

Monday, July 1, 2024

Re: Residential Tenancies and Residential Tenancies (Rooming House Standards) Amendment (Minimum Energy Efficiency and Safety Standards) Regulations 2024

AIRAH is grateful for the opportunity to comment on the changes proposed to minimum standards for rental properties and rooming houses in Victoria.

AIRAH is Australia's peak membership body for professionals and practitioners working in the heating, ventilation, air conditioning and refrigeration (HVAC&R) – building services industry. Our members include engineers, manufacturers, energy efficiency consultants, indoor air quality experts, technicians – and many other professions in this diverse, essential sector. We also have a special technical group dedicated to building physics, a field that studies the building envelope and the impact of measures such as insulation and airtightness. We have drawn on the expertise of these members in compiling our response.

Overall, AIRAH supports the work the Victorian government is doing to establish minimum standards to improve safety and energy efficiency of rental properties and rooming houses in Victoria. In many respects we believe you are leading the way in Australia to ensure we have healthy occupants living in sustainable buildings. These are two of AIRAH's principal aims.

We have addressed the survey questions of the consultation below. If you have any questions about our responses, please don't hesitate to contact us. We would be eager to continue supporting this vital work.

All the best,

Mark Vender

Advocacy and Policy Manager

AIRAH

Do you have any feedback for when the obligation for each proposed minimum standard will be triggered, as outlined in the proposed Regulation?

AIRAH is a signatory of the Roadmap for Heat Pump Hot Water Systems in Australia recently released by the Energy Efficiency Council, and funded by Solar Victoria within the Department of Energy, Environment and Climate Action (DEECA), and the New South Wales Department of Climate Change, Energy, the Environment and Water.

As noted in the roadmap, Minimum Energy Performance Standards are still being developed for heat pump hot water systems (HPHWS). Until this is in place, energy ratings and STCs are not a reliable measure of energy performance, so there is a danger that property owners will simply install the cheapest unit possible, which may not deliver the energy savings anticipated.

Do you have any feedback on the proposed exemptions for the minimum standards, noting that there are a range of exemptions for rental providers and rooming house operators, as outlined in the proposed Regulations and Regulatory Impact Statement?

A number of requirements include a proposed exemption where the cost of installation is “significantly higher” than average. This may be open to interpretation – and manipulation – by property owners and real estate agents who are seeking to avoid the cost of meeting the requirements.

Also, noting the exemption under body corporate laws, if a landlord is also the body corporate by dint of owning all the apartments or rooms in a building, they may decide that installation of the equipment is not permitted. The regulation may wish to contemplate this possibility.

What practical implementation issues/challenges might be associated with the proposed minimum standards? What steps should be taken to manage the risks and challenges identified?

Condensation and mould

Some of the energy-efficiency measures required by the minimum standards may have the unintended consequence of causing condensation and mould unless steps are taken.

For insulation, there should be a requirement for air sealing in the roof space before installation to reduce the risk of condensation. The cost of this measure should be included in the analysis.

When ceiling insulation is upgraded, a review of installed lighting should note whether existing fixtures can be replaced with IC-rated fixtures that can be covered by insulation, which would greatly increase the effectiveness by minimising thermal bridging. Incentives for replacement of lighting with IC-rated fixtures at the same time should be provided when incentives for ceiling insulation are provided.

It is important that draft-proofing does not compromise the provision of ventilation. Sealing wall vents may be OK if there are operable windows that meet the NCC requirements for natural ventilation or a mechanical system in accordance with AS 1668.2.

It would seem appropriate that there is a requirement to provide a kitchen exhaust system in accordance with NCC 2022 and bathroom and toilet exhaust ventilation and generally with mechanical means ducted to outside. The intent is to remove pollutants and odour, but importantly moisture and humidity. The application of continuous exhaust via a quiet, low-volume ducted mechanical system could assist with controlling the impact of indoor humidity arising from wet towels and other surfaces in bathrooms.

Draught sealing

AIRAH believes more consideration should be given to Option 4 for draught proofing.

While the draught sealing targets in Options 1 through 3 are worthwhile, these are often some of the smallest leaks found in a building.

The greatest benefit of blower door testing on existing housing is not a quantitative measurement, but the opportunity it affords for identifying large and unique problems. The analysis has focused on small issues that are easy to identify, but examples of problems several times larger abound: unnecessary vents over fridges; incomplete or missing finishes behind cabinetry; missing skirting; service penetrations; missing or ineffective dampers on fans; use of building (wall and ceiling) cavities as ductwork; disconnected or damaged ductwork; missing dampers on evaporative coolers; and poor ductwork connections to interior finished surfaces.

Taken together, these may represent many times more leakage than the door seals, ceiling roses, and wall vents factored in the analysis.

The leaks listed above are also less prone to degradation than those in the analysis. Door seals do wear out, for example, but seals around service penetrations and skirting last much longer and so should be discounted less.

In terms of costs, in the analysis of Option 4 (draught sealing guided by a blower door), the cost of a blower door test is estimated at \$565.

Victorian ATTMA Level 1 testers regularly charge much less than this for more regular workflows of testing. And the cost will decline as the market grows. For comparison, where testing is more common in other countries, like the UK, the average cost for a common blower door test is often less than \$200. AIRAH would support government subsidies for this work.

The Regulatory Impact Statement also notes, "there is limited availability of blower door testing professionals that would be able to meet demand generated under this option". But an increased demand for the service could readily be met. It takes approximately one week of training to become an ATTMA Level 1 Registered Tester, so a shortage of professionals is easily addressed. This could also be supported by government funding.

