

Australian/New Zealand Standard™

**Pressure equipment—In-service
inspection**



AS/NZS 3788:2006

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Australian/New Zealand Standard™

Pressure equipment—In-service inspection

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee ME-001, Pressure Equipment to supersede AS/NZS 3788:2001, *Pressure equipment—In-service inspection*.

The objective of the revision is to align the Standard with current equipment integrity management and assessment practices and to address some of the problems currently experienced in industry. To achieve this, the Standard has been significantly revised throughout.

While the Standard still sets out minimum inspection intervals, it now allows those intervals to be varied in response to a thorough risk-based engineering assessment. This is intended to allow the efficient use of integrity management programs by large-scale industry. As such assessments require significant resources to consider all the relevant factors, it is expected that the majority of the users of this Standard will continue using the prescribed intervals. It should be noted that the previous Clause 4.4.4.3(c), Further extended period, has been removed to ensure that variations to inspection intervals are properly assessed.

More emphasis has been placed on the responsibility to use competent bodies and personnel for all aspects of the inspection and assessment processes—a reflection of the current philosophy of occupational health and safety regulations. Guidance material is included to aid industry in assessing the competence of bodies and people for different tasks.

The Committee noted that poorly-marked or unidentifiable equipment is a significant issue facing inspectors, and has provided some guidance on dealing with such situations.

The appendices have also been revised, including a review of the normative or informative status of each. Appendix O (regarding fracture mechanics) has been significantly revised. A new appendix has been added regarding the inspection of support structures.

This Standard provides inspection requirements to assist in assuring the continued safe operation of pressure equipment. In some circumstances additional inspection may be necessary for adequate performance or safety. The material contained in this Standard may be used as an aid in the training of inspection personnel.

Users of this Standard are reminded that it has no legal authority in its own right, but acquires legal standing where adopted by government or other authority having jurisdiction, or if specified as part of a commercial contract.

Statements expressed in mandatory terms in notes to tables and figures are deemed to be requirements of this Standard.

The terms ‘normative’ and ‘informative’ have been used in this Standard to define the application of the appendix to which they apply. A ‘normative’ appendix is an integral part of a Standard, whereas an ‘informative’ appendix is only for information and guidance.

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Australian/New Zealand Standard **Pressure equipment—In-service inspection**

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard specifies the minimum requirements for the inspection, repair and alteration of in-service boilers, pressure vessels, piping, safety equipment, and associated safety controls (hereafter referred to as pressure equipment), and gives guidance in the execution of such activities. Guidance is included for the inspection of ancillary equipment such as structures. This Standard also specifies the requirements for the initial inspection after installation and prior to commissioning. The inspection flow diagram (see Figure 1.1) illustrates the various types of inspection covered by this Standard.

This Standard provides information to facilitate grounds for agreement between interested parties, and the establishment of uniform minimum requirements for in-service inspections, including inspection intervals and procedures, to assist in assuring safe and economic operation. Information is provided on mechanisms of deterioration, the assessment of defects, and the assessment of fitness for service of pressure equipment.

No rules can be written in sufficient detail to cover all aspects of the inspection of in-service pressure equipment. The owner is responsible for ensuring that the extent and frequency of inspection is appropriate and adequate for the continued safe operation of the pressure equipment. This may require the seeking of expert advice.

Duty of Care is now prescribed by Occupational Health and Safety Legislation. This Standard does not supersede such Duty of Care, but is intended to complement and contribute to it.

1.2 APPLICATION

This Standard applies to, but is not limited to, pressure equipment covered by AS/NZS 1200. Typically it includes the following:

- (a) Boilers and associated pressure parts, controls and pipe work covered by AS 1228, BS 1113, BS 2790, AS 2593 and ASME BPV-I.
- (b) Pressure vessels and associated pressure parts, controls and pipe work covered by AS 1210, BS PD 5500, EN 13445, ASME BPV-VIII, AS 2971 (serially produced pressure vessels) and EN 286-1.
- (c) Pressure piping covered by AS 4041, NZS/BS 806, ASME B 31.1 and ASME B 31.3.
- (d) Pressurized storage tanks built to API 620 or equivalent.
- (e) Fired heaters.
- (f) Heritage boilers and pressure vessels.

Although pressure equipment with Hazard Level E (to AS 4343) is within the scope of this Standard, no specific requirements have been included. To ensure safety, in-service inspection of such equipment should follow the principles of this Standard, along with good engineering practice.

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