shown on house plans, AIRAH would rate this support at Level 4.

Option 3—Develop auditing and inspection systems

AIRAH support the introduction of auditing systems to check that the design and construction of new dwellings comply with the relevant energy efficiency provisions. AIRAH would rate this support at level 5.

Option 4—Investigate the consistency of results from the BCA 2009 glazing calculator

AIRAH agree that this should be investigated and any inconsistencies addressed. Inconsistency in verification methods can lead to selective gaming, AIRAH would rate this support at Level 4.

Compliance - Buildings

AIRAH support the Introduction of a mandatory requirement for building commissioning for commercial buildings (either in the National Construction Code or directly in Queensland building legislation would improve compliance levels and potentially significantly simplify the building certification process. Building commissioning essentially requires designers, installers and builders to work together to ensure building and systems compliance prior to the building certification process. AIRAH would rate support for mandated building commissioning in Queensland building legislation at level 5. See the PRIME [Building Commissioning Discussion Paper](https://tinyurl.com/hbgumey) . <https://tinyurl.com/hbgumey>

Option 1—Develop auditing and inspection systems to check that the design and construction of new commercial buildings comply with the relevant energy efficiency provisions of the National Construction Code (Volume One – ‘Section J’).

AIRAH fully support the development of tools to help industry achieve compliance with the NCC Volume One – ‘Section J’. Please note the work already completed by City of Sydney on compliance checklists for NCC V1 Section J deemed-to-satisfy requirements and their work on standardising the formatting and content of Engineering Reports for performance-based JV3 analysis of Section J.

If a standardised building commissioning process and associated documentation was mandated in Queensland there would be no need for auditing and inspection systems to check that the design and construction of new commercial buildings comply with the relevant energy efficiency provisions of the National Construction Code (Volume One – ‘Section J’) as this would be addressed in the commissioning process/documentation.

Auditing for issues post construction is more a reactive than proactive approach which will expose compliance issues that are difficult and expensive to rectify and that would be discovered early through building commissioning.

Environmental performance of government buildings

Question 1

It is essential that the Queensland Government is leading the way in building performance and is seen to practice what it is preaching. The government must lead by example and that includes a higher than minimum standard of building portfolio performance. AIRAH believe that it is very important (Level 5) that the sustainability performance of Government buildings are improved to reduce emissions and their impact on the environment. The level of performance should be selectable between minimum (e.g. NCC), good and best practice (e.g. Green Star).

Question 2

AIRAH strongly support the Queensland Government looking to adopt higher performance standards for its buildings than the minimum sustainability requirements outlined in the NCC. In particular, Government should move to measure and benchmark the performance of their existing building portfolio. Addressing the energy performance of existing buildings is an essential element of improving the sustainability of the property sector and unlocking the energy productivity and emission reduction benefits.

AIRAH suggests that all Government occupied/owned office buildings are encouraged to rate their HVAC using the COAG funded and government supported “**Calculating Cool**” building HVAC free online rating tool. <http://www.calculatingcool.com.au/#/home>

AIRAH supports continued improvement, promotion and uptake of the tool, including an expansion of the tool scope to cover low-emission technologies. AIRAH supports continued improvement, promotion and uptake of the “Calculating Cool” HVAC rating tool and continues to work with Sustainability Victoria, COAG members and a range of industry stakeholders to develop this ‘world-first’ HVAC rating tool which is PRIME endorsed, evolving and gaining traction within the facilities space.

AIRAH also support the development of an emissions or efficiency **benchmarking tool for refrigeration** systems, similar to Calculating Cool but addressing industrial and commercial cold room and cool room refrigeration systems. There are software tools in existence overseas which could be modified or adapted for Australian use.

AIRAH have previously proposed the “Australian Greener Buildings Standard” which would be a voluntary higher-than-code sustainability standard that could be used to assist government and non-government procurement agencies specify improved performance standards for new buildings and building refurbishments. AIRAH would be willing to work with the Queensland Government and other industry stakeholders to develop such a code which could be used by State and Local government in building and refurbishment procurement

Question 3

AIRAH believe that all of the benefits and opportunities listed in regards to pursuing higher environmental standards for government buildings are important and are all interlinked. All of these benefits are achievable.

The important factors to consider for sustainability performance are all of those listed; Size, location (climate), population, classification (use), characteristics etc. In terms of priorities the highest energy consuming buildings should be addressed first. All buildings should be measured and benchmarked as a first step. Normalisation across those stated variables is the next.

Question 4

AIRAH strongly support the public reporting of environmental performance (such as energy and emissions) and recommend that government work with industry stakeholders to develop measurement and benchmarking protocols for all buildings.

Key challenge

The benefits of improving the sustainability outcomes of government buildings are long term and extend beyond the short term financial investment required. It will also act to drive an increase in capability at the trade level and increase jobs and productivity.

The key challenge is to work with industry stakeholders (e.g. NABERS, PCA, ASBEC, AIRAH) to develop the tools to allow the Queensland Government (and other non-government owners) to achieve the effective measurement and benchmarking of a range of building types and sizes. Once the appropriate tools have been developed the rest will follow.

Non-conforming building products

Question 1

AIRAH support the proposals to strengthen QBCC’s regulatory powers to ensure buildings are safe, and better align its powers with those of other Queensland regulators.

Question 2

AIRAH do not have concerns with increasing the powers of the building regulator as proposed.

Question 3

Regulators should pay for the cost of testing of suspected non-conforming building products. Those costs can be recovered where non-compliances are verified by the testing as part of the penalty provisions.

Question 4

AIRAH agree that there should be the ability to ban a non-conforming building product and this power should rest with the responsible Minister following recommendations by Queensland's building regulator.

End of submission



www.airah.org.au