

# The Static And Mobile Pressure Vessels (Unfired) Rules, 1981

UNION OF INDIA

India

## The Static And Mobile Pressure Vessels (Unfired) Rules, 1981

### Rule

### THE-STATIC-AND-MOBILE-PRESSURE-VESSELS-UNFIRED-RULES-1981 of 1981

- Published on 4 February 1981
- Commenced on 4 February 1981
- [This is the version of this document from 4 February 1981.]
- [Note: The original publication document is not available and this content could not be verified.]

The Static And Mobile Pressure Vessels (Unfired) Rules, 1981Published vide G.S.R. 45(E), dated 4.2.1981, published in the Gazette of India, Extraordinary, Part II, Section 3(i), dated 4.2.1981, pp. 112-126, as corrected by G.S.R. 209, dated 25.2.1983.

### 19.

/859In exercise of the powers conferred by sections 5 and 7 of the Indian Explosives Act, 1884 (4 of 1884), the Central Government hereby makes the following rules, namely:-

## Chapter I Preliminary

### 1. Short title and commencement .-(1) These rules may be called The Static and Mobile Pressure Vessels (Unfired) Rules, 1981.

(2)They shall come into force on the date of their publication in the Official Gazette.

### 2. Definition .-In these rules, unless the context otherwise requires,-

(a)"Act" means the Indian Explosives Act, 1884 (4 of 1884);(b)"approved" means a drawing, design, specification or code approved by the Chief Controller;(bb)[ "bottling plant" means a premises where cylinders are filled with compressed gas;](c)"Chief Controller" means the Chief Controller of

Explosives;(d)[ "competent person" means a person or an organisation recognised by the Chief Controller, for such gases and for such period as may be specified as competent for carrying out tests, examination, inspections and certification for installations and transport vehicles as stipulated in these rules, if such a person or organisation possesses the qualifications, experience and other requirements as set out in Appendix II to these rules and is recognised as per procedure laid down in rule 11-A: [ Inserted by G.S.R. 264(E), dated 10.3.1993.]Provided that the Chief Controller may relax the requirements of qualifications in respect of a competent person if such a person is exceptionally experienced and knowledgeable, but not the requirements in respect of the facilities at his command;](e)[ "compressed gas" means any permanent gas, liquefiable gas or gas dissolved in liquid or cryogenic liquid under pressure or gas mixture, which in a closed pressure vessel exercises a pressure exceeding one atmosphere (gauge) at maximum working temperature and includes Hydrogen Fluoride. In case of vessel without insulation or refrigeration, the maximum working temperature shall be considered as 550C;] [ Substituted by G.S.R. 372(E), dated 17.5.2002 (w.e.f. 17.5.2002).](f)"Controller of Explosives" includes the Deputy Chief Controller of Explosives, Deputy Controller of Explosives and Assistant Controller of Explosives;(g)"corrosion" means all forms of wastage, and includes oxidation, scaling, mechanical abrasion and erosion;(gg)[ "critical temperature" means the temperature above which gas cannot be liquefied by the application of pressure alone;] [ Inserted by G.S.R. 141(E), dated 14.2.2000 (w.e.f. 18.2.2000).]((gg-a) "cryogenic liquid" means liquid form of permanent gas having normal boiling point below minus 1650 C; [ Inserted by G.S.R. 372(E), dated 17.5.2002 (w.e.f. 17.5.2002).]((gg-b) "cryogenic pressure vessel" means a pressure vessel intended for storage or transportation of cryogenic liquid and includes cold converters, vacuum insulated evaporators, vacuum insulated storage or transport tanks and thermosyphon tanks;](ggg)[ "cylinder" or "gas cylinder" means any closed metal container intended for storage and transport of compressed gas having the same meaning as assigned to it in clause (xvi) of rule 2 of the ] [ Inserted by G.S.R. 141(E), dated 14.2.2000 (w.e.f. 18.2.2000).][Gas Cylinders Rules, 1981] [Now see the Gas Cylinders Rules, 2004. ](h)"design" includes drawings, calculation, specifications, models, codes and all other details necessary for the complete description of the pressure vessel and its construction;(i)"design pressure" means the pressure used in the design calculations of a vessel for the purpose of determining the minimum thickness of the various component parts of the vessel;(ii)[ "dispenser" means an equipment installed in liquefied petroleum gas dispensing station, meant for dispensing liquefied petroleum gas as automotive fuel to motor vehicles;] [ Inserted by G.S.R. 141(E), dated 14.2.2000 (w.e.f. 18.2.2000).](j)"district authority" means-(i)in towns having a Commissioner of Police, the Commissioner or a Deputy Commissioner of Police; and(ii)in any other place, the District Magistrate;(k)"filling density" means the ratio of weight of liquefiable gas allowed in a pressure vessel to the weight of water that the vessel will hold at 150C;(kk)[ "fill point" means the point of the inlet pipe connection of a vessel where hose is connected for filling the compressed gas into the vessel;] [Inserted by G.S.R. 141(E), dated 14.2.2000 (w.e.f. 18.2.2000). ](l)"flammability range" means the difference between the minimum and maximum percentage by volume of the gas in mixture with air that forms a flammable mixture at atmospheric pressure and ambient temperature;(m)"flammable compressed gas" means gas 13 per cent. or less of which when mixed with air forms a flammable mixture or whose flammable range with air is greater than 12 per cent.:(n)"Form" means the Form appended to these rules;(o)"gas free" in relation to a pressure vessel means the concentration of flammable or toxic gases or both if such pressure vessel is within the safe limits specified for persons to enter and carry

