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01 Feb 2024	28 Feb 2026	SHEQ Warehouse (Pty) Ltd	Neville
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Pressure Equipment Regulations, 2009

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1. Definitions

Key definitions include:

- "accreditation authority" - South African National Accreditation System (SANAS)
- "ASME" - American Society of Mechanical Engineers
- "authorised person" - person registered as competent by organization approved by chief inspector
- "certificate" - written declaration of conformance to these Regulations
- "construction" - materials, design, fabrication, modification, repair, installation, examination, inspection, testing and certification
- "dangerous substance" - substance defined and classified as such in SANS 10228
- "design pressure" - gauge pressure used in design formulae for component dimensions
- "design temperature" - temperature used in design formulae for component dimensions
- "design verification" - verification that pressure equipment complies with applied design of relevant health and safety standard
- "fire extinguisher" - rechargeable container with fire extinguishing substance expelled by internal pressure
- "fluid" - gases, liquids, vapours in pure phase and mixtures, including suspended solids
- "gas" - gases, liquefied gases, gases dissolved under pressure, vapours, and liquids with vapour pressure greater than 50 kPa above normal atmospheric pressure at design temperature
- "good engineering practice" - codes, standards or specifications recognized by the industry
- "latent defect" - fault inherent in pressure equipment from design/manufacturing deficiencies that may cause health and safety risk
- "manufacturer" - person with overall control and responsibility for pressure equipment construction



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- "modification" - any change to original design conditions, including re-rating or adding/removing elements affecting integrity
- "non-metallic" - glass, thermoplastic or thermosetting polymeric reinforced and un-reinforced materials
- "pipeline" - piping or system designed for transporting/distributing fluid from onshore/offshore installation
- "piping" - pipes, tubes or flexible pressure hose elements for fluid transport/distribution at pressure ≥ 50 kPa
- "pressure accessory" - devices with operational function having pressure-bearing housing
- "pressure equipment" - steam generator, pressure vessel, piping, pressure accessory, safety accessory, transportable gas container, fire extinguisher
- "pressure vessel" - housing designed to contain fluid at pressure ≥ 50 kPa
- "provincial director" - as defined in General Administrative Regulations, 2003
- "re-certification" - determining appropriate design parameters for pressure equipment where data is unknown/unavailable
- "repair" - restoration to original standard by heat/welding application to pressure equipment, replacing expanded tubes
- "re-rating" - any change in design parameters affecting certification
- "reticulation" - gas conveyance by pipeline with general operating pressure ≤ 200 kPa to ultimate consumption points
- "risk-based inspection" - inspection scope based on formal risk assessment results
- "safety accessory" - device designed to protect pressure equipment
- "SANS 151" - Standard Specification for fixed electric storage water heaters
- "SANS 347" - Standard Specification for categorization and conformity assessment criteria for all pressure equipment
- "SANS 10227" - Standard Specification for criteria for inspection authority operation
- "SANS 10228" - Standard Specification for dangerous goods identification and classification
- "SANS/ISO 17020" - Standard Specification for inspection body operation criteria
- "steam generator" - apparatus converting water continuously into steam at pressure higher than atmospheric
- "the Act" - Occupational Health and Safety Act, 1993 (Act No. 85 of 1993)
- "transportable gas container" - refillable vessel for liquefied, dissolved or compressed gases (0.5-3000 liter capacity)
- "unique mark" - mark and accreditation reference number of approved inspection authority

2. Scope of application

(1) These Regulations apply to design, manufacture, operation, repair, modification, maintenance, inspection and testing of pressure equipment with design pressure ≥ 50 kPa, per relevant health and safety standard.

(2) Regulations 3, 4, 5, 9(1), 9(2) and 9(3) don't apply to pressure equipment in use or on order before publication, which shall be designed and constructed according to requirements applicable at order time.



