

All Correspondence To:
The Secretary
AFIA
139 Herald Street
Cheltenham
Victoria, 3192

21st April, 2006

The Commissioner
Mr Robert Fitzgerald
Australian Government Productivity Commission
PO BOX 80
Belconnen, ACT 2616
Australia

Ref: Standards and Accreditation Study Submission

Dear Sir

AFIA welcomes the timely opportunity provided by the Productivity Commission to openly address and make comment on matters AFIA feels are of great seriousness regarding Standards Australia Ltd and its operating policies and procedures for the development of Australian standards under the Memorandum of Understanding between the company and the Australian Commonwealth.

The following submission is we believe a true and accurate account of the matters identified within the submission. We request that the matters raised within our submission be given due and full consideration within your relationship study and review recommendation outcomes. AFIA has maintained a full account of all events outlined within this submission should additional in-depth information be required by the commission during its study.

AFIA thanks the Productivity Commission in advance for this opportunity and looks forward to the Commission's study outcomes and recommendations.

AFIA SUBMISSION TO
AUSTRALIAN GOVERNMENT PRODUCTIVITY COMMISSION
STANDARDS & ACCREDITATION STUDY
APRIL 2006

Introduction

On February 2nd, 2006 in a joint press release the Treasurer, Hon Peter Costello MP and the Minister for Industry, Tourism and Resources, Hon Ian Macfarlane MP announced that the Commonwealth Productivity Commission will undertake a research study into the Australian Government's relationship with Standards Australia Limited and the National Association of Testing Authorities, Australia (NATA).

This submission focuses only on the relationship between the Australian Government and Standards Australia Limited.

Standards Australia Ltd is a privately owned corporation providing national standards and benchmarks. It facilitates the development of consensus based Australian and international standards and related guidance based materials. Standards Australia has a Memorandum of Understanding between itself and the Commonwealth of Australia for the assessment and development of necessary contemporary and internationally aligned standards and related services which enhance the Nation's economic efficiency.

Signed on 23rd November 2003 the MOU contains general principals for any assessment process for the development of standards. These principals are required to be sufficiently and economically rigorous, including where appropriate also provide a risk assessment process which takes into account public and occupational health and safety and environmental protection.

To develop such standards, Standards Australia constitutes a development and governance committee for each and every standard it produces. Of key interest in this submission is the Committee known as BD-058, “*Thermal Performance and Insulation of Dwellings*” which is charged with the development and maintenance of a standard known as AS/NZS 4859.1 “Materials for the thermal insulation of buildings, *General criteria and technical provisions*”.

It is this committee and this standard along with the following outlined issues that AFIA makes this submission to the Productivity Commission.

About AFIA

The Aluminium Foil Insulation Association (AFIA) is an authoritative peak body representing twelve independent insulation manufacturers and merchants within Australia and New Zealand for reflective aluminium foil insulation products. AFIA was formed in 1998 as a result of the need to have reflective aluminium foil insulations and their manufacturers and merchants represented within industry adequately at every level of public policy and industry standards development.

AFIA has over the years worked assiduously to promote highest and best use of reflective aluminium foil insulation, and for higher standards in the insulation industry to ensure that all standards and regulations are fair and impartial in both their implementation and representation.

AFIA has also attempted at all times to work constructively within the framework of Australian Standards and other areas of public policy developments to ensure its members and their products are fairly represented.

The mission of AFIA is “to communicate and promote to industry, government and the general community the environmental importance of high quality standardized aluminium foil insulation for energy efficiency in building design”.

Outline of Submission

There is grave concern amongst our members that a situation exists of partiality and capture within the nominating organizations and their representatives for the Manufacturers & Suppliers Sector of the Australia Standards Committee Constitution, BD-058 for Building Thermal Insulation.

AFIA believes a case exists for change to the structure of the BD-058 Committee Constitution on the grounds that the “capture” or long held over empowerment of the Committee Constitution Sector is emanating from the commercial interests of two dominant manufacturers who are outrageously over represented on this Committee.

