

AS/NZS 4481:1997

AS/NZS 4481

Australian/New Zealand Standard[®]

**Pressure equipment—
Competencies of inspectors**



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This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee ME/1, Pressure Equipment. It was approved on behalf of the Council of Standards Australia on 26 May 1997 and on behalf of the Council of Standards New Zealand on 2 June 1997. It was published on 5 July 1997.

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee ME/1, Pressure Equipment, to set out the competencies for inspectors of pressure equipment.

This voluntary Standard is the result of consensus among representatives on the Joint Committee, to produce it as a Joint Standards Australia/Standards New Zealand Standard. Consensus means general agreement by all interested parties. Consensus includes an attempt to remove all objections and implies much more than the concept of a simple majority, but not necessarily unanimity. It is consistent with this meaning that a member may be included in the Committee list and yet not be in full agreement with all clauses of this Standard.

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STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

Australian/New Zealand Standard**Pressure equipment—Competencies of inspectors**

SECTION 1 GENERAL AND SCOPE

1.1 SCOPE This Standard covers design verifiers, fabrication inspectors and in-service inspectors (collectively identified as inspectors) of pressure equipment (boilers, pressure vessels and pressure piping).

1.2 OBJECTIVES The purpose of this Standard is to set out generic competencies of inspectors to guide—

- (a) employers as one means of satisfying their obligations under the Occupational Health and Safety legislation to employ or use competent persons;
- (b) certification bodies to facilitate national certification of inspectors; and
- (c) training bodies and prospective inspectors as a basis for a suitable training syllabus.

1.3 REQUIREMENTS Competencies are described in terms of knowledge and skills which the inspector is expected to be capable of performing in general industry, i.e. general industrial competence.

Each competency is—

- (a) identified as a *unit of competency*, i.e. major type of ability;
- (b) subdivided into *elements of competency*, which give more specific detail;
- (c) supported by *performance criteria* (for each element) i.e. a detailed list of actions or tasks;
- (d) supplemented with a *range statement*, identifying its applicability; and
- (e) supplemented with an *evidence statement* which lists the knowledge and skills required for competency and its assessment.

The employer, who engages the inspector, should ensure that the inspector has the necessary competency to carry out the inspection work before authorization of the work. This may require additional competencies to those listed or only those competencies applicable to the specific inspection.

1.4 OWNER/USER INSPECTION ORGANIZATIONS For owner/user inspection organizations, specific competencies required by inspection personnel within the organization should be identified and documented.

1.5 REFERENCED DOCUMENTS The following documents are referred to in this Standard:

AS
3920 Assurance of product quality
3920.1 Part 1: Pressure equipment manufacture

AS/NZS
3788 Pressure equipment—In-service inspection

1.6 DEFINITION For the purpose of this Standard, the following definition applies.

1.6.1 Competency—a competency comprises knowledge and skill and the application of that knowledge and skill within an occupation or industry level, to the standard of performance required.

SECTION 2 COMPETENCY OF DESIGN VERIFIERS

2.1 UNITS OF COMPETENCY Units of competency of design verifiers for design verification are as follows:

- (a) Boilers.
- (b) Pressure vessels.
- (c) Pressure piping.

The same elements of competency apply to each of the above items, except for the type of equipment (and associated design Standards), different performance criteria (see Table 2.1), and required knowledge identification.

2.2 ELEMENTS OF COMPETENCY AND PERFORMANCE CRITERIA Elements of competency and performance criteria of design verifiers applicable to the units of competency in Clause 2.1 are given in Table 2.1.

TABLE 2.1
ELEMENTS OF COMPETENCY AND PERFORMANCE
CRITERIA FOR DESIGN VERIFIERS

Elements for each unit		Performance criteria
1	Plan and prepare for verification	(a) Verification program/requirements are received, analysed and confirmed/modified. (b) Verification is prioritized and sequenced/scheduled. (c) Liaison and communication issues with client, authorities and other persons are resolved. (d) Resources including computer programs, data, drawings, specifications, etc. are identified and scheduled. (e) Drawings, calculations, and other documents to be verified are received, recorded and acknowledged.
2	Conduct verification	(a) Verification is done in accordance with documented procedures and AS 3920.1. (b) Required checks are performed and verified. (c) Verification is completed properly in agreed time with minimum inconvenience and cost.
3	Report on verification	(a) Verification records and reports are made and processed in accordance with documented procedures. (b) Identified abnormal hazards or risks are reported to the client. (c) Design verification certificate and verified documents are signed and transmitted to client in accordance with inspection body's procedure.

2.3 RANGE STATEMENT Competency shall be established for all design features covered by the design Standard and specification applicable to the particular equipment. Design verification is performed in accordance with relevant documented procedures normally with little or no supervision in an office environment.