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(3) These Regulations exclude: (a) Water supply, distribution and discharge piping below boiling point and related equipment (b) Aerosol dispensers (c) Pressure equipment for road/rail vehicles, excluding fuel gas systems (d) Pressure equipment comprising casings or machinery where dimensioning, material choice and manufacturing rules are based on sufficient strength, rigidity and stability requirements (e) Open metal-making pots and blast furnaces (f) Electrical machinery housing (g) Tyres and flexible pressurised casings for recreational purposes (h) Fixed electrical hot-water storage containers (15-450 liter capacity, ≤ 600 kPa)

3. General requirements

(1) Any person manufacturing, importing, selling, offering or supplying pressure equipment for Republic use shall ensure compliance with these Regulations.

(2) Any person erecting or installing pressure equipment for Republic use shall ensure, as far as reasonably practicable, safe erection/installation without health and safety risk when properly used.

(3) All pressure equipment for Republic use shall be categorized and submitted to conformance assessments of SANS 347 in addition to relevant health and safety standard requirements.

4. Duties of manufacturers

(1) Manufacturers shall ensure all equipment designed and manufactured for Republic use is conformity assessed and subjected to SANS 347 requirements.

(2) Subject to relevant health and safety standard requirements, manufacturers shall ensure pressure equipment as manufactured, modified, inspected, tested or repaired is safe and without health risks when properly used.

(3) Subject to these Regulations, manufacturers shall issue a manufacture certificate for all supplied pressure equipment, with verification signature by approved inspection authority when required.

(4) Subject to these Regulations, manufacturers shall comply with any other duties assigned to them.

(5) Manufacturers determining that pressure equipment in use has a latent defect shall advise the chief inspector in writing forthwith and of measures being taken to correct the defect.

5. Duties of importers and suppliers

(1) Importers and suppliers shall ensure sold pressure equipment complies with these Regulations.



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(2) Importers assume manufacturer liability under these Regulations.

(3) Any pressure equipment requiring a permit from an approved organization shall have such approval obtained by importer or manufacturer before market placement, provided the equipment complies with relevant health and safety standard.

6. Duties of users

(1) Users shall ensure pressure equipment is operated and maintained within design and operating parameters.

(2) Users shall, subject to relevant health and safety standard: (a) Provide manufacturer, repairer or modifier with comprehensive operating/intended operating condition information (b) Ensure pressure equipment has manufacturer certificate including verification signature by approved inspection authority when required (c) Ensure pressure equipment has repairer/modifier certificate including verification signature by approved inspection authority when required (d) Ensure pressure equipment has pre-commissioning certificate from approved inspection authority where applicable (e) Ensure gas systems have valid certificate from authorized person

7. Approval and duties of approved inspection authority

(1) Only organizations holding chief inspector approval certificates shall perform approved inspection authority duties within accreditation scope.

(2) Approval applications must include proof of accreditation and full contact details/address.

(3) Chief inspector approval: (a) For domestic inspection bodies requires accreditation certificate per SANS/ISO 17020 and SANS 10227 (b) For foreign inspection bodies requires accreditation certificate from International Laboratory Accreditation Cooperation (ILAC) or International Accreditation Forum (IAF) signatory per ISO/IEC 17020

(4) Imported pressure equipment stamped by ASME authorized manufacturer in full ASME Code compliance is deemed to meet these Regulations.

(5) In disputes between approved inspection authority and any interested party, including user, modifier, repairer or manufacturer, either party may refer the case to chief inspector for arbitration.

(6) Upon receiving a dispute, the chief inspector may appoint a mutually agreed arbitrator.

(7) Referred cases shall be investigated and arbitrated within 90 days maximum.

(8) Approved inspection authorities shall ensure compliance with all assigned duties within their accreditation scope and the relevant health and safety standard.