AFIA also believes there is a lack of neutrality of balance within the Sector specifically which, as outlined in Appendix:1 of this submission clearly identifies the dual representations of the nominating organizations within the manufacturing & Suppliers Sector of the Committee Constitution including the conflict of loyalties and interests in their respective representations.

Of equal concern regarding the capture outlined in this submission is the situation that the BD-058 Committee is responsible for the development and maintenance of joint Australian and New Zealand standard AS/NZS4859.1– *Materials for the thermal insulation of buildings*, a standard called up under federal legislation within the Australian Building Codes and their Amendments which contain national Energy Efficiency Provisions (EEP).

This standard has current proposed amendments now under ballot vote consideration by the BD-058 Committee. The ballot vote closed on Tuesday 18th April, 2006. AFIA has since the conception of these amendments opposed their development on the grounds that commercial bias exists within the draft amendments which will inhibit fair trade for all AFIA manufacturing members and their associated merchants if the amendments are allowed to proceed to publication in their current format. The scope and format of the principal amendments were designed by Standards Australia under instruction from the BD-058 Committee nominating Government agencies who instructed Standards Australia to develop generalized normative default assumptions for reflective insulation materials where manufacturers use calculation methodologies to determine and declare thermal performance Total R-values for consumer labeling.

This all resulted from undertakings by the Australian Greenhouse Office who, in late 2004, with the consent of FARIMA, (Fibreglass & Rockwall Insulation Manufacturers Association), instructed a leading New Zealand testing laboratory to randomly test samples of bulk insulation materials from eight leading Australian bulk insulation manufacturing companies. Notes: (a) FARIMA is now known as Insulation Council of Australia & New Zealand (ICANZ), (b) Consent advice is documented.

The objective was to identify whether or not these leading Australian manufacturers of insulation were meeting labeling thermal performance R-Value claims for their materials as tested under steady state laboratory test conditions and against parts of AS/NZS4859.1. While AFIA did not disagree with this event it did disagree with the scope of the ensuing proposed amendments to the AS/NZS4859.1 standard which followed. It was apparent from the above events that the Australian Greenhouse Office also wanted to ensure reflective insulation materials were also making validated correct claims with the labeling of these products.

To assess the thermal performance of reflective insulation materials the process requires modeling calculations by an approved engineering company under Section 4 of AS/NZS4859.1 since most reflective insulation materials do not have a material specific thermal R-value on their own.

The objective of the modeling is to assess the manufacturers building element design drawing showing the precise positioning of the insulation material as it would be in-situ or in-service. Bulk insulation materials manufacturers have the same option to declare their thermal insulation performance to consumers after the laboratory testing of their products under steady state conditions have been done, but most choose not to even though this is the preferred methodology of the Australian Building Codes under their new Energy Efficiency Provisions.

Modeling under Total R-value or in-service conditions would then give the consumer a more accurate perception of the products performance in either winter or summer climate conditions which despite all the probable denials by the two key manufacturers concerned in this submission “all products” do behave differently in-service under differing climatic and installation (in-situ) environmental conditions. The difference between thermal modeling and laboratory testing is that thermal modeling nominates thermal R-values in both heat flow down (into buildings) and heat flow up (out) whereas laboratory steady state testing produces mainly heat flow up or outwards only and does not take into account higher radiation absorption loads on the building envelope or within it. This is just another issue within AS/NZS4859.1 and how it is not well written where these matters should be addressed under labeling and in accordance with Clause 2.3.3.2 of the standard. How can a steady state test for example, heat flow up, give an accurate account of that products performance for heat flow down, when the radiant energy loads for up and down are commonly very divergent?

In the case of AFIA members, to undertake such modeling the engineer uses not only AFIA design installation and base assumption guidelines but the engineering company also undertakes to comply with Clause 2.3.3.2, Section 4 and Section 9 of AS/NZS4859.1. This clause and sections ensures that the engineer takes accountability for all the installed environmental conditions so they are present in the calculation and the calculation is compliant with the current AS/NZS4859.1. The AFIA assumptions and installation guidelines have been independently third party validated by three independent expert academics two of whom are internationally recognized. The AFIA assumptions and installation guidelines have been used and published on the AFIA website since 2003. This document can be found published on the AFIA website, www.afia.com.au.