out hot work in such vessels;(p)[ "Inspector" means a professional organisation recognised by the Chief Controller for certifying pressure vessels and their fittings after carrying out stagewise inspection during fabrication as stipulated in the rules so as to ensure that the pressure vessels are designed and constructed in accordance with IS: 2825 or any other Code approved by the Chief Controller, if the constituent members of the organisation possesses the qualifications and experience and other requirements as set out in Appendix II to these rules and the recognition is granted as per procedure laid in rule 11-A;] [ Substituted by G.S.R. 264(E), dated 10.3.1993.](q)"installation" means any place which has been specially prepared for the storage of compressed gas in pressure vessels;(r)"liquefiable gas" means any gas that may be liquefied by pressure above 00C, but will be completely vaporised when in equilibrium with normal atmospheric pressure (760 mm Hg) at 300C;(ra)[ "liquefied petroleum gas" includes hydrocarbon gases in liquefied state at normal ambient temperature by the application of pressure, and conforming to the Indian Standard Specification No. IS : 4576; [ Inserted by G.S.R. 141(E), dated 14.2.2000 (w.e.f. 18.2.2000).](rb)"liquefied petroleum gas dispensing station" means a premises used for storing and dispensing liquefied petroleum gas as automotive fuel to the motor vehicles;(rc)"motor vehicle" means a vehicle having the meaning assigned to it in sub-section (28) of section 2 of the Motor Vehicles Act, 1988 (59 of 1988);(rd)"petroleum service station" means a premises used for storage of petroleum for the purpose of fuelling motor vehicles, and licensed in Form XII of the Petroleum Rules, 1976;](s)"permanent gas" means a gas whose critical temperature is lower than 100C;(t)[ "pressure vessel" means any closed metal container of whatever shape, intended for the storage and transport of any compressed gas which is subjected to internal pressure and whose water capacity exceeds one thousand litres and includes interconnecting parts and components thereof up to the first point of connection to the connected piping and fittings, but does not include containers wherein steam or other vapour is or is intended to be generated or water or other liquid is or is intended to be heated by the application of fire or the products of combustion or by electrical means, heat exchangers, evaporators, air receivers, steam type digestors, steam type sterilizers, autoclaves, reactors, calorifiers, pressure piping components, such as, separators or strainers and vessels containing a liquid under a blanket of compressed inert gas;] [ Substituted by G.S.R. 264(E), dated 10.3.1993.](u)"safety relief device" means an automatic pressure relieving device actuated by the pressure upstream of the valve and characterised by fully opened pop action, intended to prevent the rupture of a pressure vessel under certain conditions of exposure;(v)"source of ignition" means naked lights, fires, exposed incandescent materials, electric welding arcs, lamps, other than those specially approved for use in flammable atmosphere, or a spark or flame produced by any means;(vv)[ "tank truck loading or unloading gantry" or "hard stand" means the position of parking of tank truck or mobile pressure vessel for loading or unloading of compressed gas into or from it;] [ Inserted by G.S.R. 141(E), dated 14.2.2000 (w.e.f. 18.2.2000).](w)"transport" means the transport of a pressure vessel filled with any compressed gas from one place to another but does not include movement of the vessel from one place to another in the same premises;(x)"vehicle" means a mechanically propelled carriage designed to transport by land compressed gas in a pressure vessel mounted thereon, and shall not include a vessel forming the barrel of a rail tank wagon;(y)"vessel" means a pressure vessel;(z)"water capacity" means capacity in litres of the pressure vessel when completely filled with water at 150C.

### **3. [ General exemptions**

.-Nothing in these rules shall apply to vessels which form part of a processing plant. For the purpose of this rule vessels forming part of a processing plant shall mean vessels in which a unit process or unit operation is carried out and vessels which contain, as a process requirement, a compressed gas received from and consumed in the same processing plant, provided that the water capacity of the vessel(s) shall be such that the gas stored therein at the maximum working pressure shall not exceed the requirement for feeding the consuming point(s) for a period not exceeding 16 hours at the designed flow rate.]

