CORRECTED VERSION

ENVIRONMENT AND NATURAL RESOURCES COMMITTEE

Energy Services Industry Subcommittee

Inquiry into energy services industry

Melbourne — 20 February 2006

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Mr P. Pryor, Chief Executive; and

Mr P. Wilkinson, Technical Manager, Australian Institute of Refrigeration, Air Conditioning and Heating.
The CHAIR — I welcome Mr Philip Pryor, chief executive, and Mr Phil Wilkinson, technical manager, Australian Institute of Refrigeration Air Conditioning and Heating (AIRAH). Thanks for your time today; welcome to the committee. All evidence taken by the committee is taken under the provisions of the Parliamentary Committees Act and is protected from judicial review, but if you make comments outside the precincts of the hearing, they are not protected by parliamentary privilege. All evidence is being recorded by Hansard, and you will receive a proof version of the transcript within a couple of weeks. We have until about 2.20 p.m. or so, and I ask that you leave about 10 minutes for our questions at the end of your presentation; otherwise it is up to you.

Mr WILKINSON — First of all, thank you very much for the invitation to come and present from the perspective of the airconditioning industry. We are often perceived as being the bad guys. Hopefully we will be able to demonstrate today that we have been pretty proactive in the field of energy efficiency services.

I will quickly go over what we will cover today. I just want to set the scene as to who we are and the areas that we are currently involved in, in the energy efficiency field. The area we are focused on in the discussion paper is the key barriers to energy efficiency in commercial buildings. We actually surveyed the industry — going back about two or three years — on the main barriers to energy efficiency in commercial buildings in design and operation, so we will cover the findings there. Then we will sum up with the recommendations from AIRAH’s perspective.

AIRAH has been around for a bit longer than me — it has 85 years of history! We are a not-for-profit organisation with a member base right throughout Australia of around the 3000 figure. We have a reach right throughout the industry sector, with over 10 000 in the industry. One of AIRAH’s main strengths lies in the vertical slice that we have through the industry.

We start with the researchers and the academics — the guys at the cutting edge of development and research. We also cover the designers who put the systems together for the buildings for industry, the installers, the maintenance guys, the services techs and also the equipment manufacturers. So we are right the way through there, from top to bottom.

AIRAH also has international affiliations, so we can draw also on international expertise and research and findings, such as the International Institute of Refrigeration based in Paris. We also have affiliations with a lot of other international organisations.

We are a registered training organisation. We have a program that covers code regulation and the Australian standards. Anyone designing in the non-residential sector has to be up to speed with the building code of Australia plus a number of mandatory Australian standards. We have a benchmark — that is, the graduate certificate level, and we do not believe there is anything similar to it in Australia. We do a monthly magazine called EcoLibrium — I have included a couple of excerpts in the back of the package I have just given you; just some of the information we disseminate out to industry. That goes out to 10 000 people; it is often read by more than one person, so we believe we are getting the word out there.

We run a whole range of professional development activities and training seminars. These vary from state level, where we run monthly meetings, through to our national-based seminars and conferences. We also work, where the opportunity exists, with different governments on national, state and local agendas. So we are out there doing lots of things and have our fingers in lots of pies.

I turn to the energy focus, which is the reason we are here today. I just want to cover some of the areas that we are currently working on. I mentioned before we have training seminars for professional development for the airconditioning and refrigeration industry. We have three main seminars that are targeted at energy efficiency and raising awareness there. I have listed those there. Over the past three or four years we have been running special interest conferences specifically on the topics of energy efficiency, sustainable design, demand management and power supply issues.

We do ongoing reporting to the industry through the magazine; through the media there. I draw your attention to a couple headings that I have included in the information we have given you. AIRAH accredits energy auditors for non-residential and industrial buildings. It is a national scheme. We accredit against the highest level of the Australian standards for energy auditing. We also keep our web site up to date with all the latest articles and information that we have on energy efficiency and information from the magazine.
We have been doing a lot of work with the Australian Building Codes Board. AIRAH has provided the key input to the new energy efficiency measures for non-residential buildings. We see this as having a lot of potential to develop further training for these new requirements to make sure that if you get a designer and installer that is designing to these new code requirements, then you need to be able to know that he knows what he is doing. We think there is a good opportunity for an accreditation-type scheme there.

The National Framework for Energy Efficiency is another area where we have been having input. All the energy departments from the different states have come together to look for a way forward for issues with energy efficiency. We currently have an input into two of the work groups — I believe there are seven areas. We have also been working with the Australian Greenhouse Office on minimum energy performance standards for equipment, ranging from residential through to areas like chillers and that side of things.

