DEPARTMENT OF EMPLOYMENT AND LABOUR

NO. 606 **9 July 2021**

OCCUPATIONAL HEALTH AND SAFETY ACT (ACT NO. 85 OF 1993)

DRAFT PRESSURE EQUIPMENT REGULATIONS REGULATIONS:2021

INVITATION OF PUBLIC COMMENTS ON DRAFT PRESSURE EQUIPMENT REGULATIONS 2021

I, Thembelani Waltermade Nxesi, Minister of Employment and Labour, hereby give notice that, I, intend in terms of section 43 (1) of the Occupational Health and Safety Act, (no. 85 of 1993) give an approval to receive public comment on the schedule of these Regulations.

The electronic copy of the draft Pressure Equipment Regulations is available on the website at www.labour.gov.za.

Affected and interested parties or persons are invited to submit comments on the draft regulations in writing (Annexure 1) within 90 days from the date of the publication of this notice.

All representations and comments must be sent to the Director-General of the Department of Employment and Labour:

By hand: The Department of Employment and Labour Laboria House

215 Francis Baard Street, Pretoria CBD, 0001

By post: The The Director-General

The Department of Employment and Labour - Attention: Matlala Sathekge

Private Bag X117, Pretoria, 0001

By fax: 012 309 4151

By mail: Matlala.Sathekge@labour.gov.za or
Leema.Mofokeng@labour.gov.za

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MR TW NXESI ,MP

MINISTER OF EMPLOYMENT AND LABOUR

DATE : 09/04/2021

Proposed representations and comments format for DRAFT Pressure Equipment Regulations as proposed.

1. Contact Details of the person or an organization submitting a comment:

Name and Surname		Phone Number	
Company Name		Email	

Mark with an X						
Government	Affected Party	Trade Union	Interested Party	Local Authority	Manufacturer	Supplier
Importer	Other		Indicate the sector:			

2. Representation or comment:

No.	Regulation	Sub regulation	Comment	Proposal	Motivation	Does this proposal affect other Regulation (s) If yes which one(s)	How?
e,g,							

DRAFT PRESSURE EQUIPMENT REGULATIONS :2021

RE: PUBLIC COMMENTS

Definitions

1. In these Regulations any word or expression to which a meaning has been assigned in the Act shall have the meaning so assigned and, unless the context otherwise indicates —

"accreditation authority" means the South African National Accreditation System (SANAS) established by section 3 of the Accreditation for Conformity Assessment, Calibration and Good Laboratory Practice Act, 2006 (Act No. 19 of 2006);

"approved certification body" body for management system certification in accordance with SANS 17021 and approved by the relevant regulatory authority and accredited by the relevant national body (see foreword) for the specific conformity assessment modules within their scope of accreditation or relevant health andsafety standards

"approved inspection authority" (AIA) organization that is approved by the regulatory authority and accredited by the relevant national body in accordance with SANS 17020 and SANS 10227 (as applicable);

"appliance" means an appliance as defined in SANS 1539;

"authorised body" means an organisation approved by the chief inspector;

"authorised person" means a person who is registered as competent within the scope of work for which an organisation approved by the chief inspector has registered that person;

"certification body" means a body accredited by an accreditation body which is a member of the International Accreditation Forum (IAF)

"certificate of conformity" As applicable to Regulations 2, 17 and 19 means written declaration of conformance by the authorised person to the relevant health and safety standard(s) and to the relevant national legislation in a format provided by the authorised body

"certificate of manufacture" means written declaration of conformance by the manufacturer or authorised person to the relevant health and safety standard(s) and to the relevant national legislation;

"construction" includes materials, design, fabrication, modification, repair, installation, examination, inspection, testing and certification;

"dangerous substance" means a substance defined in SANS 10228 and classified in accordance with SANS 347;

"design pressure" means the gauge pressure used in the design formulae to determine the dimensions of the component parts of the pressure equipment;

"design temperature" means the maximum and minimum temperatures used in the design formulae to determine the dimensions and required material properties of the component parts of the pressure equipment;

"design verification" means an independent process to run representative calculations as verification that the pressure equipment complies with the applied design of the relevant health and safety standard and the requirements of these Regulations;

"filling station" means all sites which filling of LPG gas containers, up to and including 150 litre water capacity, is undertaken;

"fire extinguisher" means a rechargeable container which has a fire extinguishing substance that is expelled by the action of internal pressure for the purpose of extinguishing a fire;

"fluid" means gases, liquids, vapours in pure phase and mixtures thereof and may contain solids in suspension;

"gas" means gases, liquefied gases, gases dissolved under pressure, vapours and those liquids whose vapour pressure at the design temperature is greater than 50 kPa above normal atmospheric pressure;

"gas system" means reticulation and/or recirculation including all related piping, pressure and safety accessories excluding a transportable gas container connected to the system, distribution, transmission pipelines and process plants. These include domestic, commercial, industrial and medical gas markets. Where technical competence is required for the design, fabrication, installation, maintenance, modification, repair, and commissioning of gas systems. These activities are to be carried out by an authorised person;

"importer" means any juristic person in the Republic who imports or is in overall control to manage the procurement and construction of imported pressure equipment for use and/or re-sale in South Africa;

"latent defect" means a defect in a component that could not be discovered by a reasonable inspection or test method which could include design error but does not include patent defect which should have been easily discovered by a reasonable inspection or test method;

"mobile steam generator" means a stand-alone package unit steam generator, including all its required safety accessories, pressure accessories and controls, which is mounted on a skid intended for use at different locations.

"manufacturer" means any person who has overall control and is responsible for the construction of the pressure equipment. Where the design, material supply or part construction is performed by different parties, an agreement may be required to define who the manufacturer is, as permitted in the relevant health and safety standard. This agreed party is then responsible for issuing the certificate of manufacture;

"modification" means any change to the original design conditions of pressure equipment, including re-rating, or the addition or removal of elements that could affect the integrity of the pressure equipment and includes but is not limited to the component replacement with different material types and shall be read in conjunction with the original health and safety standard or in-service health and safety standard;

"modify" has a corresponding meaning;

"non-metallic" means glass, thermoplastic or thermosetting polymeric reinforced and un-reinforced materials or combinations thereof;

"pipeline" means a system of piping designed for the transport and distribution of any fluid from an installation that is onshore or offshore, starting from and including the last isolation device located within the confines of the installation, including all the auxiliary equipment designed specifically for that pipeline;

"piping" means pipelines, pipes, tubes, heat exchangers consisting of pipes for the purpose of cooling or heating air, instrument tubing and flexible pressure hose elements intended for the transport or distribution of any fluid at a design pressure of greater than 50 kPa when connected together for integration into a system;

'potable water' would be tap water from treated municipal water systems, or that has been UV filtered, water distilled, or purified by reverse osmosis;

"pressure accessory" means devices with an operational function having pressure-bearing housing and includes but is not limited to pressure gauges, bladder and piston type accumulators, in-line filters and strainers, valves, bellows, flow meters, steam traps and level indicators;

"pressure equipment" means a steam generator, mobile Steam generator, pressure vessel, piping, pressure accessory, safety accessory, transportable gas container, fire extinguisher and includes, but is not limited to, a hot-water geyser, hyperbaric chamber, road tanker, rail tanker, intermediate bulk container (IBC's) and ISO container;

"pressure vessel" means a housing designed and manufactured to contain a fluid under a design pressure greater than 50 kPa; and includes but is not limited to storage vessels, beer kegs, plate heat exchangers, mobile pressure vessels, non-bladder type accumulators, multi element gas containers, fired heaters, hermetic compressors, but

excludes transportable gas containers and fire extinguishers which have their own definitions;

"provincial director" means the provincial director as defined in Regulation 1 of the General Administrative Regulations promulgated by Government Notice No. R 1449 of 6 September 1996;

"qualified operator(filling)" person who has received training, documented by the employer, in the filling of LPG containers (see SANS 10019)

"raw water" includes rainwater, ground water, water from infiltration wells, and water from bodies like lakes and rivers;

"re-instatement of conformance" means activities undertaken in accordance with SANS 347 to determine appropriate design parameters. Only applicable to pressure equipment that was previously constructed to an approved health and safety standard or bearing an approved certification mark;

"repair" means restoration or partial replacement of pressure equipment to a safe and satisfactory operating condition by the application of heat, welding or expansion, and in the case of non-metallic equipment it means the application of heat, welding, solvent cement, laminate or curing of thermo-set. All repairs are to be in accordance with the original health and safety standard or in-service health and safety standard. Replacement with different material grades or the replacement of obsolete materials can be deemed as a repair where no changes to the original design are affected;