### **4. [ Restriction on filling, manufacture and import**

.- (1) No person shall fill any compressed gas in any vessel or transport any vessel filled with any compressed gas unless such vessel has been manufactured in accordance with a type or standard or code as specified under rule 12. (2) No person shall manufacture any vessel approved under sub-rule (1) without the prior approval of the Chief Controller. (3) Any person seeking approval of the Chief Controller under sub-rule (2) shall submit to him- (a) the particulars specified in Appendix I to these rules; and (b) a scrutiny fee of rupees five hundred in the manner specified under rule 11. (4) No person shall import any vessel without the prior approval of the Chief Controller. (5) Any person seeking the approval of the Chief Controller under sub-rule (4) shall submit to him- (a) a test and inspection certificate of the vessel from the manufacturer or the inspecting agency of the country of origin; (b) the design details of the vessel, its fittings and particulars of specifications of the materials used in construction thereof; and (c) a scrutiny fee of rupees five hundred in the manner specified under rule 11.]

**5. Restriction on delivery and despatch .-(1) No person shall deliver or despatch any compressed gas filled in a vessel to any person other than the holder of a storage license issued under these rules or to a port authority or a railway administration.**

(2) No compressed gas delivered or despatched under sub-rule (1) shall exceed the quantity which the person to whom it is delivered or despatched is authorised to store under the license held by him.

**6. Repair to pressure vessels .-(1) No person shall carry out any repairs, additions or alterations to any vessel unless the proposed repairs, additions or alterations and their method of execution have been approved by the Chief Controller. Any such repairs, additions or alterations approved by the Chief Controller shall be carried out in the manner and by practices acceptable under the design code referred to in rule 12:**

Provided that nothing in this rule shall apply to the replacement of any of the fitments of the vessel which does not involve any heating.(2)Before any repairs, additions or alterations are carried out to any vessel, the same shall be completely emptied and purged with an inert gas.(3)Complete record of repairs, additions or alterations referred to in sub-rule (1) shall be maintained and made available to the Chief Controller and his permission shall be obtained before recommissioning the vessel.

**7. Purging of pressure vessels used for flammable gases .-(1) Before using any new vessel or before the refilling of any existing vessel which has been made gas-free, air contained therein shall be purged by an inert gas or by the gas for which the vessel is to be used.**

(2)If the vessel is purged by means of a flammable gas, the flammable mixture so formed shall be vented from the vessel only after taking adequate precautions to prevent its ignition.

**8. Prohibition of employment of children and intoxicated persons .-No person under the age of eighteen years or who is in a state of intoxication shall be employed for the loading, unloading or transport of any vessel containing compressed gas, or in any premises licensed under these rules.**

**9. Prohibition of smoking, fires, lights, etc .-No person shall smoke and no matches, fires, lights or articles or substance, capable of causing ignition of any flammable gas shall be allowed, at any time in proximity to a place where any compressed gas is stored, handled or transported in a vessel.**

[9-A. Supervision and operation within the licensed premises.-The operation of the licensed premises shall be under the supervision of persons having knowledge of the equipments being used in the premises and who is/are trained in handling the compressed gas, and other operators shall be conversant with the hazards associated with the compressed gas and fire fighting operations.]

**10. Special precautions against accidents .-(1) No person shall commit or attempt to commit any act which may tend to cause a fire or explosion in or about any place where any compressed gas is stored, handled or transported in a vessel.**

(2)All empty vessels which had contained any flammable or toxic gases, shall, except when they are opened for the purposes of filling or cleaning, or for rendering the gas free, be kept securely closed until they have been cleaned or freed of the gas, as the case may be.(3)Every person storing compressed gas in a vessel and every person in charge of, or engaged in the storage, handling and transport of such gas in vessels, shall at all times-(i)comply with the provisions of these rules and the conditions of any license issued thereunder;(ii)observe all precautions for the prevention of accident by fire or explosion; and(iii)prevent any person from committing any act referred in

sub-rule (1).

## **11. [ Procedure for payment of fees**

.-All fees payable under these rules shall be paid through crossed demand draft on any nationalised bank in favour of the Chief Controller of Explosives, Nagpur and in case where the amount payable does not exceed Rs. 100, the payment may be made by cash, money order, postal order or cheque drawn on a local bank.][11-A. Procedure for grant and revocation of recognition to competent person and Inspector.-(i) Anybody intending to be recognised as competent person or Inspector shall submit to the Chief Controller an application in the form prescribed in Appendix III. Every application shall be accompanied by a scrutiny fee of Rs. 500 for application for competent person and Rs. 1,000 for application for Inspector. The Chief Controller shall register such application and within a period of sixty days of the date of receipt of the application, either after having satisfied himself with regard to competence and professional ethics recognise the applicant as a competent person or an Inspector, as the case may be, or reject the application specifying the reasons therefor.(ii)The Chief Controller may after giving an opportunity to the Inspector or competent person of being heard revoke the recognition-(a)if he has reason to believe that an Inspector or competent person has violated any condition stipulated in the letter of recognition or has carried out a test, examination and inspection or has acted, in a manner inconsistent with the intent or the purpose of these rules; or(b)for any other reason to be recorded in writing.]