Moving on to the survey that we ran a couple of years ago, energy was identified by our members through liaison, face-to-face meetings and also member surveys that energy efficiency has been a huge area of the airconditioning industry. As I mentioned before, we are often seen as the bad guys: blame it on the airconditioning, the lights have gone out because the airconditioning is sucking up all the power. First of all we surveyed to find out what the actual issues were as perceived by industry. We surveyed over 500 of our members, again through all those different areas and received feedback from about 100. From that feedback we put together the survey outcomes.

I will move on to some of the main results that came from the survey. There were a number of areas that we felt were external to the HVAC industry. Certain commercial drivers were certainly highlighted in the survey, and then there were certain areas within the industry to take a position on and actually do something about. One of those external areas is the capital cost price-driven options of delivery of new buildings. It was felt by industry that energy efficiency really did not get a guernsey because it was first-off costs that developers were looking to minimise.

Poor maintenance of existing equipment was picked up as a big issue. There was a perception that you could have the best designed building and the best equipment all really well designed, but if you just let it fall apart it was not going to be any good for anybody and would waste a lot of energy.

This item also relates back to item no. 1 about developers driving the market. Those that have input about energy efficiency are not really involved early enough in the project — the designers and people that operate the building. It is the developers that come up with a brief, put the brief together and say, ‘Well, the building should work’.

Existing building stock registered as a big problem. The Building Code of Australia’s new energy efficiency minimum requirements are fantastic, but that only touches on new building stock. Most of the buildings we are going to occupy for the next 20 years are already built so that is a real area that needs to be targeted to improve energy efficiency.

We have noted low energy costs — a no-brainer — and there are no current regulations for building stock to be audited and improved. That is certainly an area that could be improved.

Poor commissioning — and by commissioning we mean put into operation — of the systems once they have been installed: the designer may well have a very good idea of how the building is supposed to operate and be used, but if that intent is not understood by the installation personnel, or the commissioning personnel, then again you have wasted a lot of time and there is potential for a lot of energy wastage there. Also, the time frame within commissioning: it is always at the end of the project, is often eaten into, often used as contingency time for the developer, so that is a really big area that needs addressing at the moment.

Life-cycle costing — it was suggested that there was a lack of understanding of the benefits of sound life-cycle costing and really being able to look at stacking the figures up over the lifetime of the equipment rather than just paying the first-off costs.

Systems engineering was also in there as one of the big barriers. By systems engineering we mean the actual integration of components of the airconditioning plant. Again, you can have very efficient individual pieces of equipment like a chiller, cooling tower or a fan, but if that is not put together in a proper system, or the system is poorly designed, again a lot of efficiency can be wasted.
Accounting techniques: we surveyed members about triple bottom line accounting and there was a feeling that because we were only looking at fiscal or financial focus on accounting, it really did not take into account the social and environmental benefits.

Energy modelling was an interesting topic that came up. There was a lot of talk about being able to model buildings before they were built. How it is going to use this much energy and that there is not the confidence within the industry in the training to be able to say with firm belief that that energy model really relates to how a building will operate.

Lack of time research and development also came through as an area of concern. There are cases we have heard of about equipment, where maybe the ideas have been put out here in Australia but they have not been able to seek funding so they have actually gone overseas, got overseas funding and hence the technology has gone off shore.

We ended up with 20 of the barriers and those are the 10 main ones. I have provided a copy of the report to each of you for further reading. From the report and the survey study, it gave us a really good indication of where the industry sat, the position we were in and the areas we were able to affect, and also keep on the radar when governments and other industry associations were looking at areas to be addressed. It also gave us a good starting point, or a good ongoing point for developing and providing our training out to the industry.

From the work we are currently doing in AIRAH and also the survey results, these are the recommendations we would like to put forward. The first is for further government recognition or endorsement of the industry training that AIRAH has been developing and providing. We are always looking for funds to develop future course material and future areas. We are a not-for-profit organisation and we do a lot of work in different areas so we are always looking for where we can partner with different organisations or government departments.

Recognition of the AIRAH energy auditor register would be beneficial, whether that is an endorsement or pointing people through to see it as available. We would like to see funding of the BCA energy efficiency training which I mentioned earlier. We feel this is a very important area. If the airconditioning industry is to have credibility within the whole property sector, building surveyors need to know with surety if they know someone has been trained in AIRAH, they need to know to look for a benchmark, tick or accreditation which says, ‘This person knows what they are doing’.

What we absolutely recommend is a nationally consistent approach to outcomes from these findings. Constantly we find crossing over the state borders is an absolute nightmare in so much as different political agendas are driving different issues. We are very keen to see a national approach taken.

If any of you slept through that, just to summarise what we said, we at AIRAH believe we have been extremely proactive in the area of energy efficiency including sustainability. I highlighted a number of the barriers to energy efficiency from the membership report we presented, some of those being external to the airconditioning industry such as accounting practices and developers driving issues on lowest cost. AIRAH has taken on board to address internal issues to the airconditioning industry. With our background and the runs we have on the board we believe we are ideally placed to develop and provide ongoing and further training. We encourage government support to any AIRAH initiatives in these areas.

