

AFIA

LOW EMISSION
HIGH REFLECTION

ALUMINIUM FOIL INSULATION ASSOCIATION INC.

Est: 1998

Senate Inquiry on Federal Government's Energy Efficient Homes Packages

To; Environment, Communications and the Arts References Committee Senate, Parliament House

Canberra

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Introduction

This submission is made to the Senate Inquiry on behalf of the aluminium foil reflective insulation industry and AFIA as a peak body within that industry. AFIA believes the following comments and attachments offer an insight not only into its concerns over the Housing Insulation Program component of the Energy Efficiency Homes Package, its roller coaster ride, performance and management, but also into the real and general state of the insulation industry which has been in confrontational turmoil for many years. The Association being represented by its Membership Executive will make itself available to the Senate Inquiry in person should it be required to do so with all due notice.

Notwithstanding the Energy Efficiency Home Package or Housing Insulation Program (HIP) the AFIA believes there are many underlying factors that have aided the turbulent administration of the HIP and the wide spanned abuse by installers of opportunity that comes with it. What we have seen over the past twelve months is an industry entrenched in a highly inflated pricing scenario, an out of control material import supply chain, a constant media attention on the validity of performance of new imported products, the tragic deaths of three installers late in 2009 and numerous house fire reports to the unscrupulous dealings of the flood of self centered new installers who have left or will leave the industry tainted and fractured for years to come.

Who will pick up the pieces when the scheme is gone? Calling for its extension is also foolish, self centered and selfish unless the industry succumbs to an all out Government regulated overhaul of its standards, testing facilities and governance of standards such as the BD-058 Committee for insulation under the management of Standards Australia.

It should also be noted that ICANZ and its members, a commercial key recipient and consultant to the HIP does not represent the entire or majority of industry stakeholders here in Australia. The ICANZ membership consists only of the two large fiberglass manufacturers, Fletcher Insulation & CSR Bradford Insulation. There are other insulation associations and material types here in Australia. There have been many issues of confrontation within industry over the years between ICANZ and other insulation industry bodies.

These can best be reviewed from the AFIA Submission made to The Commissioner, Mr. Robert Fitzgerald, Australian Productivity Commission, *Standards and Accreditation Study Submission*, 21 April 2006 where little was done by standards Australia to facilitate and adopt many of the Commissioners findings and recommendations. (see attachment 1) A copy of the Commissioners findings and recommendations is also attached as, Attachment 2.

It is our understanding that the HIP was first initiated by the fiberglass industry or ICANZ (Insulation Council of Australia & New Zealand) as a move to underpin their sagging sales, overflowing warehouses as a result of the economic downturn and the fact that you cannot shut down a fiberglass manufacturing plant for the weekend only to start it up on a Monday morning. These machines and businesses are 24/7 (twenty four/seven) models and commercial private enterprises which should not survive at the expense of the tax payer to underpin their existence simply because they cannot be shut down.

AFIA's first step of action

In the first of two letters sent to the Federal Government by AFIA in 2009 the first letter, a letter sent to The Hon Kevin Rudd, Prime Minister on 9 February 2009 (see Attachment 3) AFIA raised a number of concerns about the proposed EEHP – Housing Insulation Program and made a number of recommendations that would have assisted greatly in the overall governance and control of the program moving forward. No response or reply was received by AFIA from the Government.

The second letter was sent to Mr. Greg Lemmon, the Program administrator of DEWHA dated 1 October 2009, (see Attachment 4). In this letter AFIA again pointed out its growing concerns about the facilitation of the HIP scheme sighting best practice installation practices being abused, pricing disparity and the lack of control by the program to track products that were being imported and where they were being used and in what quantity.

Above all the AFIA has been and still is concerned about the future wind down of the scheme and the impact it will leave on industry and its normal markets. We believe the market will be awash with unfit imported products with prices so low beyond normal market rates to get rid of product that many National business's will be severely affected for years to come.

Where exactly did things start to go wrong?

In 2002 after many years of insulation industry stakeholder attempts to draft an agreed position on a unified fit for purpose insulation standard under the management and guidance of Standards Australia AS/NZS4859.1 Materials for the thermal insulation of Building, Part 1: "General criteria and technical provisions" was published.

This document was missing one fundamental element however of absolute consumer protection ensuring that best practice of thermal performance measuring and rigorous science would prevail and the nonsense of current belief of so many that bulk insulations do not alter in their physical state of performance in-service above the mean temperature all materials are tested at under AS/NZS4859.1.

The clause under which this element was missing is *Clause 2.3.3.4, Temperature Differences*. The following extract is what was documented within the standards Draft after the Public Comments had closed. The highlighted section then disappeared from the Draft prior to publication. “Thermal resistance shall be determined at a standard mean temperature of $23 \pm 1^\circ\text{C}$ for products sold in Australia and $15 \pm 1^\circ\text{C}$ for products sold in New Zealand. ***This value shall be assumed to apply over the whole operational temperature range, provided that the thermal resistance of the material or assembly is sufficiently independent of temperature, and that it varies by less than 5% from the value at the standard mean temperature over the extremes of the intended operating temperature range.*** Where this is not the case then thermal resistance shall be determined at the intended operating temperature.”