In summary, AIRAH believes the analysis counts the cost of testing with a blower door too high, and the savings and comfort benefits of addressing the largest leaks in the house too low. We would also query the discount rate used for the durability of the measures with the most impact

Maintenance of energy efficient appliances

Installing energy efficient appliances is an excellent measure, but it is vital this equipment is maintained to ensure it continues to operate at the same high levels of efficiency, and that it operates safely.

As Australia transitions to more sustainable refrigerants in line with our commitments under the Kigali Amendment to the Montreal Protocol, heating and cooling systems and hot water heat pump systems are increasingly using flammable refrigerants. This includes R32 in split systems and hydrocarbons in HWHPs. AIRAH would support the introduction of a compulsory safety check for these systems, similar to the safety checks required for electrical, gas and smoke alarm systems.

Currently, maintenance of heating, cooling and hot water appliances in rental properties generally falls into a grey area between tenants and property owners, with the end result being that the systems are not maintained.

As well as potential safety issues mentioned above, lack of maintenance leads to poorer energy efficiency. [Bench tests](#) conducted by CSIRO, SuperCool Asia Pacific and Cresstec on behalf of the Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW) show the significant energy penalties incurred by common equipment faults.

In the case of heating and cooling systems, lack of maintenance and cleaning can also have an impact on indoor air quality.

Taking all this into account, AIRAH supports compulsory checks of energy-efficient appliances for heating, cooling and water heating.

Ducted heating and cooling systems

AIRAH believes the analysis does not attribute enough penalty for the effect that ductwork has on overall system efficiency. Although we are not sure which calculation method was used, some methods, such as NatHERS analysis, fail to properly account for duct leakage, its direct penalty during operation, and its indirect penalty (contribution to building infiltration) during off hours. If the model attributes a fixed percentage of thermal losses to ductwork, in real cases this is often far greater than assumed.

Many duct systems are laid out extremely poorly, with runs of greatly excessive length, lack of proper support, compression, and bends that restrict airflow. None of these problems are present with simple split systems.

For these reasons, required efficiency levels for ducted systems should be made more stringent, not looser, so the penalty from their use is effectively offset by greater efficiency. Split systems are more efficient per unit of heat delivered, as well as far more efficient in being able to condition different portions of a house to different levels.

Evaporative cooling systems

The Regulatory Impact Statement notes that “Central evaporative cooling systems have a low running cost and are considered energy efficient ... An evaporative cooler can be replaced with another evaporative cooler at end of life.”

AIRAH would like to highlight that the cost of operating an evaporative cooler for a year is not only 96 kWh of cooling electricity (Table A.5 Key modelling parameters for heating and cooling in rental properties). It is a significant portion of the thousands of kWh per year in heating energy. Because of infiltration from unsealed cooler units with absent or ineffective dampers, and because of conductive losses of dozens square meters of ductwork in roof spaces, they have a major cost during much of the year. Studies have shown that evaporative coolers often account for 5-10m³/h/m² @ 50 Pascals of air leakage in a new building, which is often more than half of the leakage present. For older homes, it can be worse.

Correctly accounting for this penalty should show that retaining evaporative cooling systems compares poorly to replacement with room RCAC, which exhibit negligible air leakage. This is especially true because evaporative cooler homes are also frequently fitted with ducted heating, which has similar major performance penalties.

Decommissioning the evaporative cooler is an optimal time to decommission a ducted heating system and install room RCAC, if the energy penalties and benefits are properly represented.

Do you have any feedback or any additional evidence on the potential outcomes or benefits that could be expected from the introduction of the proposed standards on renters, rental providers, rooming house residents, rooming house operators, or the broader rental market?

Mandatory disclosure of household energy performance

The Regulator Impact Statement notes that the Commonwealth government is leading on the development of a National Disclosure Framework and that this work will inform future disclosure policy in Victoria.

AIRAH strongly encourages regulatory action on mandatory disclosure of property performance. Mandatory disclosure should be required for all rental properties, for landlords, tenants, and the market to help understand what level the rental market stock is positioned.

We encourage the government to build on the excellent work already done in Victoria with the Residential Efficiency Scorecard, and to look to the rules implemented in the ACT.

Other draught-proofing measures

Incentives could be provided for draught-proofing measures such as register outlet covers for homes with evaporative coolers and bathroom fans. Homes that do not have these measures should be strongly encouraged to install them.

There are also many technologies that can make a big difference in air leakage in a house, especially at turnover. A computerised water-based acrylic sealing process (for example, Aeroseal/AeroBarrier sealing), can efficiently and dramatically reduce air leakage to low levels in most homes. The technology has been used abroad for decades and is now being used in Australia. This could be subsidised when paired with simple, inexpensive, and durable ventilation systems such as a low-volume continuous extract system in bathrooms. For example, a combination of tight air sealing (<3 ACH50) and simple ventilation is required for climate zones similar to Victoria's in the current International Residential Code. The technology for a step change is available.

Gas cooktops

As noted, the minimum standards support *Victoria's Gas Substitution Roadmap*. Although the minimum standards will eventually eliminate most gas appliances in rental properties, gas cooktops have not been addressed. The [Global Cooksafe Coalition](#) website has evidence on the health and energy efficiency benefits of moving from gas cooking to induction cooktops. Given that network connection costs represent a large portion of gas bills, there would also be a major economic benefit for renters if they were completely disconnected from the gas network.

AIRAH supports measures to replace all gas appliances with electric appliances.