## **Chapter II**

### **Construction And Fitments Of Pressure Vessels**

**12. Design code .-(1) Vessels shall be designed, constructed and tested in accordance with the Indian Standard 2825; as amended from time to time, or such other standard or code approved by the Chief Controller.**

(2)A test and inspection certificate issued by the manufacturer of the vessel duly countersigned by an Inspector that the vessel meets with the requirements of the standard or code referred to in sub-rule (1) shall be furnished to the Chief Controller.

**13. Design pressure .-The design pressure of a vessel shall not be less than-**

(a)the vapour pressure of the gas in the vessel at 550C, if the vessel is meant for the storage of liquefiable gases:-Provided that if the vessel is insulated, the vapour pressure of the gas in the vessel shall correspond to the maximum temperature that is likely to be attained by the gas in the vessel;(b)the developed pressure of the gas in the vessel at 550C, if the vessel is meant for the storage of a permanent gas.(c)[ the maximum allowable service pressure with additional allowances for vacuum and static head or surge due to acceleration or deceleration, as the case may be, in respect of the cryogenic liquid proposed to be stored or transported.]

**14. Design of vessels for gases at low temperature .-(1) Refrigerated vessels .-(i) Vessels used for storage of refrigerated gases shall be designed in accordance with low temperature requirements under the Design Code referred to in sub-rule (1) of rule 12.**

(ii)The capacity of the refrigeration system shall be adequate to maintain the gas in the vessel at a temperature so that its vapour pressure does not exceed the design pressure of the vessel and shall also remain below the pressure-setting of the relief valve on the vessel.(2)Insulated vessels .-(i) The shell of the vessel and its manhole nozzle shall be insulated with a material approved by the Chief Controller. The entire insulation shall be covered with a metal jacket of a thickness not less than 3 mm. nominal and flashed around all openings so as to be weather-tight.(ii)The insulation shall be of sufficient thickness so that the thermal conductance at 150C (expressed in calories or sq. cm. per hour per degree centigrade temperature differential) does not exceed the limit prescribed by the Chief Controller.(3)[ Cryogenic pressure vessels .-(i) The design service temperature of the cryogenic pressure vessels shall not be warmer than the normal boiling point of the cryogenic liquid.(ii)The materials of construction of the inner vessel, its piping and fittings shall be suitable for the service temperature and compatible for the specific cryogenic liquid.(iii)The outer vessel shall be made of steel not less than 3 mm nominal thickness or of aluminium not less than 4 mm nominal thickness and shall have required structural strength and capable for supporting the inner vessel together with cryogenic liquid, insulation and other fittings. The outer vessel of vacuum insulated cryogenic tanks shall be designed for a minimum collapsible pressure of one atmosphere (gauge). The suitable protecting coating shall be provided on the outer vessel to avoid corrosion. The outer vessel shall also be provided with suitable lifting arrangement and supports for installation or mounting.(iv)The inner supports between the inner vessel and the outer vessel shall be of non-inflammable materials and capable of supporting the inner vessel together with the maximum allowable cryogenic liquid. The supports shall be able to withstand expansion or contraction within the operating temperature range. Cryogenic pressure vessels meant for transport purpose, shall be able to withstand combined loading of vertical down of two, vertical upward of one and a half, longitudinal of one and a half and lateral of one and a half times the weight of the vessel with attachment and the full load of cryogenic liquid. The factor of safety of the supports shall be as per the design code.(v)The air in the annular space between the inner and outer vessel shall be evacuated and the space shall be filled with suitable insulating material compatible with the particular cryogenic liquid.]

**15. Filling capacity and filling pressure .-(1) The maximum quantity of liquefiable gas filled into any vessel shall be limited to the filling density of the gas and shall be such that the vessel shall not be liquid-full due to expansion of the contents with rise of the temperature to 550C. If vessel is uninsulated, or to the highest temperature which the contents are likely to reach in service, if the vessel is refrigerated or insulated, this requirement shall be applicable irrespective of the ambient temperature of the product at the time of filling.**

(2)No vessel shall be filled with any permanent gas in excess of its design pressure.(3)[ The water capacity of the cryogenic pressure vessel shall be rated in terms of gross water capacity and the usable water capacity in litres at 150C. The usable water capacity shall not exceed 95% of the gross water capacity. An overflow pipe shall be provided at the maximum usable capacity level as a safeguard against filling the vessel beyond the maximum usable capacity.]