**Mr HILTON** — If my wife and I are in the market for an airconditioner and I have been to Harvey Norman, Betta Electrical and Retravision and we are totally confused, then I notice your organisation’s name in the Yellow Pages and ring you up and ask for your advice as an industry association as to what I should do in terms of energy efficiency, are you in a position to give that advice? If not where would you direct me to go to get that advice?

**Mr WILKINSON** — At this stage residential is not an area AIRAH has been particularly strong in; we are more focused on the non-residential. Our board which sets our strategy and direction has basically boosted residential to one of the top two or three areas we are looking at. We have a number of resources on our web site which look more specifically at acoustics and issues of noise and airconditioning. We have also researched other web sites where there is useful information, one looking at energy efficiency. It directs you to web sites where you can find what you should be looking for in an energy-efficient airconditioner where there is useful information; web sites that will also give you information about what considerations you need to be looking at, whether it is just one room, two rooms or a whole house; whether you want to use it for heating and cooling. There is information out there and what we have tried to do is put into an easy to get to place.
Mr HILTON — So would the advice be to look at your web site?

Mr WILKINSON — In the first instance, certainly.

Mr HILTON — If I am still confused because it is too technical or full of jargon, what then?

Mr WILKINSON — We would then be able to furnish contact details of members of AIRAH who work in the industry and have an interest in the residential sector provided that they had given the okay to do that. We would be able to provide you with details of people who could give you professional advice on what you need to do.

Mr HILTON — And that advice in your view would be impartial?

Mr WILKINSON — Yes. If we sent you to an airconditioning equipment supplier, it may not be impartial but what we would do is actually look for designers who are not selling the equipment.

Mr PRYOR — I think it is fair to say that there is an opportunity to better coordinate that information. We are now working towards providing more to people who come to the AIRAH web site — a more detailed questionnaire with questions for the consumer to ask their supplier, Harvey Norman or whoever it might be. We designed the noise code from the Brisbane City Council for this reason. There is a code of practice on that. It is the start of us moving forward. There will be other elements because we are getting a lot of phone calls ourselves as is the industry about what is the design, how do I rate it, how do I assess performance?

There is a lot of feedback. I guess it is in the last two or three years that that has really increased. That is a really big issue today. Even the manufacturers are getting inundated. There is a need in one spot to give people the ability to press the button, print out a guide, ask the questions, tick the boxes so you or your wife can get what you want.

Mr WILKINSON — Just to go on from that, we are also considering an accreditation scheme for installers with a checklist so they ask the right questions and give you all the information you need to consider, not just, ‘It would be really good if you have one of these’. The number of calls we get from the community is vast. There is obviously a need for it.

Mr PRYOR — With the other association, the contractors we are moving to get them to set a standard so the end customer can get what they want, what they are asking for. In a lot of practical applications in building the standards vary — there are some excellent people out there but there are always some down here who come and go in the industry, so we need to address that.

Ms DUNCAN — You said one of the strongest barriers was the fact that developers and builders tend to think just within the short term, the payback period, and adopt heating and airconditioning solutions accordingly. How do we overcome that disincentive for builders and developers to think more in the longer term and about energy efficiency?

Mr PRYOR — If you break down the building industry into owner-builders whether they are commercial or building on behalf of someone, if the person who is building the building wants to keep it, they will be more interested by definition in the cost of running it and the maintenance. They are a lot easier to get to because they have a vested interest in life-cycle costing.

With the people who are building and selling they do not care, it is, ‘It is your problem, that is a complicated area’. The issues are: what is the benchmark? What energy usage and empirical data collecting of what you would expect of building to use? We should then say you should be targeting this sort of consumption or reduction. It is collecting the data and setting some standards of building costs in various areas we would see as the best way.

There is a lack of empirical data and evidence available in the industry for engineers, architects and consultants. It is limited. They do not have a benchmark of what makes a good building versus a bad one. The greenhouse effect and other bodies are championing this, the 5-star rating et cetera, but this is not widely known as a measurement or performance factor you might be looking for.

Ms DUNCAN — So it has to be done through minimum standards, best practice or regulation?
Mr PRYOR — Yes. There must be some form of code of practice and measurement of outcomes otherwise you do not achieve much.

Mr WILKINSON — There is the aspect of what the actual users are asking for. The user or tenant may not have input into the actual design or what the developer is doing. By raising their awareness of whether they have a reasonable system or a poor system and then seeing what the benefits are cost wise and with triple-bottom online accounting, the societal and environmental factors as well, you can drive the demand from that end as well.

The CHAIR — Can I go to slide 9, headed ‘energy modelling’, which says:

Reliability of results from current modelling programs questionable

Will you talk me through that again?