The proposal for new industry assumptions and installation guidelines contained within the current proposed amendments to AS/NZS4859.1 emanating from the AGO have in the opinion of AFIA not followed the due standards development processes from the start ensuring rigorous science would prevail while also ensuring transparency and consensus of all outcomes. AFIA feels that the mission here has been to dislodge and discredit the AFIA assumptions and installation guidelines and replace them under Standards Australia developed amendments to AS/NZS4859.1

Equally AFIA has opposed the amendments since they have failed to take into account adequately and with equal emphasis, de-rating factors for all insulation materials where manufacturers use Total R-value computations for determining declared thermal performance of products in-situ or in-service.

AFIA has continually outlined these facts to Standards Australia in writing since February 2005 only to be ignored time and time again. It has since the beginning of these amendments also been the opinion of AFIA that considerable influence and pressure has been bought to bear on the Committee leadership and Standards Australia by the two key manufacturers identified in this submission as having the capture of the BD-058 Committee Constitution Sector for Manufacturers & Suppliers.

Their representatives are not expert academics or scientists in the field of this science nor have these representatives ever published work in this field. They are market or production managers at best, non directors of the companies they represent with their respective nominating organizations, yet their pressured opinions seem to over ride the experts' opinions of those engaged by Standards Australia to develop the technical components of the proposed amendments in question. This entire expert sub-committee appeared to fall into disarray in the end with frustration.

Finally, in this outline AFIA raises the recent extreme concern whereby, that within these proposed AS/NZS4859.1 amendments there was inserted last November a reference to a New Zealand standard known as NZS4214(Int):2002. AFIA has recently identified this standard as currently having been under revision for an unidentified period of months during 2005-2006 without the knowledge of Standards Australia or the BD-058 Committee at large, yet this fact was known to some nominating organizations who hold both voting representation on BD-058 Committee and New Zealand Standards Committee P4214, the committee responsible for the revision process and amendments of NZS4214(Int):2002.

AFIA finds this conduct both deceptive and misleading and not in the interests of the Australian and New Zealand consumer at large. While the conduct of the nominating organizations and their representatives was not apparently known by Standards Australia, the company Standards Australia, AFIA believes, has failed under its own operating policies and procedural protocols to ensure the status and currency of a referenced standard within its own standards development.

This event does however hold the nominating organization and their representatives collectively accountable with their failure to execute their duties as a BD-058 Committee member with transparency, loyalty, integrity and honesty. In fact the case exists in both camps as, had Standards New Zealand been aware of the reference to NZS4214(Int) within the proposed amendments to AS/NZS4859.1 they would surely have acted on the information and made Standards Australia aware of the situation.

In any event the system failed in both camps.

The Primary Issue

At a meeting between Standards Australia and AFIA on 16th March, 2006 held at the offices of Standards Australia in Sydney, AFIA once again presented its call for change for a third time since its initial letter to Standards Australia on these matters on February 18th, 2005. The meeting was once again called by AFIA to discuss what progress had been achieved by Standards Australia in relation to the above matters and to reaffirm AFIA's call for change within the BD-058 Committee Constitution.

During this meeting it was stated by the senior delegates representing Standards Australia that it was Standards Australia's belief that the balance of representation as outlined in the attached Appendix-1 showing the BD-058 Committee Constitution was, "fair and accountable for the Manufacturing & Suppliers Sector of the Committee Constitution".

It was further stated that it was "acceptably based on market share". This has been rejected by AFIA. It was identified and conceded later in discussion though by one of the Standards Australia delegation that "while Standards Australia had principles and guidelines for committee sector representations", which AFIA is in agreement with, "Standards Australia did not have principles and guidelines in place for dealing with relevant interests within any of the individual Committee Sectors".