**16. Markings on pressure vessels .-Every vessel shall have a metal plate permanently fixed to it showing the following particulars which shall be visible from the ground level, namely:-**

(i)manufacturer's name and identification marks;(ii)the standard or code to which the vessel is constructed;(iii)official stamp of the Inspector;(iv)design pressure in kg/cm<sup>2</sup>;(v)date of initial hydrostatic test and the subsequent test;(vi)hydrostatic test pressure in kg/cm<sup>2</sup>;(vii)water capacity in litres;(viii)gas capacity, if filled with liquefiable gas; and(ix)name or chemical symbol of the gas for which the vessel is to be used.

**17. Painting of vessels .-Vessels shall be adequately painted externally to prevent corrosion and shall have a reflecting surface.**

**18. Fittings .-(1) General .-(i) Fittings .-Each vessel shall be provided with each of the following fittings all of which should be suitable for use with the gas at pressures not less than the design pressure of the vessel to which they are fitted and for temperatures appropriate to the characteristics of the gas and operating conditions, namely,-**

-Pressure relief valve connected to the vapour space;-Drains;-Contents gauge or maximum level indicator;-Pressure gauge connected to the vapour space;-Means of measuring the temperature of the contents of the vessel.(ii)[ Vessel connections .-Connections of vessels shall be designed and attached to the vessel in accordance with the Design Code specified under rule 12. All static vessels for storage of corrosive, flammable or toxic gas in liquefied state shall not have more than one pipe connection at the bottom for inlet or outlet, apart from the drainage. The drainage pipe, if provided, shall be extended beyond the shadow of the vessel and provided with two shut-off valves. No drainage pipe shall be provided direct from spherical vessel. The bottom inlet or outlet pipe for spherical vessel shall be integrally welded to the vessel and extended up to three metres beyond the shadow of the vessel, at the end of which, combination of manual and remote operated valve shall be provided.](2)Pressure relief .-(i) Every vessel shall be provided with two or more pressure relieving devices in accordance with the provisions of the Design Code referred to in rule 12;[(i-a) for cryogenic pressure vessels, the outer vessel shall be provided with a vacuum valve and safety relief device (disc) to release internal pressure. The discharge area of such device shall be at least 0.34 sq mm/litre of water capacity of the inner vessel. The relief device shall function at a pressure not exceeding the internal design pressure of the outer vessel;] [ Inserted by G.S.R. 372(E), dated 17.5.2002 (w.e.f. 17.5.2002).](ii)the relief valves shall be spring loaded and shall be set-to-discharge



and reach full flow conditions as required by the Design Code referred to in rule 12;(iii)weight loaded relief valves shall not be permitted;(iv)the relief valves shall be so designed that they cannot be inadvertently loaded beyond the set pressure;(v)the design of the valves shall be such that the breakage of any part will not obstruct free discharge of the liquid under pressure;(vi)safety relief valves on any vessel shall be set to start-to-discharge at a pressure not in excess of 110 per cent. of the design pressure of the vessel and shall have a total relieving capacity sufficient to prevent the maximum pressure in the vessel of more than 120 per cent. of the design pressure;[(vi-a)in case of cryogenic pressure vessels, the safety relief devices shall be set to discharge in such a manner that at least one such device shall be set at a pressure not higher than the maximum allowable working pressure and the other device may be set at a pressure not higher than 110% of the maximum allowable working pressure; ] [Inserted by G.S.R. 372(E), dated 17.5.2002 (w.e.f. 17.5.2002). ](vii)each safety relief valve shall be plainly and permanently marked with the pressure in kg/cm<sup>2</sup> at which it is set to discharge, with the actual rate of discharge of the device in cubic metres per minute of the gas at 150C and at atmospheric pressure, and with the manufacturer's name. The rated discharge capacity of the device shall be determined at a pressure of 120 per cent. of the design pressure of the vessel;(viii)connections of safety relief devices shall be of sufficient size to provide the required rate of discharge through the safety relief valves;(ix)safety relief valves shall be so arranged that the possibility of tampering is minimised and if the pressure setting or adjustment is external, the safety relief valve shall be provided with suitable means of sealing adjustment;(x)each safety relief valve shall be provided with shut-off valve between it and the vessel. The arrangement of the shut-off valve installed between the safety relief valve and the vessel shall be so designed as to afford full required capacity flow through at least one of the safety relief valves;(xi)safety relief valves shall have direct communication with the vapour space of the vessel;(xii)for vessels other than those mounted on the vehicles of over 4500 litres water capacity, relief valves shall be fitted with extended vent pipes adequately supported and having outlets at least 2 metres above the top of the vessel and at least 3.5 metres above the ground level and the vent pipes shall be fitted with loose-fitting rain caps;(xiii)[ relief valves shall be tested by a competent person for correct operation not less than once in a year and a record of such test shall be maintained. The test certificate shall be issued in the prescribed pro forma .] [ Substituted by G.S.R. 264(E), dated 10.3.1993.](3)Shut-off and emergency shut-off valves .-(i) all liquid and vapour connections on vessels, except those for relief valves, plugged openings, and those where the connection is not greater than 1.4 mm diameter opening shall have shut-off valves located as close to the vessel as practicable;(ii)all liquid and vapour connections on vessels, except those for relief valves, and drainage connections of small diameter, shall have an emergency shut-off valve, such as, an excess flow valve, an automatically operated valve or a remotely controlled valve. The emergency shut-off valve shall be in addition to the shut-off valve referred to in clause (i), unless the emergency shut-off valve is a remotely controlled valve which can be operated from a safe area and shall be of a type which shall not fail:[Provided that the emergency shut-off valve is not required in cases where the connection to a vessel is not greater than three millimetre in diameter for liquid and eight millimetre in diameter for vapour, or for vessels meant for storage of non-corrosive, non-flammable or non-toxic gas;] [ Substituted by G.S.R. 141(E), dated 14.2.2000 (w.e.f. 18.2.2000).](iii)where the emergency shut-off valve is of the excess flow type, its closing rate of flow shall be below the rate which is likely to result from a fracture of the line it is protecting, calculated under the most adverse weather conditions likely to be experienced. Excess-flow valves shall have a rated flow capacity sufficiently above