"re-rating" means any change in the design parameters of pressure equipment which affects the certification which includes up or down rating;

"recirculation" means a refrigeration system referring to the movement of refrigerant gas via piping and heat exchangers through the process of condensation and evaporation;

"reticulation" means the conveyance of gas by piping from or within a property boundary up to and including the ultimate points of consumption;

"risk-based inspection" means an inspection scope based on the results of a formal risk assessment, including inspection and test intervals by a user who has a certified risk-based inspection management system;

"safety accessory" means a device designed to protect pressure equipment and includes but is not limited to pressure relief devices, bursting disks but excludes non-pressurised safety accessories;

"steam generator" means any apparatus to convert water continuously into steam at a design pressure greater than 50 kPa and where the heat is derived from a source other than steam, and includes any super heater or economiser which is an integral part of a steam generator or is separately fired there from, fired steam and hot-water steam

generator, waste-heat steam generator, waste-incineration steam generator, autoclaves that generate steam, steam locomotives and electrode or immersion-type electrically heated steam generator;

"supplier" means an individual or an entity that supplies pressure equipment to the South African Market

"the Act" means the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993);

"transportable gas container" means a refillable vessel for the storage and conveyance of liquefied, dissolved or compressed gases, of water capacity from 0,5 litres to 3 000 litres;

"unique mark" means the mark/identification and Pressure Equipment Regulations approval number issued by the Department of Employment and Labour of the approved inspection authority;

"user" means in relation to plant or machinery, the person who uses plant or machinery for his own benefit or who has the right of control over the use of plant or machinery, but does not include a lessor of, or any person employed relating to, that plant or machinery.

Scope of application

2. (1) These Regulations shall apply to the design, manufacture, importation, operation, repair, modification, re-instatement of conformance, re-rating, replacement, maintenance, inspection and testing of pressure equipment with a design pressure greater than 50 kPa, in terms of the relevant health and safety standard incorporated into these Regulations under Section 44 of the Act and of tank vehicles / containers, demountable tanks, tank swap bodies, dry and liquid bulk tankers (applicable to Design Pressure greater than 50 KPa) and Multi element Gas Containers (MEGCs). Refer regulation 20.

(2) Regulations 3, 4, 5, 6(2) e, 9(1), 9(2), 9(3) and 17 shall not apply to pressure equipment in use or on order prior to the publication of these Regulations, which equipment shall be designed and constructed according to the requirements and health and safety standards applicable at the time of order. Order placement is the date the contract is placed for basic engineering design.

(3) The following pressure equipment shall be excluded from these Regulations-

(a) piping for the supply, distribution and discharge of raw and potable water below its boiling point at atmospheric pressure and associated pressure and safety accessories, headraces such as penstocks, pressure tunnels, pressure shafts for hydro-electric installations and their related specific pressure and safety accessories;

(b) aerosol dispensers;

(c) pressure equipment intended for the functioning of road and rail vehicles such as air brake cylinders and integrated piping excluding a fuel gas system, steam locomotives and gas fuelled vehicles;

(d) pressure equipment comprising casings or machinery where the dimensioning, choice of material and manufacturing rules are based primarily on requirements for sufficient strength, rigidity and stability to meet the static and dynamic operational effects or other operational characteristics and for which pressure is not a significant design factor, and such pressure equipment may include —

(e) engines, including turbines and internal combustion engines;

(f) reciprocating steam engines, gas turbines, steam turbines, turbo-generators, compressor engines, pumps, actuating devices and hydraulic and pneumatic cylinders.

(g) open metal-making pots and blast furnaces;

(h) housing for electrical machinery such as switchgear, control gear, transformers and rotating machines;

(i) tyres;

(j) fixed electrical hot-water storage container of water capacity from 15 litres to 450 litres operating at a maximum pressure of 600 kPa manufactured to the requirements of SANS 151;

(k) flexible pressurised casings used for recreational purposes;

(l) equipment designed for external pressure only (vacuum);

(m) existing equipment that may fall within the scope of the PER but was not previously regulated, provided that any modification done will not result in the pressure vessel being regulated by the previous regulations in force at the time of construction. If the pressure vessel after the modification would have been regulated under the previous regulations it now needs to comply to the PER requirements;

(n) existing equipment that was previously regulated with a design pressure of 50 kPa and lower;

(o) refrigeration and air conditioning compressors of the semi-hermetic and open drive type;

(p) equipment that is designed for static head and the applied design pressure above the liquid is 50kPa or lower.

General Requirements

3. (1) Any person who operates, manufactures, repairs, modifies, re-rates, and re-instates conformance, imports, sells, offers or supplies any pressure equipment described in these Regulations for use in the Republic shall ensure that such equipment complies with these Regulations.

(2) Any person who erects or installs any pressure equipment for use in the Republic shall ensure, as far as is reasonably practicable, that it is erected or installed in a safe manner and without risk to health and safety when properly used.

(3) All pressure equipment for use in the Republic shall be categorized and submitted to the applicable conformance assessments of SANS 347 in addition to the requirements of the relevant health and safety standard incorporated into these Regulations under Section 44 of the Act except as permitted in (4) below.

(4) Equipment categorised as SEP is not required to meet any statutory requirements other than required in SANS 347.

(5) Pressure equipment bearing the ASME certification marks as well as equipment certified in accordance with the PED, SPED, TPED and DOT shall be deemed to meet the construction conformity assessment requirements of Regulation 3(3) subject to meeting the additional requirements of Regulation 9, provided further that for Category II and higher UM certified ASME pressure vessels do not meet the Regulations.

(6) Pressure and safety accessories which are marked and certified in accordance with the PED, SPED, TPED and DOT or are marked and certified in accordance with a listed health and safety standard or a referenced standard listed in them shall be deemed to meet the construction conformity assessment requirements of Regulation 3(3).

(7) Pressure vessels and steam generators constructed in accordance with ASME health and safety standards, or which have been repaired or modified in accordance with ANSI NB-23, which do not meet the certification requirements for the application of a certification mark shall be in compliance with RSA/CI/OHSA requirements.

(8) Existing equipment which was regulated prior to the PER need not be categorised provided full AIA involvement is maintained during pre-commissioning inspections, repairs, modifications and in-service inspections.

(9) Re-instatement of conformance of a steam generators and pressure vessels may only be undertaken as per SANS 347 and under the supervision of an approved

inspection authority. Re-instatement of conformance of transportable gas containers is as per SANS 10019 and SANS 1825.

(10) Equipment in nuclear service shall comply with the applicable health and safety standards and be conformity assessed in accordance with those standards

(11) Inspections and tests prescribed for Category I equipment, as categorized in terms of SANS 347 may be inspected, the hydraulic pressure test witnessed and conformity assessed to ensure full compliance to these regulations by the user

Duties of manufacturers

4. (1) The manufacturer shall ensure that all equipment constructed for use in the Republic shall be conformity assessed and subjected to the requirements set out in Regulation 3 and SANS 347.

(2) Subject to the requirements set out in the relevant health and safety standard incorporated into these Regulations under Section 44 of the Act, the manufacturer shall ensure that the pressure equipment as constructed is safe and without risks to health when properly used.

(3) Subject to the requirements of this Regulation a manufacturer shall issue a certificate of manufacture for all pressure equipment supplied, with a verification signature by an AIA or certification body when so required by the relevant conformity assessment module of SANS 347.

(4) Subject to the requirements of this Regulation a manufacturer shall comply with any other duty assigned to the manufacturer in these regulations.

(5) A manufacturer who determines that pressure equipment in use has a latent defect shall take immediate appropriate action and advise the user and the chief inspector in writing forthwith thereof and of measures being taken to correct the defect.

(6) Local manufactured pressure equipment bearing the ASME certification marks as well as equipment certified in accordance with the PED, SPED, TPED and DOT for use in the Republic shall also undergo a conformity assessment review by the manufacturer and verified by an AIA where applicable to ensure compliance to all additional Regulation requirements are met in accordance with Regulation 5.

(7) Categorization may be done by another party (for example the user) provided the manufacturer formally accepts such categorisation and maintains full responsibility for compliance.

(8) Manufacturers intending to manufacture, install, repair or modify pressure

equipment in accordance with the RSA/CI/OHSA requirements shall have a certified quality management system by an approved certification body in accordance with the requirements of SANS 347.

(9) Where it has been agreed that the user's original design is to be used on a total replacement in accordance with Regulation 6 (8), a comprehensive method statement on the entire construction shall be mutually agreed to by the user, manufacturer and AIA. Cognisance of any applicable health and safety standard revisions and other legal requirements should be considered.

Duties of importers and suppliers

5. (1) Importers and suppliers shall ensure that pressure equipment sold complies with the requirements of this Regulation.