In acknowledging this, AFIA pointed out that there is a duty of care issue on the part of Standards Australia to ensure that it duly undertakes and upholds the General Principles under Clause 3.5 of the Memorandum of Understanding between Standards Australia and the Commonwealth, dated 14th March, 2003 on behalf of the consumer and community at large.

Clause 3.5 reads; "Standards Australia will seek consensus and a fair and accountable balance of all relevant interests when developing Australian Standards reflecting not only sound and modern technical practices, but also taking full account of the needs of producers, service providers, users and others who are materially affected".

AFIA confirmed at this meeting that it also has the full support of the members of the Independent Insulation Manufacturers & Merchants Association of Australia (IIMMAA) to which AFIA is an affiliated member. IIMMAA represents the collective interest of cellulose, wool and polyester insulation manufacturers and merchants whom are also independently represented on BD-058 Committee, Sector: Manufacturing & Suppliers.

We refer here also to the first IIMMAA letter sent to Standards Australia on October 27th, 2005 and the subsequent meeting with Standards Australia attended by two IIMMAA delegates on 10th November, 2005 regarding the same matters raised in this submission.

In order to present our concerns with absolute clarity in this submission we have set out the following five representations which reflect the duplication of association representations and duplication of association representatives as taken from the attached Appendix:1.

	Votes
1. Insulation Council of Australia & New Zealand (ICANZ) Representatives: Fletcher Insulation & CSR Bradford Insulation Sector: Aust Manufacturer & Suppliers	(2)
2. Australian Foil Insulation Manufacturers Association (AFIMA) Representative: Fletcher Insulation Sector: Aust Manufacturer & Suppliers	(1)
3. Thermal Insulation Contractors Association (TICA) Representative: CSR-Bradford Insulation Sector: Aust Manufacturer & Suppliers	(1)
4. Business New Zealand (BNZ) Representative: Fletcher Insulation Sector: NZ Manufacturer & Suppliers	(1)
5. New Zealand Employers & Manufacturers Association (NZEMA) Representative: Fletcher Insulation Sector: NZ Manufacturer & Suppliers	(1)

For each of the above nominating association we asked the following questions:

1. What are the unique differences and interests between each nominating association?
 - a. **ICANZ** represents and operates as an insulation council for Australia and New Zealand insulation manufacturers. The membership consists of two manufacturers as listed below. Anyone reading the name ICANZ would clearly believe and understand this is an organization (council) representing all forms of insulation materials and their manufacturers for both Australia and New Zealand. There is nothing in the name to suggest ICANZ represents fibreglass and rockwall insulation manufacturers only and no other forms of insulation materials. The evidence is as follows.

The members are:

- i. Fletcher Insulation which is a division of Fletcher Building, a New Zealand based company who according to it's website states it also now owns two of Australia's major players in the insulation market, Insulation Solutions & Tasman Insulation" that now operate under Fletcher Insulation.

The website also states that it is the marketer of “leading types of insulation such as glasswool, polyester and reflective foil insulation products”.

- ii. **CSR Bradford Insulation** who also manufacture and market glasswool insulation and reflective foil insulation products.

- b. **AFIMA** represents reflective foil insulation manufacturers but the two manufacturer members are as above, Fletcher Insulation and CSR Bradford Insulation.

There are no unique differences between the nominating organizations of ICANZ and AFIMA since the ICANZ members manufacturer all types of insulation products including reflective insulation materials. So there does exist a dual representation of associations in this instance. A third quasi member of this Association is **DUROID**, a brand manufacturer of reflective foils who is also owned by Fletcher Insulation. One other member, **ORICA**, is a glue manufacturer.

