

RESPONSE SHEET  
**NCC 2011 VOLUME THREE**  
**PLUMBING PROVISIONS**  
PUBLIC COMMENT DRAFT

**Respondent's name:** Phil Wilkinson  
**Organisation:** Australian Institute of Refrigeration Airconditioning and Heating (AIRAH)  
**Contact details:** PH: 03 8623 3010

---

**Clause/Figure/Table:** E1.2 deemed to satisfy provisions

**Recommended change to draft:**

Reword as follows:

**E 1.2 Deemed-to-Satisfy Provisions**

- (a) Mechanical ventilation and airconditioning systems for buildings and structures to which the BCA applies, must comply with the specific requirements of Volume One of the BCA.
- (b) Any water services, sanitary plumbing and drainage, heated water services and gas installations associated with the design, construction, installation, replacement, repair, alteration and maintenance of mechanical ventilation and airconditioning systems must be in accordance with AS 1345, AS/NZS 3500.1, AS/NZS 3500.2, AS/NZS 3500.4, AS 4426 and AS 5601 as appropriate.
- (c) The design, construction, installation, replacement, repair, alteration and maintenance of pressure equipment and piping for airconditioning and refrigeration must be in accordance with AS/NZS 1200, AS 1271, AS 1358, AS/NZS 1677.1 and AS 4041.
- (d) The design, construction, installation, replacement, repair, alteration and maintenance of copper piping for airconditioning and refrigeration must be in accordance with AS/NZS 1571.

**Comment/reason for change:**

AIRAH do not believe that the stated project objective of “removing overlap or inconsistency between codes” will be achieved with the current proposal; indeed publishing the codes together as proposed appears to highlight the overlap and inconsistencies rather than remove them. It will be unproductive for the new National Construction Code Plumbing Provisions to conflict with the current BCA requirements and may cause confusion in the industry resulting in less than optimal building and plumbing solutions. This potentially large conflict can be resolved by relatively minor editorial changes and careful use of language as recommended below.

AIRAH suggest that all matters that are dealt with by the current BCA 2010 regarding the application of Australian Standards for HVAC be directly referred to by the plumbing provisions rather than being repeated or alternative provisions specified. The plumbing provisions could then concentrate on the plumbing issues and standards not covered by the BCA.

AIRAH note that the recommended changes outlined below are essentially editorial and do not propose any technical changes to the way industry operates or how the Australian Standards are applied. These changes are largely editorial and language based and are intended to minimise any potential for confusion, misapplication or misinterpretation of the National Construction Code. These changes do not represent “significant changes” that would need to be assessed for regulatory impact analysis as required by COAG Best Practice Regulation Guidelines.

The recommended individual changes to each individual clause are outlined and explained below.

**Clause/Figure/Table:** E1.2(a)

**Recommended change to draft:**

Deemed-to-Satisfy provision should refer to all of the HVAC requirements of the BCA.

Revise Deemed-to-Satisfy provision E1.2 (a) to state:

*(a) Mechanical ventilation and airconditioning systems for buildings and structures to which the BCA applies must comply with the specific requirements of Volume One of the BCA.*

**Comment/reason for change:**

AIRAH are not convinced that the proposed deemed to satisfy provisions for heating, ventilation and airconditioning systems of E1.2 Volume Three (Plumbing Provisions) Public Comment Draft will satisfy the stated performance requirements of EP1.1. Only referring to section F of the BCA does not address the many issues associated with energy and water efficiency and life/property safety.

Regarding E1.2 (a)

To be efficient in the use of energy and water (see EP1.1(c)) the provisions should also require systems to comply with Section J of the BCA

To avoid the likelihood of damage to property and loss of occupant amenity (see EP1.1 (b)) systems will also need to comply with parts of Sections C, E, G, H and I of the BCA.

---

**Clause/Figure/Table:** E1.2 (b)

**Recommended change to draft:**

Remove reference to HVAC standards from E1.2 (b) and relocate reference to AS 1358 for bursting disks to E 1.2(c) which covers pressure piping

Revise Deemed-to-Satisfy provision E1.2 (b) to state:

*(b) Any water services, sanitary plumbing and drainage, heated water services and gas installations associated with the design, construction, installation, replacement, repair, alteration and maintenance of mechanical ventilation and airconditioning systems must be in accordance with AS 1345, AS 4426, AS/NZS 3500.1, AS/NZS 3500.2, AS/NZS 3500.4 and AS 5601 as appropriate.*

**Comment/reason for change:**

Regarding E1.2 (b)

There are many conflicts between current BCA requirements and the deemed-to-satisfy provisions outlined in E1.2 (b), particularly in relation to references to Australian Standards AS 1324.1, AS/NZS 1668.1, AS 1668.2, AS 4254 and AS 4508.