(2) The importer shall assume liability of the manufacturer for imported pressure equipment in terms of this Regulation.

(3) Any pressure equipment that requires a permit to be issued by an organisation approved by the chief inspector shall ensure that such approval is obtained by the importer or manufacturer before the pressure equipment is placed in the market: Provided that such equipment shall comply with the relevant health and safety standard incorporated into these Regulations under Section 44 of the Act.

(4) The importer of pressure equipment shall perform a conformity assessment review and declare conformance in writing to the PER. This declaration of conformance, shall include their name, registered trade name or registered trade mark and their registered address. This conformity assessment review shall be verified and countersigned by an AIA as required by SANS 347.

(5) The importer shall verify the following as applicable:

(a) the pressure equipment has been categorized and submitted to the applicable conformity assessment of SANS 347 or as permitted in sub-regulation 3. (3);

(b) the pressure equipment was constructed to a health and safety standard incorporated into these Regulations under Section 44 of the Act;

(c) the pressure equipment is provided with a declaration of conformance issued by the manufacturer which reflects the verification of an approved inspection authority, ASME authorised inspection agency or notified body as applicable

(d) the approved inspection authority, ASME authorised inspection agency and notified body meets the approval requirements of these Regulations;

(e) pressure equipment marking satisfies the requirements of sub-regulation 9 which may include the addition of an additional data plate by the importer if

required and shall bear the unique mark of the AIA to indicate involvement with the conformity assessment review as applicable. The additional data plate does not need to reference the importer;

(f) documentation accompanying the imported pressure equipment satisfies the requirements of sub-regulation 14;

(g) Series produced pressure equipment with type test certification and a declaration of conformity by the manufacturer may be conformity assessed by the importer and verified by an AIA where applicable using a once off conformity assessment review certificate provided that the type, manufacturer, inspection body and the manufacturing facility remains the same.

(6) Imported pre-owned pressure vessels, steam generators and assemblies shall undergo a conformity assessment review by the importer for compliance to the PER; this conformity assessment review shall be verified and countersigned by an AIA as required by SANS 347.

Duties of users

6. (1) The user shall ensure that the pressure equipment is operated and maintained within its design and operating parameters.

(2) The user shall, subject to the relevant health and safety standard incorporated into these Regulations under Section 44 of the Act-

(a) provide or ensure the manufacturer, repairer or modifier is provided with comprehensive information of the operating or intended operating conditions of the pressure equipment, including the characteristics of the fluid and operating parameters of other connected pressure equipment, where reasonably practicable;

(b) ensure pressure equipment has a certificate of manufacture, issued by the manufacturer, including a verification signature by an approved inspection authority when required, which certifies that the pressure equipment has been designed and manufactured in accordance with the relevant conformity module and health and safety standard incorporated into these Regulations under Section 44 of the Act;

(c) Ensure imported pressure equipment has an importers declaration of conformity issued by importer including a verification signature by an approved inspection authority when required;

(d) ensure pressure equipment has a certificate of repair or modification issued by the repairer or modifier, including a verification signature by an approved inspection authority when required, which certifies that the pressure equipment has been modified or repaired in accordance with the relevant conformity module and health and safety standard incorporated into these Regulations under Section 44 of the Act;

(e) ensure that pressure vessels and steam generators has a pre-commissioning inspection certificate issued by an approved inspection authority before commissioning, where applicable;

(f) ensure that a gas system has a valid certificate of conformity issued by an authorised person;

(g) ensure that pressure vessels and steam generators have an in-service inspection report issued by an in-service approved inspection authority, where applicable; and

(h) appoint the in-service approved inspection authority in writing.

(3) For pressure equipment which is rented out by the owner, the owner is responsible to ensure compliance and retain all relevant records as required by these Regulations.

(4) In respect to the duties of the user in relation to privately owned transportable gas containers up to and including 150 litres water capacity, the certificate of manufacture referred to in PER 6(2) (b) shall be retained by the importer or the supplier. The user may request the certificate of manufacture from the manufacturer / importer for transportable gas containers which are privately owned.

(5) In respect to PER 6(2) (b), filled transportable gas containers imported from an overseas supplier, for a dedicated user with the intent to return the transportable gas container when empty to the overseas supplier, these shall be deemed compliant based on the transportable gas container having been manufactured to a listed health and safety standard incorporated into these Regulations under Section 44 of the Act; and which meet all of the relevant transportation requirements prior to shipping. Equipment does not need to meet any of the additional PER requirements if the equipment is returned within 180 days of import.

(6) The user shall ensure that all pressure equipment that has been re-rated to operate at different design conditions in accordance with the requirements of SANS 347 and shall be verified by an Approved Inspection Authority, as applicable.

(7) Where the user requires identical total replacement of pressure vessels, steam generators or piping due to dimensional constraints or weight limitations, in accordance with the original design calculations and drawings, the user shall ensure that the design is approved and verified, as applicable in accordance with these Regulations. The user shall declare that the existing design is satisfactory for the intended service conditions based on historical service records. Intellectual property rights should be considered.

(8) Users who undertake re-instatement of conformance of pressure equipment shall assume the role of the manufacturer and issue a certificate of re-instatement of conformance including a verification signature by an Approved Inspection Authority.

Approval and duties of approved inspection authority

7. (1) Only an organisation holding an approval certificate from the chief inspector shall perform the duties of an approved inspection authority within the scope of accreditation.

(2) The chief inspector's approval –

(a) of inspection authorities operating in the Republic shall be subject to the submission of an accreditation certificate issued by the accreditation authority in accordance with the requirements of SANS/ISO 17020 and SANS 10227. Provided that the chief inspector may set additional requirements before granting approval;

(b) of certification bodies operating in the Republic under these regulations shall be subject to the submission of an accreditation certificate issued by the accreditation authority in accordance with the requirements of SANS/ISO 17021 or higher. Provided that the chief inspector may set additional requirements before granting approval.

(3) ASME authorised inspection agencies certifying imported and local manufactured equipment bearing the ASME certification mark shall be deemed to have met the approval requirements of this Regulation.

(4) Foreign notified bodies certifying imported equipment shall be in possession of an accreditation certificate issued by an International Laboratory Accreditation Cooperation (ILAC) or an International Accreditation Forum (IAF), Mutual Recognition Arrangement signatory in accordance with the requirements of ISO/IEC 17020 or ISO/IEC 17021 or higher

(5) In the event of a dispute of a technical or safety issue, which could not be reasonably resolved between an approved inspection authority and any interested party, including the user, modifier, repairer or manufacturer, an interested party may refer the case to the chief inspector in writing for arbitration, setting out the full details of the dispute.

(a) Upon receiving such a dispute in terms of sub regulation (5), the chief inspector may appoint an arbitrator mutually agreed upon between the parties.

(b) A case referred to the chief inspector in terms of sub-regulation (5) shall be investigated and arbitrated within a maximum of 90 days.

(6) An approved inspection authority shall ensure compliance with all the duties, approvals and responsibilities specifically assigned to an approved inspection authority in these Regulations within its scope of accreditation and the relevant health and safety standards listed on the accreditation certificate. In-service inspection authority scope is limited to the duties as listed in Regulation 11(1)(c) and

(d) only.

Registration of a steam generator

8. (1) No user may use a steam generator unless such user is in possession of a certificate of registration issued in terms of sub regulations (3) for that steam generator.

(2) Application for registration to use a fixed steam generator shall be made prior to use to the Provincial Office of Employment and Labour in the form of Annexure 1, including copies of a certificate from the manufacturer and from the approved inspection authority after installation prior to commissioning by the user. Provided that this sub regulation shall not apply in respect of the re-erection of a steam generator on the same premises.

(3) Application for registration to use a mobile steam generator shall be made prior to its first use to the Provincial Office of Employment and Labour in the form of Annexure 1 by the owner, including copies of a certificate from the manufacturer and from the approved inspection authority after installation prior to commissioning of the package unit mounted steam generator. Provided that this sub regulation shall not apply in respect of the re-erection of a mobile steam generator after being moved to different premises.

(4) On receipt of an application for registration in terms of sub regulations (1), the Provincial Labour Office shall forward that application to an inspector who may issue a certificate of registration in the form of Part C of Annexure 1 in respect of that steam generator, subject to the conditions that may be specified on the certificate within 14 days

(5) Any user of a steam generator for which a certificate of registration has been issued shall cause the certificate of registration to be made available on request to an inspector or an approved inspection authority.

(6) A user shall, within seven days after discovering that the certificate of registration has been lost, defaced or destroyed, apply to the Provincial Office of Employment and Labour in the form of Part A of Annexure 1 for the issue of a duplicate certificate, and pay the applicable fee.