- c. **TICA** represents “specialist contractors, distributors and suppliers involved in the commercial and industrial insulation and encapsulation industries” according to its website. Noted “Member Suppliers” on the website are Tasman Insulation, Insulation Solutions and CSR Bradford Insulation which again is a dual conflict of association representation interests.
- d. **BNZ** represents commerce in New Zealand generally and not specifically insulation manufacturers and as such should not exist at all within the Australian Standards BD-058 Committee Constitution.
- e. **NZEMA** represents commerce in New Zealand also but on a broader scale. Again this Association is for general employee and manufacturers and not specifically insulation manufacturers and as such should not exist at all within the Australian Standards BD-058 Committee Constitution.

There are many hundreds of types of business entities in existence in New Zealand and AFIA fails to see the common thread of requirement that ties both NZEMA and BNZ to the insulation industry specifically, particularly when both the representatives are from the same employment as can be seen in item 2 (d) and (e) below.

This is clearly a case of dual representation of nominating organizations for additional representative representation interests all linked to the ICANZ membership. It would be hard to believe that NZEMA would have hundreds of association members representing every segment of commerce in New Zealand.

The Productivity Commission and others must see the memberships of BNZ & NZEMA for what they are which is nothing more than “stacking” the system. Surely Standards Australia can not ignore this or see it any other way.

2. What are the loyalty factors of each representative person representing each nominating association?
 - a. **ICANZ** is represented by two representative persons. While there is no loyalty conflict of interests here there is a conflict of interests in that no other organizations within the Manufacturers & Suppliers Sector of the BD-058 Committee Constitution has equal emphasis voting with 2 x votes or dual representation.
 - b. **AFIMA** is represented by an employee of Fletcher Insulation thus there is loyalty conflict of interests at hand under dual nominating association representation.
 - c. **TICA** is represented by a “Supplier Member” employee and not a contractor. The Supplier Member is CSR Bradford Insulation also a member of AFIMA and ICANZ. There is loyalty conflict of interests at hand. This is dual nominating association representation and a conflict of representative interests.
 - d. **BNZ** is represented by an employee of Fletcher Insulation thus there is loyalty conflict of interests at hand. This is dual nominating association representation and a conflict of representative interests.
 - e. **NZEMA** is represented by an employee of Fletcher Insulation thus there is loyalty conflict of interests at hand. This is dual nominating association representation and a conflict of representative interests.

To be clear on what AFIA has been seeking from Standards Australia we state again, that it has been for the company to acknowledge the situation, and, with all urgency, do what must be done, which is, “take action” to re-constitute the BD-058 Committee Constitution correctly and with balance and fair representation of all interests and to then immediately re-examine the current proposed draft amendments to AS/NZS4859.1.

“Knowing is not enough” of what has gone wrong. Hence we set out again the following agreeable representations for the Manufacturing and Suppliers Sector of the BD-058 Committee Constitution as tabled to Standards Australia Building Standards Sector Board on March 28th, 2006. We also suggested that the Sector be renamed to accommodate installation contractors. We suggested also that consideration should also be given as to how the voting rights are treated of an installation contractors association where that association has no direct interests in the development of a specific type of standard such as AS/NZS4859.1 which is for the testing of thermal insulation materials.

This is not a standard that should be influenced by installers. So we either get the voting rights established or remove them from the committee constitution.

Agreeable Manufacturing & Suppliers Sector Representations

	Vote
1. Insulation Council of Australia & New Zealand (ICANZ) Representative: TBA Sector: Manufacturers, Suppliers & Installation Contractors	(1)
2. Thermal Insulation Contractors Association (TICA) Representative: TBA (but must be a recognized contractor employee) Sector: Manufacturers, Suppliers & Installation Contractors (but must not be able to vote on AS/NZS4859 standard)	(1)
3. Aluminium Foil Insulation Association (AFIA) Representative: Current representative Sector: Manufacturers, Suppliers & Installation Contractors	(1)
4. Polyester insulation manufacturers interests (no association) Representative: Current representative Sector: Manufacturers, Suppliers & Installation Contractors	(1)
5. Australian Cellulose Insulation Manufacturers Association (ACIMA) Representative: Current representative Sector: Manufacturers, Suppliers & Installation Contractors	(1)
6. Wool insulation manufacturers interests (no association) Representative: Current representative Sector: Manufacturers, Suppliers & Installation Contractors	(1)