We are highlighting this because AFIA believes that the current state of the HIP R-value performance criteria is one which is unjustified and was introduced by Government without the consultation of the whole of industry stakeholders. It appears that in the main the fiberglass industry were widely consulted and the higher than BCA regulated R-values implemented were modeled and imposed without the rigour or support of validated field testing research, something even the Federal Government of the day should not be exempted from ensuring.

Simply implementing higher R-values without validating even modeling outcomes in order to say this is best practice in energy efficiency is not providing consumers with the quality of assured outcome they should expect from Government, a position which is in the National interest. The relationship between higher R-values and the missing paragraph of the standard AS/NZS4859.1 is important to put on the table because the environment in which all bulk insulations are operating in during summer months in many states of Australia are not being aligned with true testing requirements. This paragraph that was moved was inserted originally by the CSIRO who wrote the Draft initially.

Having said this we now see the ABCB have planned to also introduce new higher insulation R-values into the 2010 BCA Energy Efficiency Amendments also without justifying or validating the modeling outcomes from rigorous field research especially when this technology is available here in Australia. (see later comments on University of South Australia (UniSA)). This decision by the ABCB is made in the face of an over whelming reaction of dismay and rejection submitted by many industry stakeholders including those of the likes of the HIA, MBA and National architects bodies.

The high thermal performance R-values, be they material R-values or Total R-values derived through building element modeling imposed by the Federal Government and those now imposed by the BCA are not the answer. Justified balance for differing climates, summer and winter considerations and building envelope design is however the only answer. The mandatory use of reflective insulations within the building envelope should be a priority to any building fabric here in Australia as a starting point for best practice in thermal modeling then and only then should bulk insulation be added on a balanced needs basis. To do otherwise is accommodating self commercial interests.

Over scoring and loading up ceilings or other building fabric components with bulk insulation can have a negative effect on the lifestyle and human comfort of building occupiers. Dr Richard Aynsley points out in his submission to the Senate Inquiry of December 20, 2009 that

there is an effect known as “The Law of Diminishing Return”. His comments will provide the scientific approach. For the layman however this simply means too much insulation in the summer will not only induce “heat sink” conditions within the attic space as temperatures climb to say 60DegC where the bulk insulation breaks down in its ability to halt heat transfer past 23DegC (Mean Temp) but that in the evening as the night sky cools down there remains trapped within the living environment excess high temperature which can then only be cooled down by mechanical means such as air-conditioning. Is this energy efficiency at its best, certainly not.

It is at this point that the cost of the insulation system comes under review and the consumer is left to pay for the excesses through employing mechanical cooling, hardly a move in the right direction or interests of the consumer or responding to the National needs of providing sustainable energy resources.

To further support AFIA’s concerns and to demonstrate to the Senate Inquiry that all is not what it seems within industry, that there are facilities within Australia who not only have the equipment but also the skills to undertake field and laboratory research AFIA and a key member of the Association undertook independently funded research to produce two independent peer reviewed and published papers of scientific research. Both these papers have been by way of submission presented to the Australian Building Codes Board after their release only to have both papers not acted on or taken seriously.

Both these scientific field researches showed validated concerns and cause for corrective action over current industry performance practices.

The first scientific research project was;

- ***“Thermal Testing of Continuous Roll Form Foil Backed Fibreglass Building Blanket Insulation”*** (see Attachment 5) which was completed in August 2008. The research was undertaken by University of South Australia (UniSA). This research was then subsequently presented to the ABCB for action and amendment to the current BCA and Standards Australia for action of change within Appendix K of AS/NZS 4859.1 and its Amendment 1. This report was deemed as not necessary to act on by the ABCB who believed the current coverage of compression of these materials in-situ was adequately covered under “Notation” within the BCA Energy Efficiency Provisions. AFIA remains opposed to the current Notations in that they are not specific enough, nor are they mandatory when in reality compression of these materials de-rates its actual in-service thermal performance significantly as shown in the report which is hardly correct for the consumer. In relation to the presentation to Standards Australia to have the material stated within the AS/NZS 4859.1 Appendix K this was also refused to be acted upon and remains this way to date. We now find Standards Australia have moved to a position of user pays so it is unlikely that Standards Australia will call up the BD-058 committee to sit on this matter or any other matter until someone is prepared to fund the activity or the Government of the day instructs the committee to reconvene.

The second scientific research project was;

- *“Thermal Resistance of Australian Roofing Systems”* (see Attachment 6 & 7), also by Dr Martin Belusko and his team of the Institute for Sustainable Systems and Technologies, University of South Australia, (UniSA). This privately funded scientific project by an AFIA member shows also the need to have Government funded follow up research. This field project underpinned the scientific research of fiberglass insulation within attic spaces and it clearly shows that even in winter bulk fiberglass insulation is under performing. The research highlights an even greater concern that the ABCB has about thermal bridging which effects all bulk insulation in all climate zones. This research was also peer reviewed by international academic and scientific researcher of many years, Dr David Yarbrough who is considered internationally as one of the worlds leading scientists in all facets of insulation, in particular reflective insulations. Dr Yarbrough who has a private practice known as R & D Services, USA is also a leading scientist academic at the internationally known Oak Ridge National Laboratory, USA. His peer review paper is also attached.