normal flow requirements to prevent valve chatter.(4)Liquid level gauging device .-(i) a vessel used for liquefiable gas or dissolved gas shall be equipped with a liquid level gauging device to afford ready determination of the amount of liquid in the vessel at any time;(ii)all liquid level indicators shall be suitable for operation at the design pressure of the vessel;(iii)every vessel shall, in addition, be equipped with a fixed maximum level indicating device depending upon the liquefiable gas or dissolved gas filled in the vessel;(iv)gauging devices that require bleeding of the contents of the vessel, such as, a rotary tube, fixed tube and slip tube shall be designed in such a manner that the same cannot be completely withdrawn in normal gauging operations.(5)Pressure gauge .-Every vessel shall be provided with at least one pressure gauge.

**19. Periodic testing of pressure vessels in service .-(1) All vessels shall be hydraulically tested by a competent person at a pressure marked on the vessel at intervals of not more than five years after the date of first test, provided that in the case of vessels, containing corrosive or toxic gases, the periodic test shall be done at an interval of two years.**

[In case of vessels which are so designed, constructed or supported that they cannot be safely filled with water or liquids for hydraulic testing, or which are used in services where traces of water cannot be tolerated, the Chief Controller may permit pneumatic testing alongwith non-destructive tests instead of hydraulic testing, as per procedure laid down in vessel fabrication code; after satisfying himself about the adequacy of the safety precautions undertaken.][ (1-A) Cryogenic pressure vessel and vessel for liquid carbon dioxide shall be periodically tested with pneumatic pressure at 1.1 times of maximum allowable working pressure. ] [ Inserted by G.S.R. 372(E), dated 17.5.2002 (w.e.f. 17.5.2002). ](2)The competent person carrying out the test as required under sub-rule (1) shall issue a certificate of test [in prescribed pro forma ] [Inserted by G.S.R. 372(E), dated 17.5.2002 (w.e.f. 17.5.2002). ].

**20. Precautions to be observed in carrying out hydraulic test .-In carrying out the hydraulic test referred to in rule 19, the following precautions shall be observed, namely:-**

(i)before the test is carried out, each pressure vessel shall be thoroughly cleaned and examined externally, and as far as practicable, internally also for surface defects, corrosion and foreign matters. During the process of cleaning and removal of sludge, if any, all due precautions shall be taken against fire or explosion, if such sludge is of pyrophoric nature or contains spontaneously combustible chemicals;(ii)as soon as the test is completed, the vessel shall be thoroughly dried internally and shall be clearly stamped with the marks and figures indicating the person by whom the test has been carried out and the date of test and a record shall be kept of all such tests;(iii)any vessel which fails to pass the hydraulic test or which for any other reason is found to be unsafe for use shall be destroyed or rendered unsuitable under intimation to the Chief Controller.