The Secondary Issue

During the last twelve months of development of the proposed amendments to AS/NZS4859.1 AFIA has repeatedly brought to the attention of Standards Australia in writing the concerns of the Association regarding issues identified in the outline of this submission in relation to the proposed Amendment:1 of AS/NZS4859.1. The core of these concerns are:

1. Partiality exists within the proposed amendments draft towards reflective insulation materials.
2. Failure to provide evidence of scientific data to support specific crucial changes made to the draft by the Project Manager and the Chairman of the BD-058 Committee without the full knowledge and consent of the Committee.

3. Failure to complete and get agreement for specific technical components of the proposed amendments to AS/NZS4859.1 assigned to an expert sub-committee and provide consensus agreement as a whole in writing to the BD-058 Committee by the expert sub-committee academics engaged by Standards Australia to develop the technical core of the amendments.

Comment:

Formation of a Technical Committee

Standards published everywhere around the world are prepared by competent technical committees. The essential characteristic of all these committees is that membership is balanced, and that it represents the broadest possible spectrum of interests.

Each committee has an unpaid external chairperson, and in the case of Standards Australia it nominates its own staff as the projects manager and committee secretary. This person is also responsible for coordinating all committee work, and ensuring the draft standard or its amendments which emerges from the committee work follows the basic principles of standardization. These principles are published in a series of [standardization guides](#) which in this case are published by Standards Australia. Additionally the chairman must be free from commercial conflict of interest between all sitting members.

Preliminary Draft

Before any drafting work is undertaken, the committee is obliged to ensure that the proposed standard or any amendments to a standard will in no way act as a barrier to trade, competition or innovative development. It should also be a strict policy to adopt international standards to the maximum possible extent. In the absence of an appropriate international standard, a verification that the proposed standard or any amendments to a standard must show that it will in no way be anti-competitive as the committee proceeds to prepare a draft. Where an international standard is to be referenced within a proposed standard or amendment to a standard all care must be taken by the committee to ensure as to its status and currency and that its contents are free from conflicting with those of the proposed standard or its amendments.

Openness and transparency of process

Transparency is critical in the preparation of standards. Transparency means that every act must follow a well-established procedure; that the procedure is equitable to all parties, and that every step in the standardizing process is open and available for scrutiny.

Consensus

Consensus in standardization is the process through which a technical committee, consisting of many different and sometimes opposed interests arrive at a general agreement on the content and requirements of a standard.

All technical committees are under an obligation to work towards consensus. This distils agreement from many different points of view, and allows a broad-based agreement to emerge. In turn, this produces a standard which best matches the needs and values of our society as a whole, and with equal and fair representation of a range of parties, broad community acceptance can be assured.

Summary

In reading the meaning behind Standards Australia's new logo the company has stated some inspirational words from the great mind of Leonardo da Vinci who once said;

"I have been impressed with the urgency of doing. Knowing is not enough; we must apply. Being willing is not enough; we must do".

AFIA urges the Productivity Commission and the Office's of the Treasury and Industry, Tourism and Resources to collectively at the conclusion of this review process insist that Standards Australia enact the words which the company so richly endorses from Leonardo da Vinci, and, "be willing", "apply" with "urgency", and change the way the company structures and operates it's standards development committees. They must ensure that there is "a fair and accountable balance of all relevant nominating interests on committees" when developing standards which must have real value for the consumer at large in the end and not the commercial interests of just a few. Until such time as the above issues have been addressed to the satisfaction of AFIA, and generally all, we believe the BD-058 Committee will languish in a void of total agitation, with out balance, uncertainty and embarrassment to all who represent it.

Finally, AFIA has advised Standards Australia in writing that it shall remain in a negative vote status for the proposed AS/NZS4859.1 Amendment:1 until all the above matters are addressed to the full satisfaction of AFIA. As for a response from Standards Australia in relation to our letter to the Chairman of Building Standards Sector Board dated, March 28th, 2006, AFIA was promised a response within two days of the Boards meeting which was held on Wednesday 5th April, 2006. We are still waiting thank you, any wonder we are at our wits end!