In bringing these matters to the Senates attention we hope that not only will the Senate see the need to amend the HIP if it is to continue through its planned duration but also that it needs the complete involvement of all stakeholders and not just the few. This submission also highlights the great downside of the insulation industry even before the EEHP & HIP began and the immediate need to review standards and the research technology and facilities available to stakeholders and the Government alike here in Australia. Energy Efficiency is insignificant and not sustainable if our policies are not fundamentally sound in their approach, review and meaningful in terms of generation best outcome for the consumer at large.

As we move to the close of this short Submission we wish to raise one more element of energy efficiency at its worst. In 2003 AFIA approached the ABCB and local government of Western Australia about the ABCB approach to the heat flow direction of Perth, WA. Despite presenting an over whelming submission and evidence by way of a report from Western Power showing that more energy was consumed during summer than that of winter the ABCB went ahead and imposed a “WINTER” climate zone for Perth, WA which still stands today. AFIA still maintains all it records intact of its submission and representations where it was noted in a letter to AFIA by the acting State Minister Mr. Jim McGinty who stated he consulted with FARIMA (Fibreglass & Rockwall Insulation Manufacturers Association) (now ICANZ) on the matter and was satisfied their position on opposing our submission to have the heat flow direction reversed to summer was good enough for him to oppose our request.

Notwithstanding all this the ABCB in its modeling which it ran for a standard house in all climate zones found it fit after the results for Perth showed that the climate zone should have been summer and “heat flow in” over ruled this outcome and remodeled the roof system just on its own with a new set of parameters giving a new reversed result of “heat flow out”. Again AFIA’s objection was over ruled yet there was no other interjection from industry stakeholders. Where is the justification in the interest of the consumer and sustainability of best practice of energy efficiency if the real in-service outcomes of roof attic spaces and the overall building envelope is continued to be jeopardised by bad practice and bad judgement of regulators and government departments including the current Energy Efficiency Homes Package.

Close

In closing we would like to leave the Senate Inquiry with the following comments of one of our members who has traded in installations for 15 years, who has been a member of AFIA for nearly 10 years and who's input to industry we value greatly.

Emailed to members, 15 January 2010

"The new paperwork sent by the government to insulation contractors is again another knee jerk reaction and about 1 year too late. The horse has bolted and the fly by nighters have made their money and gone leaving a legacy of bastardizing our industry and destroying the longevity of our businesses.

Part of our business was removal of insulation, vacuum cleaning dust removal etc which was part of what sustained our business. It was a duty of care of which we informed the client of removal vacuuming and disposal of insulation material. This potential business has now almost stopped due to the fact that people have come in, covered over the dust and house pollutants and removed old insulation materials without proper vacuuming.

The new Government documentation now requires us to provide details of our installers

- 1. Trade*
- 2. years of experience or more;*
- 3. Or do course certification*

All one year too late. Why did they not put this as a precursor to enrolling in the program??? Stupid thing is if you have a trade, ie; brick layer, you are exempt. What does a brick layer know about installing insulation materials??? My team have been with our company almost two years. We have employed many people who have come and moved on.

The thing the Government don't realize, people in the position of insulation installer rarely stay in the industry or the position for 12 months let alone two years. Whose idea is 2 years??? What I teach my team over a 3 month ~ 6 month period they are fully trained and can cover all applications of insulation installation. Both residential commercial and industrial. Both Thermal and acoustic treatments.

I pride our company on its installation work and training we have provided to date (HILTI, explosive, power tool application). In house training is provided by manufacturer (AUTEX polyester) / scaffold work etc. To have the Government now turn around a tell me to get my men qualified unless I can substantiate 2 years service BUT allow a brick layer / painter / other trade to just get a free card entry into our industry is wrong.

People in this industry are not trades people or licensed, IF they were they would be doing their trade/ professionally. This is an unlicensed and generally unskilled work force that takes its instruction and training from on the job and what peripheral training is available from industry manufacturers and the like.

We have no choice but to conform to the rules BUT as I mentioned it is all too late, the cowboys have got their money and headed for the hills, leaving us with another expense to say we are legitimate. Sounds like two sets of rules boys.

We have had a business for over 15 years in the insulation industry. I can truly say this has been a letdown and poorly organized initiative. Why they didn't just keep the state initiative s running as smoothly as they had been is beyond me, Government red tape."

End

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Attachments:

1. Australian Productivity Commission Submission by AFIA
2. Australian Productivity Commission Final Report
3. Letter to Hon Kevin Rudd, Prime Minister
4. Letter to Mr Greg Lemmon – DEWHA
5. AFIA Survey Report
6. University of South Australia Study
7. R & D Services peer review letter