## Chapter III

### Storage

**21. General .-(1) All vessels meant for storage of compressed gas shall be installed entirely above-ground, that is to say, no part of the vessel shall be buried below the ground level.**

(2)Vessels and first stage regulating equipment shall be located in the open.(3)Vessels shall not be installed one above the other.(4)Vessels within a group shall be so located that their longitudinal axes are parallel to each other.(5)No vessel shall be located within the bonded area of petroleum or other flammable liquid storages.(6)Sufficient space shall be provided between two vessels to permit fire-fighting operations.(7)Two or more vessels installed in batteries shall be so installed that the top surface of the vessels are on the same plane.(8)Vessels installed with their dished ends facing each other shall have screen walls in between them.(9)[ Notwithstanding anything contained in sub-rules (1) to (8) above, vessels for storage of liquefied petroleum gas can be placed underground or covered by earth in such manner and subject to such conditions as may be specified by notifications by the Central Government.](10)[ Aboveground vessel for storage of corrosive, flammable or toxic gas in liquefied state shall be provided with enclosure wall all around the ground. The minimum distance between vessel and enclosure wall shall be the diameter of the vessel or five metres, whichever is less. The ground shall be graded to form a slope away from pumps, compressors or other equipments. The height of the enclosure wall shall be thirty centimetres on the upper side and gradually increasing to maximum sixty centimetres on the lower side, at the end of which a shallow sump for collection of the spilled liquid, if any, shall be provided. The minimum separation distance between the vessel and the sump shall be, -(a)diameter of the vessel, in case of vessels with water capacity not exceeding forty thousand litres,(b)fifteen metres, if the water capacity of the vessels exceeds forty thousand litres.]

### 22. [ Location of pressure vessel

.- (1) Each vessel shall be located with respect to the nearest building or group of buildings or line of adjoining property which may be built on and with respect to other vessels and facilities in accordance with the distances specified in the Tables below:-] [ Inserted by G.S.R. 141(E), dated 14.2.2000 (w.e.f. 18.2.2000).]mmTABLE 1MINIMUM SAFETYDISTANCES FOR CORROSIVE, TOXIC OR PERMANENT FLAMMABLE GASES

Sl.Nos	Water capacity of vessel(in litres)	Minimum distanceFrom building or group of buildings or line ofadjoining property	Minimum distancebetween pressurevessels
(1)	(2)	(3)	(4)
(i)(ii)(iii)(iv)(v)			

Sl.Nos	Water capacity of vessel(in litres)	Minimum distance from building or group of buildings or line of adjoining property	Minimum distance between pressure vessels
(1)	(2)	(3)	(4)
(i)	Not above 2000	3 metres	1 metre
(ii)	Above 2000 but not above 10,000	5 metres	1 metre
(iii)	Above 10,000 but not above 20,000	7.5 metres	1.5 metres
(iv)	Above 20,000 but not above 40,000	10 metres	2 metres
(v)	Above 40,000	15 metres	2 metres

Sl.No.	Water capacity of vessel(in litres)	Minimum distance from building or group of buildings or line of adjoining property	Minimum distance between vessels
		Above ground level	Underground or Above ground vessels covered with earth (mound)
(1)	(2)	(3)	(4)
(i)	Not above 2000	5 metres	3 metres
(ii)	Above 2000 but not above 75,00	10 metres	3 metres
(iii)	Above 75,00 but not above 10,000	15 metres	5 metres
(iv)	Above 10,000 but not above 20,000	20 metres	7.5 metres
(v)	Above 20,000 but not above 40,000	30 metres	10 metres
(vi)	Above 40,000 but	40 metres	15 metres
(vii)	Above	60 metres	15 metres
(viii)	Above	90 metres	15 metres
(ix)	Above	120 metres	
(x)	Above		

not above  
 3,50,000Above  
 3,50,000  
 but not  
 above  
 4,50,000Above  
 4,50,000  
 but not  
 above  
 7,50,000Above  
 7,50,000  
 but not  
 above  
 38,00,000Above  
 38,00,000

TABLE 4 Minimum Safety distances (in meters) between facilities associated with storage of liquefied flammable gas in petroleum refinery, gas processing plants, storage terminals and bottling plants. (A) For Total Storage not Above 100 Tonnes

From/To	Storage Vessel	Property line/buildings not associated with storage and operation	Sheds for filling storage, evacuation of cylinders	Tank Truck loading/unloading
(1)	(2)	(3)	(4)	(5)
Storage vessel	Table -3	Table - 3	30	30
Property line/buildings not associated with storage and operation	Table -3	-----	30	30
Sheds for filling storage, evacuation of cylinders	30	30	15	30
Tank Truck loading/unloading gantry	30	30	30	30
Tank Wagongantry	50	50	50	50
Pump/compressor Shed	15	30	15	30
Fire Water Pump room	60	---	60	60