(7) On receipt of an application in terms of sub regulation (5), the provincial director shall issue the duplicate certificate if he or she is satisfied that the original certificate has been lost, defaced or destroyed.

(8) A user of a fixed steam generator shall immediately notify the Provincial Office of Employment and Labour in writing when –

(a) such steam generator is no longer in use;

(b) the right of control over the use of the steam generator is transferred by the user to any other user; or

(c) the user moves the steam generator to premises other than the premises reflected on its certificate of registration.

(9) A certificate of registration issued in terms of sub regulation (3) shall lapse –

(a) upon the transfer of the right of control over the use of the steam generator to another user; or

(b) when a steam generator is removed from the premises reflected on its certificate of registration; or

(c) when the statutory inspections schedule falls out of the requirements of Regulation 11.

(10) Autoclaves that generate steam do not need to be registered with the Provincial Labour Office

(11) The owner of a mobile steam generator shall immediately notify the Provincial Office of Employment and Labour in writing when –

(a) such steam generator is no longer in use;

(b) the steam generator is sold.

Pressure equipment marking

9. (1) Every manufacturer of pressure equipment shall cause the pressure equipment to be marked in accordance with the relevant health and safety standard incorporated into these Regulations under section 44 of the Act.

(2) Every manufacturer shall in addition to (1) above cause a data plate to be permanently fixed in a conspicuous place to any steam generator or pressure vessel with the following minimum particulars-

(a) name of manufacturer;

(b) country of origin;

(c) year of manufacture;

(d) manufacturer's serial number and/or a unique identifier assigned incrementally which may be applied by the user or the importer

(e) reference number and edition of the health and safety standard;

(f) design pressure in units of Pascal or Bar;

(g) design temperature for both minimum (excluding steam generators) and maximum in degrees Celsius;

(h) capacity in cubic metres or litres;

(i) unique mark of an approved inspection authority as applicable; and

(j) the hazard category in accordance with the requirements of SANS 347.

(3) For RSA/CI/OHSA certified equipment the markings in (e) above shall typically be:

RSA/CI/OHSA – AA – BB – CC

RSA/CI/OHSA = ASME

AA = Section (VIII Division1 = 8.1)

BB = Edition (2015 = 15)

CC = Any additional markings required by ASME

(4) For imported pressure vessels and steam generators that are CE marked which reference ASME as the design standard but are not in full compliance of ASME certification mark requirements, the additional data plate shall be stamped PED/RSA/CI/OHSA-AA-BB-CC.

(5) In the case of composite pressure equipment, the following information shall be included in addition to that referred to in sub regulations (2)-

(a) the resin system of the corrosion barrier/lining;

(b) the resin system of the structural wall; and

(c) the name and specific gravity of the medium for which the vessel was designed.

(6) No person may remove a marking or data plate referred to in these Regulations or wilfully damage or alter the particulars marked thereon, except as provided in these Regulations.

(7) A user shall ensure that any modification that change the original design condition is identified by affixing an additional data plate. For repairs a repair nameplate is not required even if specified by an in-service health and safety standard.

(8) A user shall ensure that a data plate is affixed to any steam generator or pressure vessel that has been conformance re-instated in accordance with SANS 347: Provided that where the manufacturer is unknown, the user responsible for the re-instatement of conformance shall be deemed to be the manufacturer.

(9) Where normal sized data plates cannot be permanently fixed in a conspicuous place as sub regulation (2), a data plate may be affixed to the pressure vessel with a corrosion resistant metal wire or alternatively a durable sticker may be applied.

Pressure and safety accessories

10. **(1)** No user may require or permit pressure equipment to be used unless it is provided with all the pressure and safety accessories required by the relevant health and safety standard which is incorporated into these Regulations under Section 44 of the Act and used in the design, construction and manufacture of such pressure equipment: Provided that alternative safety protection as permitted by the health and safety standard may be utilised with the written approval of an approved inspection authority. Safety accessories shall be kept locked, sealed or otherwise rendered inaccessible to any unauthorized person

(2) In the absence of a requirement referred to in sub regulation (2) in the relevant health and safety standard which is incorporated into these Regulations under Section 44 of the Act and used in the design, construction and manufacture of such pressure equipment, safety accessories shall be provided by the user to the satisfaction of the approved inspection authority and those safety accessories shall be so selected, arranged and installed as to be safe for the particular purpose for which the pressure equipment is to be used.

(3) Every user of a steam generator or pressure vessel shall ensure that the steam generator or pressure vessel in use is fitted with at least one pressure measuring device provided further that for integrated systems the pressure measuring device shall be located such that it is representative of the highest pressure in the system. It shall not be possible to isolate any of the equipment with the pressure measuring device from other equipment relying on that pressure measuring device in the system while in operation.

(4) Over pressure protection by means of system design including instrumented safety systems such as high-integrity pressure protection system (HIPPS) may be used instead of pressure relief devices provided that the system is recognised by the relevant health and safety standard which is incorporated into these Regulations under Section 44 of the Act.

(5) Safety accessories shall be installed and maintained in accordance with the requirements of an applicable health and safety standard.

(6) Every user shall ensure that the automatic controls and indicators of a steam generator, pressure vessel or piping are arranged, installed, maintained and operated in accordance with the relevant health and safety standard which is incorporated into these Regulations under Section 44 of the Act and used in the design and manufacture of the pressure equipment.

Inspection and test

11. (1) Subject to the requirements of the relevant health and safety standard

which is incorporated into these Regulations under Section 44 of the act, the user shall cause –

(a) for newly certified steam generators and pressure vessels, including related piping, pressure and safety accessories after they are installed and before commissioning, to be subjected to a pre-commissioning external visual inspection, baseline wall thickness measurements and conformity assessment by an approved inspection authority to ensure full compliance with these Regulations:

(i) The in-service inspection date allocated to pressure vessels and steam generators that form part of an integrated process unit, commences on the date of commissioning of the process unit or date of the commissioning of individual equipment as applicable and not the individual equipment pre-commissioning inspection dates;

(b) steam generators, piping and pressure vessels which have been in use and which are required to be relocated, re-sold or re-commissioned after being out of service continuously for at least 12 months or more and before they are re-commissioned, to be subjected to a pre-commissioning internal and external inspection, a witnessed hydraulic pressure test to 1,25 times the design pressure and conformity assessment, to ensure full compliance with these Regulations by an approved inspection authority:

(i) The user may, subject to the written approval of an approved inspection authority, dispense with the internal inspection and hydraulic pressure test where it could have an adverse effect on the operation or integrity of the pressure equipment provided appropriate non-destructive testing may be required to verify the condition of the pressure equipment taking cognisance of in-service and out of service deterioration;

(c) Every fire-tube steam generator shall in addition be subjected to:

(i) an external inspection every 12 month;

(ii) an ultrasonic and surface crack tests of critical welds such as shell to endplates, furnace to endplates, access tube to endplates and ash dropout chutes to furnace and shell welds every 36 months to a relevant health and safety standard which is incorporated into these Regulations under Section 44 of the act, and verified by an approved inspection authority for in-service inspection;

(iii) waste heat steam generators are not deemed to be fire tube steam generators;

(d) every pressure vessel and steam generator, excluding those referred to in sub regulation (3), to be subjected to an internal and external inspection and a witnessed hydraulic pressure test to a pressure of 1,25 times the design pressure by an approved inspection authority for in-service inspection appointed by the user in writing, at intervals not exceeding 36 months: where the pressure equipment is not subject to deterioration processes, the user may dispense with the internal inspection and hydraulic pressure test, subject to a maximum period of nine years for that

pressure vessel or steam generator and written approval by an approved inspection authority

(i) *where the pressure equipment Cat I to Cat IV is not subject to proven predictable material loss which could consume the corrosion allowance in a total period of 20 years, the user may dispense with the internal inspection and hydraulic pressure test, subject to a maximum period of 9 years for that pressure vessel or steam generator and written approval by an approved inspection authority: Where equipment is subjected to other deterioration mechanisms other than corrosion PER 12 applies;*

(ii) for refrigeration and air conditioning systems, may be inspected and tested in compliance to SANS 10147 in-service inspection requirements in lieu of PER 11 (d). Implementation of SANS 10147 shall be approved by an approved inspection authority;

(iv) the chief inspector may require a specific steam generator, pressure vessel or piping system to be inspected or tested more frequently;

(e) where the hydraulic pressure test could have an adverse effect on the operation or integrity of the pressure equipment the user may,

(i) subject to the written approval of an approved inspection authority, dispense with the pressure test provided that the equipment is subjected to appropriate inspections and tests based on in-service inspection relevant health and safety standard which is incorporated into these Regulations under Section 44 of the act

(iii) The inspections and tests shall include as a minimum, a visual inspection, and appropriate non-destructive test to detect the expected deterioration associated with the service condition or appropriate non-intrusive inspection of internal surfaces and representative visual external inspection;

(iv) Dispensations granted to a User without a Regulation 12 RBI system by an approved inspection authority, to omit internal inspection and/or pressure test and/or to extend inspection intervals beyond 36 months must be accompanied by a documented risk assessment in accordance with the methodology of a relevant health and safety standard incorporated into these Regulations under section 44 of the Act.