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8. Registration of a steam generator

- (1) No user may use a steam generator without possessing a registration certificate.
- (2) Registration applications shall be made prior to use to the provincial director using Annexure 2, including manufacturer and approved inspection authority certificates.
- (3) Upon receiving an application, the provincial director shall forward it to an inspector who may issue a registration certificate with specified conditions.
- (4) Users of registered steam generators shall make certificates available upon request to inspectors or approved inspection authorities.
- (5) Users shall apply for duplicate certificates within seven days if originals are lost, defaced or destroyed, affixing R100 in uncanceled revenue stamps.
- (6) Provincial directors shall issue duplicate certificates upon verifying the original was lost, defaced or destroyed.
- (7) Users shall immediately notify provincial directors in writing when: (a) Steam generator is no longer in use (b) Control right is transferred to another user (c) Steam generator is moved to other premises than registered location
- (8) Registration certificates lapse: (a) Upon control right transfer to another user (b) When steam generator is removed from registered premises

9. Pressure equipment marking

- (1) Every manufacturer shall mark pressure equipment according to relevant health and safety standard.
- (2) Every manufacturer shall permanently affix a data plate in a conspicuous place to steam generators or pressure vessels with minimum particulars: (a) Manufacturer name (b) Country of origin (c) Year of manufacture (d) Manufacturer's serial number (e) Reference number, date and edition of health and safety standard (f) Design pressure in Pascal (g) Design temperature (minimum and maximum) in Celsius (h) Capacity in cubic metres (i) Unique mark of approved inspection authority as applicable (j) Hazard category per SANS 347
- (3) For composite pressure equipment, additional information shall include: (a) Corrosion barrier/lining resin system (b) Structural wall resin system (c) Medium name and specific gravity for which vessel was designed
- (4) No person may remove marking or data plates or willfully damage/alter particulars.
- (5) Users shall ensure any modification changing original design conditions is identified by affixing an additional data plate.



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(6) Users shall ensure data plates are affixed to re-certified steam generators or pressure vessels.

10. Pressure and safety accessories

(1) No user may require or permit pressure equipment use unless provided with all pressure and safety accessories required by relevant health and safety standard, though alternative safety accessories may be fitted with approved inspection authority written approval.

(2) Where no safety accessory requirement exists in the relevant standard, safety accessories shall be provided by the user as required by approved inspection authority.

(3) Every steam generator or pressure vessel user shall ensure equipment has at least one pressure measuring device.

(4) Every steam generator or pressure vessel user shall ensure equipment has at least one safety valve that is locked, sealed or otherwise inaccessible to unauthorized persons.

(5) Safety valve number and capacity shall comply with design standard requirements or as required under subregulation (2).

(6) Users shall ensure automatic controls and indicators are arranged, installed, maintained and operated according to relevant health and safety standard, or with approved inspection authority written approval where no provisions exist.

11. Inspection and test

(1) Subject to relevant health and safety standard requirements, users shall cause: (a) Steam generators or pressure vessels, including accessories, after installation/re-installation and before commissioning, to be subjected to witnessed internal/external inspection and 1.25x design pressure hydraulic test by approved inspection authority (b) Piping to be inspected and tested by the manufacturer after manufacture, installation, modification or repair and before commissioning per relevant health and safety standard (c) Fire-tube steam generators to have external inspection every 12 months and witnessed hydraulic test and critical weld crack detection every 36 months (d) Every pressure vessel and steam generator (excluding those in subregulation (3)) to have internal/external inspection and 1.25x design pressure hydraulic test by approved inspection authority at intervals not exceeding 36 months (e) All piping and pipelines to be inspected and tested according to relevant in-service health and safety standard

(2) Where impracticable to use liquid for hydraulic tests in subregulation (1)(d) or (e), inert gas tests at 1.1x design pressure may be conducted with prior approved inspection authority written approval.

(3) Where inspection or test reveals weakness/defect endangering persons, the weakness/defect shall be reported forthwith to the user, who shall cease pressure equipment



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use until weakness/defect is rectified to the satisfaction of the inspector and approved inspection authority.

12. Risk-based inspection

(1) As alternative to in-service inspection and testing intervals in regulation 11(1)(d), users may implement risk-based inspection management system per relevant health and safety standard.

(2) Risk-based inspection process and implementation shall be verified by certification body accredited by the accreditation authority specifically for risk-based inspections and approved by chief inspector.