End

Prepared for and in consultation with
the AFIA membership by:

Brian. E. Tikey
President for AFIA

AFIA Submission to Australian Government Productivity Commission
Standards & Accreditation Study, April 2006

Appendix:1

Current BD-058 Committee Constitution

	<u>Vote</u>
7. Insulation Council of Australia & New Zealand (ICANZ) Representative: Fletcher Insulation & CSR Bradford Insulation Sector: Manufacturer & Suppliers	(2)
8. Australia Foil Insulation Manufacturers Association (AFIMA) Representative: Fletchers Insulation Sector: Manufacturer & Suppliers	(1)
9. Thermal Insulation Contractors Association (TICA) Representative: CSR-Bradford Insulation Sector: Manufacturer & Suppliers	(1)
10. Business New Zealand (BNZ) Representative: Fletchers Insulation Sector: NZ Manufacturer & Suppliers	(1)
11. New Zealand Employers & Manufacturers Association (NZEMA) Representative: Fletcher Insulation Sector: NZ Manufacturer & Suppliers	(1)
12. Aluminium Foil Insulation Association (AFIA) Representative: Represented Sector: Manufacturer & Suppliers	(1)
13. Polyester insulation manufacturers interests (no association) Representative: Represented Sector: Manufacturer & Suppliers	(1)
14. Australian Cellulose Insulation Manufacturers Association (ACIMA) Representative: Represented Sector: Manufacturer & Suppliers	(1)
15. Wool insulation manufacturers interests (no association) Representative: Represented Sector: Manufacturer & Suppliers	(1)
16. Association of Accreditation Certification Bodies Representative: Represented Sector: Certification Interests	(1)

17. Australian Building Codes Board (1)
 Representative: Represented
 Sector: Regulatory & Controlling Interests

18. Australian Greenhouse Office (1)
 Representative: Represented
 Sector: Regulatory & Controlling Interests

19. Energy Efficiency & Conservation Authority (NZ) (EECA) (1)
 Representative: Represented
 Sector: Regulatory & Controlling Interests

20. Building Research Association of New Zealand (BRANZ) (1)
 Representative: Represented
 Sector: Research & Academic Organizations

21. CSIRO – Manufacturing & Infrastructure (1)
 Representative: Represented
 Sector: Research & Academic Organizations

22. Testing Interests Australia (1)
 Representative: TBA
 Sector: Research & Academic Organizations

23. CSIRO- Textiles & Fiber Technology (1)
 Representative: Represented
 Sector: Research & Academic Organizations

24. Curtin University of Technology (1)
 Representative: Represented
 Sector: Research & Academic Organizations

25. University of Adelaide (1)
 Representative: Represented
 Sector: Research & Academic Organizations

26. Consumers Federation of Australia (1)
 Representative: Represented
 Sector: Consumer & Community interests

27. Engineers Australia (1)
 Representative: Represented
 Sector: Industry, Professional & Technical Associations

28. Housing Industry Association (HIA) (1)
 Representative: TBA
 Sector: Industry, Professional & Technical Associations

29. Master Builders Association (MBA) (1)
 Representative: Represented
 Sector: Industry, Professional & Technical Associations
30. Office of the Australian Safety and Compensation Council (1)
 Representative: TBA
 Sector: Industry, Professional & Technical Associations
31. Plastics and Chemicals Industries Association (1)
 Representative: Represented
 Sector: Industry, Professional & Technical Associations

Note: Sector nominating representations and representation numbers identified in Appendix-1 above are taken from Standards Australia BD-058 Committee constitution website.

➤ Research & Academic Organizations	6
➤ Industry, Professional & Technical Associations	5
➤ Regulatory & Controlling Interests	3
➤ Consumer & Community interests	1
➤ Certification Interests	1
➤ Manufacturer & Suppliers	10
• TOTALS	26