(f) all piping, and pipelines shall be inspected and tested in accordance with the relevant in-service health and safety standard or at an interval of a maximum of 5 years:

(i) where the health and safety standard does not prescribe in-service inspections and test intervals or inspection requirements, such intervals and inspection scopes shall be determined by a risk assessment applying sound engineering practice;

(v) such inspection and test for Category II piping and higher as categorized in terms of SANS 347 shall be performed by a person who

is knowledgeable and experienced in the field of piping inspections;

(g) Transportable gas containers shall be inspected by a SANAS accredited and Department of Employment and Labour approved gas test station and at intervals as per SANS 1825;

(h) CO2 portable fire extinguishers and fire suppression system cylinders shall be inspected by a SANAS accredited and Department of Employment and Labour approved gas test station and at intervals as per SANS 1475-1 and SANS 1825;

(i) Safety accessories shall be maintained at intervals not exceeding the interval of the equipment it protects. Where intervals exceed 36 months it shall meet the requirements of an applicable in-service health and safety standard or shall be risk assessed;

(j) Pressure and safety accessories do not need to be attached during in-service inspection and tests but are required during pre-commissioning inspections;

(k) The AIA shall verify the functioning and maintenance of the pressure and safety accessories.

(2) Where it is impracticable to use a liquid for the hydraulic pressure test referred to in sub regulations (1) (a),(b),(c) or (d), the test may, subject to the prior written approval of an approved inspection authority, be carried out with an inert gas or air to a pressure of 1,1 times the design pressure: Provided that, where reasonably practicable, the test shall be preceded by an internal inspection and any conditions and precautionary measures to an acceptable health and safety standard determined by the user and approved by the approved inspection authority.

(3) Where an inspection or test carried out in terms of sub regulations (1)(c), (d) and (f) reveals any weakness or defect whereby the safety of persons may be endangered, the weakness or defect shall be reported forthwith to the user. The user shall forthwith cease the use of the pressure equipment until such weakness or defect has been formally assessed and has been accepted, rectified or re-rated to a relevant health and safety standard and verified by an approved inspection authority, as applicable.

(4) Delays by the user, of inspection and tests as per 11.1(d) may only be approved by an AIA in writing to a maximum period of 6 months provided that the user submit a risk assessment for the extension and subjected to the provisos of the AIA and that such approval shortens the next inspection interval by 6 months.

(5) All non-destructive testing performed on pressure equipment shall be performed by organisations accredited to ISO 17020 or ISO 17025 and whose scope includes each non-destructive testing method offered. Such non-destructive testing shall also meet the specific requirements of the applicable health and safety standard.

(a) Where such non-destructive testing is performed in order to certify manufacture, modification or repair of pressure equipment the

manufacturer shall appoint an appropriately accredited Non Destructive Testing (NDT) organisation.

(b) Where such Non Destructive Testing (NDT) is performed in order to determine the condition of pressure equipment during in-service inspections and tests the user shall appoint the Non Destructive Testing (NDT) organisation or ensure that the Approved Inspection Authority (In-service) appointed to perform or performing the inspections and tests appoints an appropriately accredited Non Destructive Testing (NDT) organisation.

Risk-based inspection

12. (1) The user may, as an alternative to the in-service inspection and testing interval requirements referred to in regulations 11(1) (c) and (d) for pressure equipment , implement a risk-based inspection management system in accordance with a relevant health and safety standard incorporated into these Regulations under Section 44 of the Act; provided further that inspection intervals in excess of 9 years may be assigned and all inspection intervals in excess of 36 months need to be approved by an approved inspection authority; provided further that the scope of RBI application is determined by the user on an individual equipment level.

(2) Users who wish to implement a Risk-Based Inspection management system need to apply to the Department of Employment and Labour prior to implementation of such a system. Such application shall include proof that the user has applied to an approved certification body for accreditation; provided further that the application shall include the following documentation-

(a) structure of the RBI management system;

(b) the RBI specialist name and relevant qualifications;

(c) list of the RBI team composition;

(d) health and safety standards to be used;

(e) approved certification body involved;

(f) AIA manufacturing involved in the approval of the inspection intervals; and

(g) target date of certification of RBI management system.

(3) A risk-based inspection process and implementation shall be certified by an approved certification body accredited by the accreditation authority in terms of ISO 17021 specifically for risk-based inspections and approval by the chief inspector will only be granted on the submission of a certificate from the approved certification body; provided further that the management system shall at least comply to the elements as defined in Annex SL of ISO directive part 1.

(4) Approval can be withdrawn by the chief inspector if the requirements of this

regulation are not complied with and the approved certification body shall withdraw its certification.

Repairs and modifications

13. (1) Subject to the requirement of the relevant health and safety standard incorporated into these Regulations under section 44 of the Act -

(2) Any person who intends to modify or repair any pressure equipment shall cause such modification or repair to be carried out in accordance with the original or applicable in-service health and safety standard, and in accordance with the conformity assessment requirements of SANS 347, unless full involvement of the approved inspection authority is required in accordance with Regulation 3 (7); provided further where sectional or component replacements are performed such replacements may be deemed a repair where the applicable in-service health and safety standard permits sectional or component replacements in its scope.

(a) Where pressure equipment has no construction records available but where a valid data plate or marking is present, it may be repaired or modified after the applicable verifications, calculations and tests have been performed in accordance with the appropriate health and safety standard and SANS 347.

(b) Where a pressure test is mandated by the health and safety standard for repairs and modification on pressure vessels, piping and steam generators the applied hydrostatic test pressure shall be a minimum of 1.25 the design pressure as an alternative to the requirement of the health and safety standard. The user may opt for a higher test pressure when deemed necessary. See Regulation 11(2) for pneumatic pressure testing requirements. Where a dispensation of pressure test is required after repairs or modifications in accordance with the applicable health and safety standard, approval must be obtained from the approved inspection authority for Category II and higher equipment.

(c) Any modifier or repairer carrying out any modification or repair, referred to in sub regulation 13(2), shall issue a certificate in which the extent of the modification or repair is described and certify that such work is in accordance with the relevant health and safety standard incorporated into these Regulations under section 44 of the Act: Provided that such certificate shall be countersigned by the approved inspection authority, where applicable.

(d) Any online leak sealing device installed on Category II and higher, pressure equipment shall be designed, verified, and manufactured to an appropriate and approved health and safety standard, under the supervision of an approved inspection authority. Installation remains the responsibility of the user taking, into account the structural integrity of the item to be sealed and the device shall be considered as temporary.

(3) Whenever it appears from any inspection or test that pressure equipment cannot be used safely in accordance with its design criteria and the user chooses not to have the necessary repairs effected immediately, the user shall, subject to approval by an approved inspection authority, ensure that the pressure equipment is:

(a) re-rated, an amended data plate added and the pressure equipment operated within the re-rated criteria. Provided that, in the case of a steam generator, the registration certificate, the facsimile of the data plate and a copy of the approved inspection authority's design verification report, shall be forwarded to the provincial director for updating of the steam generator registration;

(b) provided further the user may as an alternative, perform a Fitness for Service assessment in accordance with a relevant health and safety standard.

(c) For Category II and above pressure equipment, Fitness for Service assessments shall be approved by an appropriately registered professional person competent in this field.

Records

14. (1) Every user of pressure equipment shall be in possession of a certificate of manufacture and where applicable the certificate of conformity assessment review by the importer for each pressure equipment, provided further that records of any inspections, tests, modifications and repairs after installation shall be available and open for inspection by the inspector.

For every acquired pressure equipment, the user shall be in possession of documentation necessary to comply with Sub-regulation 6.1 of these regulations and any other documentation that is necessary to provide supporting evidence for the conformity of the pressure equipment to the relevant national legislation.

(2) In respect to regulation 14(1) the user is not required to keep the records for transportable gas containers when such containers are rented by the owner. The records shall be held by the owner.

(3) The user shall keep all records as detailed in regulation 14 (4) below for the operating life of the equipment in addition such records shall typically cover repairs, modifications and In-service inspection test records as well as all related documents such as deferments, pressure test dispensation, NDT reports and not just manufacturing related records. Further clarification is that the user is not necessarily the owner. These records shall be made available to the AIA on request.