13. Repairs and modifications

(1) Subject to relevant health and safety standard requirements: (a) Anyone intending to modify/repair pressure equipment shall do so per relevant health and safety standard and assessment procedure specified by relevant hazard category in SANS 347 (b) Any modifier/repairer shall issue a certificate describing modification/repair extent and certifying work complies with relevant health and safety standard (c) Any user requiring re-certification shall ensure it's performed under approved inspection authority supervision (d) When pressure equipment cannot be safely used per design criteria and repairs aren't immediately made, the user shall, subject to approved inspection authority approval, ensure re-rating, data plate amendment, and operation within re-rated criteria

14. Records

(1) Every pressure equipment user shall keep a record, open for inspector inspection, containing manufacture certificate and post-manufacturing inspection, test, modification and repair results.

(2) When pressure equipment is sold, the manufacturer shall ensure it's accompanied by instructions for the user containing necessary safety information regarding: (a) Mounting, including different piece assembly (b) Putting into service (c) Maintenance, including user checks

(3) Manufacturers shall keep original manufacturing records for minimum 12 years.

15. Access

Users shall cause pressure equipment to be erected and maintained to ensure safe and unobstructed access to and exit from any chamber, flue, manhole, inspection opening, control or accessory.

16. Door interlocks



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(1) Pressure equipment users shall ensure equipment with quick-actuating openings has interlocks or other effective means preventing: (a) Pressure rise before quick-actuating openings are fully closed/locked (b) Quick-actuating opening release before internal pressure equals atmospheric pressure or pressure equalization across openings

17. Gas reticulation equipment and systems

(1) No person shall: (a) Handle, store or distribute gas in any manner except per relevant health and safety standard (b) Install or remove appliance, pressure equipment or gas system except per relevant health and safety standard (c) Install or remove gas appliance, system or reticulation system unless authorized (d) Use pressure equipment or gas systems except per relevant health and safety standard

(2) After installation/re-installation and before commissioning a gas system, users shall ensure authorized person or approved inspection authority performs external inspection and leak test.

(3) Authorized person or approved inspection authority shall issue conformity certificate after gas installation, modification, alteration or change of user/ownership.

18. Transportable gas containers

(1) No user shall use, require or permit transportable gas container use, and no user shall fill, place in service, handle, modify, repair, inspect or test any transportable gas container, except in compliance with relevant incorporated standards.

(2) Inspection and test in subregulation (1) shall be carried out by approved testing station.

(3) Testing station approval applications shall include accreditation proof and full contact details/address.

(4) Chief inspector approval is subject to valid accreditation certificate from accreditation authority.

19. Fire extinguishers

(1) No user shall use, require or permit fire extinguisher use unless designed, constructed, filled, recharged, reconditioned, modified, repaired, inspected or tested per relevant incorporated safety standard.

(2) No person shall fill, recharge, recondition, modify, repair, inspect or test fire extinguishers unless authorized and employed by permit holder from approved organization.

(3) Approval applications shall include accreditation proof and full contact details/address.



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(4) Chief inspector approval is subject to valid accreditation certificate from accreditation authority.

20. Offences and penalties

(1) Anyone contravening regulations 3, 4, 5, 6, 7(1), 7(2), 8(1), 8(2), 8(3), 8(4), 8(5), 8(7), 9, 10, 11(1), 11(3), 12(2), 13, 14, 15, 16, 17, 18(1), 18(2), 19(1) and 19(2) shall be guilty of an offense punishable by fine or imprisonment ≤ 12 months, with additional penalties for continuous offenses.

21. Repeal of regulations and annexures

The Vessels under Pressure Regulation, 1996, published under Government Notice No. R. 1591, dated 4 October 1996, is hereby repealed.

22. Short title

These Regulations shall be called the Pressure Equipment Regulations, 2009, effective 1 October 2009, provided that approved inspection authority for in-service inspections shall be effective 1 April 2011 (until then, inspection may be by authorized person).