Mr WILKINSON — Certainly. There are a number of different energy modelling software programs commercially available out in the industry. There are about five or six main ones that we have identified. Most of those come from overseas. There is a limited amount of support and training currently for those programs, so there is that whole issue of software — rubbish in, rubbish out — but also with the people understanding and driving these bits of software well, working out how the building is actually going to be used.

You can make as many assumptions as you like at the design stage, but if a building is operating from 9 to 5 and closed at weekends, what about the janitor who comes in and switches on all the lights and the airconditioner just so he can do a bit of vacuuming? The way data is entered into the programs can also affect the outcomes. We have a really good paper on, I think, about 50 different variables that can affect outcomes and how much they can affect them. If that is of interest, we can certainly send you a copy.

The CHAIR — No, that is okay. The other one I would like to talk to you about is the national framework for energy efficiency. You have mentioned that you participate in it and provide advice.

Mr WILKINSON — On the education side we have been invited by Katrina Woolfe at Sustainability Victoria to have, one, recognised practitioners who would have valuable input and, two, to coordinate with them training workshops to identify the nuts and bolts of what is actually required. That has got to the initial workgroup stage. With the high efficiency strategy, an organisation out of Canberra is coordinating that, looking at what can be done in the next 10 years within the airconditioning industry to increase energy efficiency. The areas we are looking at for that are commissioning, operation and maintenance of equipment. That has been identified as a key area where some key savings can be made. That program is, I believe, looking at energy modelling as well, but there are separate people working on that.

Mr PRYOR — There is a big opportunity with the new building code, which focuses on energy efficiency, to ensure that having set the parameters — what the targets should be — we help people achieve and measure those targets. We would see there are another couple of steps to support the building code, and we will be talking to the group that is going to explain this to the community, saying there is another step — that is, to teach them how to best achieve the objectives. To then start to measure some of those would be a good outcome and that under the national approach would be the building code, because it is focusing on energy efficiency with its new guidelines.

Mr BENJAMIN — I am a bit unclear about the energy auditing process. Despite there being an Australian standard, there is no accreditation body.

Mr WILKINSON — I believe in years past Engineers Australia — probably about 10 to 15 years ago — ran an accreditation scheme and registration. There are accreditation schemes in the ABGR scheme — that is, the Australian building greenhouse rating scheme — but with regard to energy auditing, we do not believe there is any other similar organisation.

Mr BENJAMIN — So the accreditation that AIRAH runs, is that just in relation to energy audits for heating and cooling systems?

Mr WILKINSON — No. You have got to prove yourself proficient in at least three end uses of which airconditioning may be one, or lighting, office equipment, boilers, a whole range of different areas. I was just going...
to mention it was developed when Sustainability Victoria was SEAV and there was a requirement under the EPA for large energy users to have energy audits put in place.

Mr BENJAMIN — Do you think there is a need for a whole energy audit program or accreditation system?

Mr WILKINSON — It certainly plays a part in it. It is no good having an energy audit if you are not going to do anything with the results. An energy audit by itself is a report which may sit on a shelf. Depending on whether the client has to or chooses to take the actions as a result of the energy audit, that is the next part of the process. I believe under the EPA requirements any proposed savings in the energy audit report, if they had a return of investment less than three years, they were required to take those up. It is not just a one-step process.

Mr PRYOR — If you think of the existing bank of buildings there, a lot of people who are either owners or distant owners are not aware of the costs of running the buildings. So in answer to that, if you had an energy audit process, you would make a lot more people aware that they could save their operational costs, which are dollars and cents to them, plus energy costs. I would say yes, there is a need for energy audits but not in isolation. I agree with Phil; you need some other mechanism that says, ‘Let’s make you accountable’. If there is a finding that your building is relatively inefficient or there are big savings, then there should be some pressure to do something about it.

To follow up Joanne’s question earlier about regulation, there is a fairly good case of some regulation on the legionnaire’s issue which is maintenance, water et cetera that is fairly strong. It is stronger overseas than here, and in the UK it is actually a crime. It is manslaughter as a consequence of the issue. That should give you some idea of what can be achieved, but again it is understanding the data of the base case before you can get too stringent; that would be my comment.

Mr WILKINSON — To follow up on that, AIRAH has worked really closely with the Department of Human Services in the water treatment side of things to come up with company accreditation and accreditation of technicians. They were originally the guys tipping chemicals in cooling towers. There was no training whatsoever. We have really progressed the issues on that, particularly in Victoria.

Mr PRYOR — We do water treatment and all those sorts of courses now, which we provide for the industry, but water efficiency is another area. We are working with them now to try to get an established course and accreditation up. That is our 2006 program — to try to get something measurable in training in that area.

The CHAIR — Thank you very much for your time today, gentlemen.

Witnesses withdrew.