(4) When pressure equipment is placed on the market, the manufacturer shall ensure that it is accompanied, where relevant, with instructions for the user,

containing all the necessary safety information relating to -

(a) mounting, including the assembling of different pieces of pressure equipment;

(b) putting into service; and

(c) maintenance, including checks by the user.

Provided that those instructions shall cover information affixed to the pressure equipment in accordance with these Regulations and the relevant health and safety standard incorporated into these Regulations under section 44 of the Act, with the exception of serial identification, and be accompanied, where appropriate, by technical documents, drawings and diagrams that are necessary for a full understanding of the instructions: Provided further that, if appropriate, the instructions shall also refer to hazards arising from misuse of the pressure equipment.

(5) The manufacturer shall keep the original manufacturing records of the pressure equipment for a minimum period of 12 years; enabling a technical review of the construction of the equipment should a failure or a dispute arise. Typical documentation should include, but not be limited to, design calculations, approved manufacturing drawings, approved fabrication records, pressure test certificate, certificate of manufacture as well as a copy of the marking (if applicable).

(6) Equipment manufactured prior to 23 October 1992 and which was designed, constructed and manufactured in accordance with regulations in force at that time do not require a certificate of manufacture

(7) For all pressure equipment, excluding transportable gas containers, which are rented by the owner, the user is responsible to ensure that all records are available according to the PER.

(8) The importer shall keep manufacturing records of the pressure equipment for a minimum period of 12 years. Typical documentation should include, but not limited to, conformity assessment review certificate, declaration of conformity from the original manufacturer and any other documents as required by approved health and safety standard and all other contractually required documents by the user.

(9) For existing equipment post 23 October 1992 where the certificate of manufacture has been misplaced or lost, a duplicate certificate shall be obtained from the original manufacturer or alternatively recreated from the data plate details under supervision of an AIA and re-instatement is not required.

Access

15. (1) The user shall cause pressure equipment to be erected and maintained in such a manner that access to and exit from any chamber, flue, manhole, inspection opening, control or accessory is safe and unobstructed.

(2) The user shall cause every steam generator and pressure vessel to be erected and maintained in such a manner that access for external inspections is safe and unobstructed.

(3) Where internal entry is possible, such chamber, flue, manhole, or inspection opening shall be safe and unobstructed for entry and exit.

(4) Small steam generators and pressure vessels which do not permit internal entry shall be accessible for safe remote or partial internal inspections.

(5) The AIA shall verify the compliance of the above requirements during the pre-commissioning inspection activity and all subsequent periodic inspections.

Door interlocks

16. (1) Any user of pressure equipment shall cause such pressure equipment which for operational purposes is equipped with a quick-actuating opening, to be provided with an interlock or other effective means for preventing –

(a) a rise of pressure inside the pressure equipment before the quick-actuating openings are in the fully closed and locked position; and

(b) the release of the quick-actuating opening from the locked and closed position before the pressure inside the pressure equipment has been reduced to atmospheric pressure or the pressure across the openings has been equalised.

Gas reticulation equipment and systems

17. (1) No person shall –

(a) handle, operate, store, transmit, distribute, reticulate, recirculate or recover any gas in any manner other than in accordance with the relevant health and safety standard incorporated into these Regulations under section 44 of the Act, including the filling of pressure equipment intended for the storage of gas;

(b) construct, replace, repair, modify, test or remove an appliance, or pressure equipment related to the gas system in any manner other than in accordance with the relevant safety standard incorporated into these Regulations under section 44 of the Act;

(c) construct, replace, repair, modify, test or remove an appliance, or pressure equipment related to the gas system unless such person is an authorised person; or

(d) use an appliance or pressure equipment related to the gas system in any manner other than in accordance with the relevant safety standard incorporated into these Regulations under section 44 of the Act;

(e) import or locally manufacture pressure equipment for natural gas or LPG gas systems unless verified and accepted in accordance with the Safe Gas Equipment Scheme and Safe Appliance Scheme as mandated by the Department of Employment and Labour.

(2) After construction or re-installation, and before commissioning, for a gas system, the user shall ensure that the inspection and testing are performed by an authorised person and an approved inspection authority as applicable in terms of sub regulations (1)(b) and (c).

(3) After construction, replacement, repair, and modification an authorised person shall issue a certificate of conformity specific to the scope of work performed as provided by an authorised body. In addition, for Category II or higher, as defined by SANS 347, an Approved Inspection Authority is required to countersign a certificate of manufacture issued by the manufacturer.

(4) On change of ownership of a gas system the certificate of conformity shall be transferred to the new owner except for domestic or commercial entities servicing the public where a certificate of conformity, as provided by an authorised body, shall be issued on the change of user or ownership. The seller is responsible for obtaining a certificate of conformity where relevant.

(5) If an existing installation commissioned before October 2009, is not designed and constructed to the requirements of SANS 329 as published at that time, the

owner/operator shall determine that the equipment is designed, maintained, inspected, tested, and operating in a safe manner. Safe operation and maintenance shall be ensured by procedures, documented and enforced, to address all deviations to the requirements of SANS 329. Any modifications done on such a system shall comply with the requirements of SANS 329 as published at the time of the modifications.

Transportable gas containers

18. (1) No user shall use, require or permit a transportable gas container to be used, filled, distributed, placed in service, handled, modified, repaired, inspected, tested or sold, other than in compliance with the relevant standards incorporated into these Regulations under section 44 of the Act.

(2) A filling station shall obtain permission to fill transportable gas container from the owner of the transportable gas container, in writing, except where the transportable gas container is privately owned by the end user.

(3) The inspection and test referred to in sub regulation (1) shall be carried out by an approved testing station. Refer to SANS 10019 and SANS 1825.

(4) Applications for approval by the chief inspector (Department of Employment and Labour) of a testing station shall include proof of accreditation as prescribed in sub regulation (5), and shall include full contact details and address information.

(5) The chief inspector's approval is subject to a valid accreditation certificate issued by the accreditation authority: Provided that the chief inspector may set additional requirements before granting approval.

(6) Transportable gas containers as applicable, shall be certified in accordance with the requirements of SANS 347.

(7) All filling stations shall be registered by an organisation approved by the Chief Inspector. The filling station shall ensure that cylinders are only filled after verifying the condition of each cylinder and ensuring that the inspections and tests have been performed.

(8) The filling operator shall be trained and registered by an organisation approved by the Chief Inspector.

Fire extinguishers

19. (1) No user shall use, require or permit the use of a fire extinguisher unless designed, constructed, filled, recharged, reconditioned, repaired, inspected or tested in accordance with the relevant safety standard incorporated into these Regulations under section 44 of the Act.

(2) No supplier shall sell or distribute, a fire extinguisher unless designed, constructed, filled, charged and inspected in accordance with the relevant safety standard incorporated into these Regulations under section 44 of the Act.

(3) No person shall fill, recharge, recondition, repair, inspect or test any fire extinguisher unless such person is an authorised person employed by a SANS1475 permit holder: Provided that the organisation issuing the permit shall be a certification body accredited by SANAS and approved by the chief inspector.

(4) Re-validation of rechargeable fire extinguishers and gas suppression system cylinders as required by SANS 1825 shall only be carried out by a gas test station that is accredited by SANAS and approved by the chief inspector.

(5) The chief inspector's approval shall be subject to a valid accreditation certificate issued by the accreditation authority. Provided that the chief inspector may set additional requirements before granting approval.

(6) No person shall –

(a) handle, operate, store, transmit, distribute, reticulate, recirculate or recover any fire suppression agent in any manner other than in accordance with the relevant health and safety standard incorporated into these Regulations under section 44 of the Act, including the filling and pressurisation of pressure equipment intended for the storage of fire suppression agents.

(b) construct, replace, repair, modify, test or remove pressure equipment related to the fire suppression system in any manner other than in accordance with the relevant safety standard incorporated into these Regulations under section 44 of the Act;

(c) design, construct, replace, repair, modify, test or remove pressure equipment related to a fire suppression system unless such person is an authorized person.

(7) After construction or re-installation, and before commissioning, of a fire suppression system, the user shall ensure that the inspection and testing is performed

by an authorized person and an approved inspection authority as applicable in terms of sub regulation (7) (b) and (c).

(8) After construction, replacement, repair, or modification, of a fire suppression system, an authorised person shall issue a certificate of conformity specific to the scope of work performed. In addition, for category II or higher, as defined by SANS 347, an AIA is required to countersign a certificate of manufacture issued by the manufacturer.