Apparent conflicting requirements are identified as follows:

- E1.2 (b) refers to AS 1324.1. This is the general air filter standard and its application is generally determined by application of AS 1668.2. AS 1668.2 determines where filters are required and the minimum efficiencies for that application. Filters are not required in all ventilation systems. Current wording could be interpreted as requiring AS 1324.1 filters on all HVAC systems although the filter class or efficiency is not specified.
- E1.2 (b) refers to AS/NZS 1668.1. This is the standard for smoke control. Its application in Australia is generally determined by reference to the BCA and depends on building class and size. AS/NZS 1668.1 is not applicable to all systems or all buildings. Current wording could be interpreted as requiring all HVAC systems to comply with AS/NZS 1668.1.
- E1.2 (b) refers to AS 1668.2. This is the standard for ventilation. Its application in Australia is generally determined by reference to the BCA. AS 1668.2 is not applicable to all systems or all buildings. Current wording could be interpreted as requiring all HVAC systems to comply with AS 1668.2.

## AUSTRALIAN BUILDING CODES BOARD

- E1.2 (b) refers to AS 4254. This is the standard that covers ductwork for air-handling systems in buildings. This standard is referred to selectively in the BCA and in its reference standards AS/NZS 1668.1 and AS/NZS 3666.1. AS 4254 is not applicable to all systems or duct types. Current wording could be interpreted as requiring all HVAC ductwork to comply with AS 4254.
- E1.2 (b) refers to AS 4508. This is the standard that covers thermal resistance of insulation for ductwork used in building airconditioning. The BCA also specifies requirements for thermal resistance of insulation for ductwork used in building airconditioning in Section J. BCA does not refer to AS 4508 and BCA requirements are not entirely consistent with AS 4508 requirements. This is a conflicting requirement with the requirements of the BCA and should be removed.

---

**Clause/Figure/Table:** E1.2 (c)

**Recommended change to draft:**

Revise Deemed-to-Satisfy provision E1.2 (c) to state:

*(c) The design, construction, installation, replacement, repair, alteration and maintenance of pressure equipment and piping for airconditioning and refrigeration must be in accordance with AS/NZS 1200, AS 1271, AS 1358, AS/NZS 1677.1 and AS 4041.*

**Comment/reason for change:**

E1.2 (c)

The Deemed-to-Satisfy provisions for pressure pipe should all be grouped in E1.2 (c) and AS/NZS 1677.1 should be referred to for refrigeration systems.

---

**Clause/Figure/Table:** E1.2 (e)

**Recommended change to draft:**

Delete Deemed-to-Satisfy provision E1.2 (e) as these standards are covered in provision E1.2 (a) as modified.

**Comment/reason for change:**

E1.2 (e) refers to AS/NZS 3666.1 This is the standard that covers the design, installation and commissioning of air and water systems for microbial control. This standard is referred to as a primary reference standard in the BCA.

E1.2 (e) refers to AS/NZS 3666.2 This is the standard that covers the maintenance of air and water systems for microbial control. This standard is referred to as a primary reference standard in the BCA.

E1.2 (e) refers to AS/NZS 3666.3 This standard offers an alternative performance based maintenance management method to the prescriptive requirements of AS/NZS 3666.2 for cooling water systems. Application of this standard should only be by competent skilled people and supported by risk management principles as detailed in the risk management plan. AS/NZS 3666.3 is not suitable for broad or unskilled application to cooling water systems without appropriate risk management, planning and documentation.

The Building code of Australia refers to both AS/NZS 3666.1 and AS/NZS 3666.2. State and Territory health based regulations variously refer to AS/NZS 3666.1, AS/NZS 3666.2, and AS/NZS 3666.3. It will be unproductive for the new National Construction Code Plumbing Provisions to repeat requirements already included in the current BCA and State/Territory based health regulations. Reference to AS/NZS 3666.3 within the Plumbing Provisions may cause confusion in the industry and may conflict with State and Territory health based regulations for the operation, maintenance, monitoring and testing of these (potentially life threatening) systems.

---

**End of submission**