(9) On change of ownership of a fire suppression system the certificate of conformity shall be transferred to the new owner. The seller is responsible for obtaining a Certificate of Conformity where relevant.

(10) If an existing fire suppression system is not designed and constructed to the requirements of SANS 14520, Part 1 and other relevant parts, as applicable, as published at the time:

(a) the owner shall determine that the equipment is designed, maintained, inspected, tested, and operating in a safe manner.

(b) Safe operation and maintenance shall be ensured by procedures, documented and enforced, to address all deviations to the requirements of SANS 14520.

(c) Any replacement, repair, or modification carried out on such a fire suppression system shall comply with the requirements of SANS 14520 as published at the time of the modifications.

(11) If an existing carbon dioxide (CO2) fire suppression system is not designed and constructed to the requirements of SANS 306-4, as published at the time;

(a) the owner/operator shall determine that the equipment is designed, maintained, inspected, tested, and operating in a safe manner.

(b) Safe operation and maintenance shall be ensured by procedures, documented and enforced, to address all deviations to the requirements of SANS 306-4.

(c) Any modifications done on such a fire suppression system shall comply with the requirements of SANS 306-4 as published at the time of the modifications.

Tank vehicles, demountable tank and battery vehicles, tank containers, tank swap bodies and multi element gas containers (MEGCs)

20 (1) All containers designed and manufactured with an intent for carriage of dangerous goods as listed in Part 3 of Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) shall be designed, manufactured, and certified as per the requirements set out in SANS 1518 and must meet the requirements of one of the Category III modules or higher in SANS 347.

(2) Dry and liquid bulk containers designed to discharge under pressure greater than 50 KPa shall be designed and manufactured to meet the requirements of ADR

(3) The various types of containers shall include but not limited to ISO containers, Dry Bulk Carriers, Road and Rail tankers for carriage of dangerous goods

(4) The inspection and test for ISO containers shall be performed as per the ADR requirements. MEGCs shall be tested and inspected as per the requirements set out in Reg 17 & 18. All other transportable containers shall be inspected and tested as per the requirements of Reg 11.

Training

21. (1) Only an organisation or person approved by the chief inspector shall provide training on these regulations and the related standards

Offences and penalties

22. (1) Any person who contravenes or fails to comply with any of the provisions of 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 offence and liable upon conviction to a fine or to imprisonment for a period not exceeding 12 months and, in the case of a continuous offence, to an additional fine of R200,00 for each day on which the offence continues or additional imprisonment of one day for each day on which the offence continues: Provided that the period of such additional imprisonment

shall not exceed 90 days.

Repeal of regulations and annexures

23. The Pressure Equipment Regulations 2009, published under Government Notice No. R. 734, dated 15 July 2009, and all related exemptions granted are hereby repealed.

Short title

24. These Regulations shall be called the Pressure Equipment Regulations, and shall come into effect. Provided that NDT companies, gas filling stations and gas filling operators are certified within 24 months of publication of this Regulation.

Annexure 1

REGISTRATION OF A STEAM GENERATOR

OCCUPATIONAL HEALTH AND SAFETY ACT, 1993

Regulations 8(2) of the Pressure Equipment Regulations, 2021

Registration of a steam generator

A. APPLICATION FOR REGISTRATION/DE-REGISTRATION OF A STEAM GENERATOR/DUPLICATE CERTIFICATE

To: Provincial Director

Department of Labour

_____

_____

_____

From: (Postal Address)

_____

_____

_____

Tel. _____

Fax _____

I (user) (legal persona) _____ hereby apply for a registration/duplicate/de-registration registration certificate of a steam generator, particulars of which are reflected in Part B below.

_____ _____

Signature of applicant Date

_____ _____

Name of applicant (in block letters) Designation of applicant

B. PARTICULARS OF STEAM GENERATOR

1. Physical address of the Steam Generator Owner_____
2. Type of steam generator (fire-tube/water-tube/waste heat) _____
3. Physical Location (fixed/mobile) _____
4. Name of manufacturer_____
5. Country of origin_____
6. Year of manufacture_____

7. Manufacturer's serial number_____

8. Name, number and date of the standard of design_____

9. Design gauge pressure in Pascal_____

10. Maximum permissible operating pressure in pascal_____

11. Operating temperature_____

12. Source of energy (oil, coal, gas, electricity or nuclear) _____

13. Steaming capacity of steam generator _____kg of steam per hour

14. Name of approved inspection authority (during manufacture) _____

15. Copy of certificate from manufacturer attached _____

16. Copy of approved inspection authority's pre-commissioning report (as per Regulation 11) attached_____

FOR OFFICIAL USE ONLY

C. STEAM GENERATOR REGISTRATION CERTIFICATE

The steam generator, the particulars of which appear in Part B, has this day _____ been registered with the official number _____

Permission is hereby granted to use the steam generator at a maximum permissible pressure of _____kPa.

Signature of inspector

Official stamp

Issue of duplicate steam generator registration certificate

Date_____

Signature_____

GOVERNMENT NOTICE

No. R. 2021

DEPARTMENT OF LABOUR

OCCUPATIONAL HEALTH AND SAFETY ACT, 1993

INCORPORATION OF HEALTH AND SAFETY STANDARDS INTO THE PRESSURE EQUIPMENT REGULATIONS, 2021

I, Thembelani Waltermade Nxesi, Minister of Employment and Labour, after consultation with the Advisory Council for Occupational Health and Safety, hereby, under section 44 of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), incorporate into the Pressure Equipment Regulations, 2021, the health and safety standards specified in the Schedule.

Thembelani Waltermade Nxesi

Minister of Employment and Labour

SCHEDULE

1	2
American standards	
ASME Section I	Rules for construction of power boilers
ASME Section III	Rules for construction of nuclear facility components (divisions 1, 2 and 3)
ASME Section IV	Rules for construction of heating boilers
ASME Section VI	Recommended rules for the care and operation of heating boilers
ASME Section VII	Recommended guidelines for the care of power boilers
ASME Section VIII	Rules for construction of pressure vessels (divisions 1, 2 and 3)
ASME Section X	Fiber-reinforced plastic pressure vessels
ASME Section XI	Rules for in-service inspection of nuclear power plant components
ASME B31	ASME Code for pressure piping: B31.1 – Power piping B31.2 – Fuel gas piping B31.3 – Process piping B31.4 – Pipeline transportation systems for liquid hydrocarbons and other liquids B31.5 – Refrigeration piping and heat transfer components B31.8 – Gas transmission and distribution piping systems B31.8S – Managing system integrity of gas pipelines B31.9 – Building services piping B31.11 – Slurry transportation piping systems
ASME RTP-1	Reinforced thermoset plastic corrosion resistant equipment
ASME PCC-2	Repair of pressure equipment and piping
ASME PCC-3	Inspection planning using risk-based methods
ASME PVHO-1	Safety standard for pressure vessels for human occupancy

ASTM D 2774	Standard practice for underground installation of thermoplastic pressure piping
ASTM D 2996	Standard specification for filament-wound "fiberglass" pipe (glass-fibre-reinforced thermosetting resin)
ASTM D 3299	Standard specification for filament-wound glass-fiber-reinforced thermoset resin corrosion-resistant tanks
ASTM D 4097	Standard specification for contact-moulded glass-fiber-reinforced thermoset resin corrosion-resistant tanks
API	American Petroleum Institute. Standard specifications for pressure equipment (as applicable)
The Association of American Railroads Section C, Part III	Specifications for tank cars, M 1002
ANSI/ISA 84.00.01	Functional safety – Safety instrumented systems for the process industry sector
NBBI NB23	National Board Inspection Code (NBIC)
ANSI Z223.1/NFPA 54	National fuel gas code
AWWA	American water works association. As applicable
DOT 3T	Seamless steel cylinder with a minimum water capacity of 1000 pounds and a minimum service pressure of 1800 psig.
DOT 4L	Welded insulated cylinders.
TEMA rules	Tubular exchanger manufacturers association, Inc.
UL 1316	Standard for safety for glass-fiber-reinforced plastic underground storage tanks for petroleum products, alcohols and alcohol-gasoline mixtures
Australian standards	
AS 2634	Chemical plant equipment made from glass-fibre reinforced plastics (GRP) based on thermosetting resins
British standards	
BS 806	Specification for the design and construction of ferrous piping installation for and in the connection with land boilers
BS 1113	Design and manufacture of water-tube steam generating plant (including

	super heaters, re-heaters and steel tube economizers)
BS 4994	Specification of the design and construction of vessels and tanks in reinforced plastics
BS 5169	Fusion welded steel air receivers
BS 6464	Specification for reinforced plastics pipes, fittings and joints for process plants
BS 7159	Code of practice for design and construction of glass-reinforced plastics (GRP) piping systems for individual plants or sites
BS 7910	Guide to methods for assessing the acceptability of flaws in metallic structures
PD 5500	Specification for unfired fusion welded pressure vessels
European standards	
2010/35/EU	Council Directive 2010/35/EU 16 June 2010 on transportable pressure equipment
EN 286-1	Simple unfired pressure vessels designed to contain air or nitrogen -- Part 1: Pressure vessels for general purposes
EN 303-1	Heating Boilers – Part 1: Heating boilers with forced draught burners – Terminology, general requirements, testing and marking
EN 303-2	Heating Boilers – Part 2: Heating boilers with forced draught burners – Special requirements for boilers with atomizing oil burners
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EN 13121	GRP tanks and vessels for use above ground Part 1: Raw materials Specification conditions and acceptance conditions GRP tanks and vessels for use above ground Part 2: Composite materials Chemical resistance GRP tanks and vessels for use above ground Part 3: Design and workmanship GRP tanks and vessels for use above ground - Part 4: Delivery, installation and maintenance
EN 13923	Filament-wound FRP pressure vessels – Materials, design, manufacturing and testing
EN 13445	Unfired pressure vessels
EN 13458-1	Cryogenic vessels – Static vacuum insulated vessels – Part 1: Fundamental requirements
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EN 13530-1	Cryogenic vessels – Large transportable vacuum insulated vessels – Part 1: Fundamental requirements
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EN 14025	Tanks for the transport of dangerous goods – Metallic pressure tanks – Design and construction
EN 14931	Pressure vessels for human occupancy (PVHO) – Multi-place pressure chambers for hyperbaric therapy – Performance, safety requirements and

	testing
EN 14359	Gas Loaded accumulators for fluid power applications
EN 50052	Cast aluminium alloy enclosures for gas-filled high-voltage switchgear and control gear
FKM	Fracture mechanics proof of strength for engineering components, Forschungskuratorium Maschinenbau (FKM), ed., Frankfurt: VDMA Verlag GmbH.
CWA 15740	Risk-based inspection and maintenance procedures for industry (RIMAP)
IEC 61508	Functional Safety of electrical/electronic/programmable electronic safety-related systems – General requirements
IEC 61511	Functional safety - Safety instrumented systems for the process industry sector – Part 1: Framework, definitions, system, hardware and application programming requirements Functional safety - Safety instrumented systems for the process industry sector - Part 2: Guidelines for the application of IEC 61511-1: 2016 Functional safety – Safety instrumented systems for the process industry sector – Part 3: Guidance for the determination of the required safety integrity levels
VGB TW 507	Guideline For The Assessment Of Microstructure And Damage Development Of Creep Exposed Materials For Pipes And Boiler Components
R5	An Assessment Procedure for the High Temperature Response of Structures
R6	Assessment of the integrity of structures containing defects
French standards	
RCC-M	Design and construction rules for mechanical components of PWR nuclear standards
CODAP	Code for the construction of unfired pressure vessels
German standards	
DIN 6647	Cylindrical beverage containers
Technical Rules for Steam Boilers – Deutscher Dampfkesselausschuß	Technical rules for steam boilers (TRD), Dampfkesselausschuß and all sections

AD-2000 Merkblatt	Technical rules for pressure vessels (TRB), Druckbehvo and all sections
ADR	Agreement concerning the International Carriage of Dangerous Goods by Road
DVS 2205	Design calculations for containers and apparatus made from thermoplastics
DVS 2210-1	Plastic piping for industrial applications
ISO Standards	
ISO 4126	Safety devices for protection against excessive pressure - Part 1: Safety valves Safety Devices for Protection Against Excessive Pressure - Part 2: Bursting Disc Safety Devices Safety devices for protection against excessive pressure Part 3: Safety valves and bursting disc safety devices in combination Safety devices for protection against excessive pressure - Part 4: Pilot operated safety valves Safety devices for protection against excessive pressure - Part 5: Controlled safety pressure relief systems (CSPRS) Safety devices for protection against excessive pressure - Part 6: Application, selection and installation of bursting disc safety devices Safety devices for protection against excessive pressure - Part 7: Common data Safety devices for protection against excessive pressure - Part 9: Application and installation of safety devices excluding stand-alone bursting disc safety devices Safety devices for protection against excessive pressure — Part 10: Sizing of safety valves for gas/liquid two-phase flow
ISO 14692	Petroleum and natural gas industries - Glass-reinforced plastics (GRP) piping - Part 1: Vocabulary, symbols, applications and materials Petroleum and natural gas industries - Glass-reinforced plastics (GRP) piping - Part 2: Qualification and manufacture Petroleum and natural gas industries — Glass-reinforced plastics (GRP) piping — Part 3: System design Petroleum and natural gas industries - Glass-reinforced plastics (GRP) piping - Part 4: Fabrication, installation and operation
ISO 17020	Conformity assessment – Requirements for the operation of various types of bodies performing inspection

ISO 17021	Conformity assessment – Requirements for bodies providing audit and certification of management systems Part 1: Requirements Part 2: Competence requirements for auditing and certification of environmental management systems Part 3: Competence requirements for auditing and certification of quality management systems Part 4: Competence requirements for auditing and certification of event sustainability management systems Part 5: Competence requirements for auditing and certification of asset management systems Part 6: Competence requirements for auditing and certification of business continuity management systems Part 7: Competence requirements for auditing and certification of road traffic safety management systems
ISO 23251	Petroleum, petrochemical and natural gas industries – Pressure-relieving and depressuring systems
ISO 24817	Petroleum, petrochemical and natural gas industries - Composite repairs for pipework - Qualification and design, installation, testing and inspection
South African standards	
SANS 151	Fixed electric storage water heaters
SANS 306-4	Fire extinguishing installations and equipment on premises Part 4: Specification for carbon dioxide systems
SANS 329	Industrial thermo processing equipment – Safety requirements for combustion and fuel-handling systems
SANS 347	Categorization and conformity assessment criteria for all pressure equipment
SANS 827	The installation of pipes and appliances for use with natural gas
SANS 1237	Single-stage regulators for liquefied petroleum gas (LPG)
SANS 1322	Portable non refillable fire extinguishers
SANS 1475-1	The production of reconditioned fire-fighting equipment Part 1: Portable and wheeled (mobile) rechargeable fire extinguishers
SANS 1518	Transport of dangerous goods – Design, construction, testing, approval and maintenance of road vehicles and portable tanks
SANS 1539	Appliances operating on liquefied petroleum gas (LPG) or natural gas (NG) –

	Safety aspects
SANS 1567	Portable rechargeable fire extinguishers – CO2 type extinguishers
SANS 1668	Fibre-reinforced plastics (FRP) tanks for buried (underground) storage for petroleum products
SANS 1748	Glass-fibre-reinforced thermosetting plastics (GRP) pipes Part 1: Pipes for water supply, sewerage and drainage Glass-fibre-reinforced thermosetting plastics (GRP) pipes Part 2: Pipes, fittings and joint assemblies for the conveyance of hazardous chemical substances in industrial applications Glass-fibre-reinforced thermosetting plastics (GRP) pipes Part 3: Pipes, fittings and ancillaries for underground (buried) fire protection services
SANS 1825	Gas cylinder test stations – General requirements for periodic inspection and testing of transportable refillable gas pressure receptacles
SANS 1910	Portable refillable fire extinguishers
SANS 4427	Plastics piping systems – Polyethylene (PE) pipes and fittings for water supply – Part 1: General Plastics piping systems – Polyethylene (PE) pipes and fittings for water supply – Part 2: Pipes Plastics piping systems – Polyethylene (PE) pipes and fittings for water supply – Part 3: Fittings Plastics piping systems – Polyethylene (PE) pipes and fittings for water supply – Part 5: Fitness for purpose of the system
SANS 7396-1	Medical gas pipeline systems – Part 1: Pipeline systems for compressed medical gases and vacuum
SANS 10019	Transportable containers for compressed, dissolved and liquefied gases – Basic design, manufacture, use and maintenance
SANS 10087	The handling, storage, distribution and maintenance of liquefied petroleum gas in domestic, commercial, and industrial installations Part 1: Liquefied petroleum gas installations involving gas storage containers of individual water capacity not exceeding 500 L and a combined water capacity not exceeding 3 000 L per installation Part 2: Installation of LPG systems in mobile units, including but not limited to caravans, motor homes, park homes and mobile kitchens Part 3: Liquefied petroleum gas installations involving storage vessels of individual water capacity exceeding 500 L Part 4: The transportation of LP gas including the design, construction, inspection, fittings, filling, maintenance and repair of LP gas bulk vehicles and