(B) For Total Storage not Above 100 Tonnes

From/To	Storage Vessel	Property line/buildings	Sheds for filling storage, evacuation of cylinders	Tank Truck loading/unloading	Fire Water Pump room
---------	----------------	-------------------------	--	------------------------------	----------------------

		not associated with storage and operation	by fillers	gantry	
(1)	(2)	(3)	(4)	(5)	(6)
Storage Vessel	Table-3	Table 3	Table - 3	15	30
Property line/buildings not associated with storage & operation	Table-3	-----	15	15	--
Sheds for filling storage, evacuation of cylinders	Table - 3	15	15	15	30
Tank truck unloading/loading gantry		15	15	15	30
Fire Water Pump room	30	--	30	30	--

TABLE 5 Minimum Safety distances (in metres) between facilities associated with storage and dispensing of liquefied petroleum gas in liquefied Petroleum gas dispensing station as automotive fuel to motor vehicles.

To/ From	Liquefied Petroleum LPG Storage Vessels	Fill point of LPG Storage vessel and Centre of LPG Tank-Truck unloading hardstand	Liquefied petroleum gas Dispenser	Pr
Liquefied petroleum gas storage vessels	Table-3	9 (aboveground vessels not exceeding 7500 litres capacity) 6 (aboveground/mounded vessels not exceeding 7500 litres capacity ) 3 (underground vessel) 15 (aboveground vessels exceeding 20,000 litres	9 (aboveground vessels not exceeding 7500 litres capacity) 6 (aboveground/mounded vessels not exceeding 7500 litres capacity ) 3 (underground vessel) 15 (aboveground vessels exceeding 20,000 litres	Ta

				capacity)	
Fill point of	9 (aboveground/mounded vessels exceeding				
LPG Storage vessel	7500 litres capacity)	6 (aboveground/mounded vessels			9
and Centre	not exceeding 7500 litres capacity)	3		6	
of LPG Tank	Truck unloading hard				
stand	(underground vessel)				
Liquefied	9 (aboveground vessels not exceeding				
Petroleum	20,000 litres capacity or				
Gas	underground/mounded vessels)	15	6	-	6
Dispenser	(aboveground vessels exceeding 20,000				
	litres capacity)				
Property	Table 3	9		6	-
line					

[TABLE 6 [ Inserted by G.S.R. 372(E), dated 17.5.2002 (w.e.f. 17.5.2002).] Minimum safety distances for non-flammable nontoxic cryogenic liquids

Water capacity		Between vessel and any	Between vessel and flammable
of vessel in	Between Two vessel	building or adjoining property	structure, naked flame,
litres		line or pedestrians passage	pipeline, containing
			flammable fluids,
			electric installation or places of
			public assembly or drain
Not exceeding			
10,000	Exceeding 1 metre	3 metres	3 metres
10,000			5 metres
			7.5 metres

]TABLE 7 Minimum safety distances for liquid carbon-dioxide

Water capacity of vessel		Between vessel and any building or adjoining
in litres	Between Two vessel	property line or pedestrians passage or places
		of public assembly
Not exceeding 50,000	1 metre	2 metres
Exceeding 50,000	2 metre	4 metres

(2) If the aggregate water capacity of a multi-vessel installation exceeds forty thousand litres, the minimum safety distance from any vessel to the property line/group of buildings shall not be less than, - (a) thirty metres for corrosive, toxic or flammable gases; (b) fifteen metres for non-corrosive, non-toxic or non-flammable gases; (3) The number of aboveground storage vessels in one group shall not exceed six. Spherical and cylindrical vessels shall be installed in separate groups. Minimum separation distance between two such groups of vessels shall be the distance from vessel to property line as mentioned in Table 1, 2 or 3, as the case may be, or thirty metres, whichever is less. Each such group of vessels shall be covered under separate license under these rules. (4) The distances specified above may be relaxed by the Chief Controller in cases where he is of the opinion that additional safety measures have been provided. Explanation .- The distances specified above are required to be measured from the nearest point on the periphery of the vessel.

**23. Foundations for pressure vessels .-(1) General.-The materials, principles, methods and details of design and construction of foundations and supports of vessels shall comply with approved specifications, standards or codes.**

(2)Ground conditions .-A thorough knowledge of the ground condition shall be obtained by the person installing the vessel with particular reference to establishing an allowable bearing pressure, total and differential settlements expected, risk of floatation and possible deterioration of original conditions.(3)Materials .-(i) The choice of materials for construction shall be determined by the ground conditions, loading and detailed design constructions.(ii)The materials may be of-(a)brick-work masonry;(b)reinforced concrete; or(c)steel plate, steel pipe or structural steel.(4)Loading .-The greatest combined effect of static and imposed loadings shall be used for design as under:- (a)Static loading; weight of vessel and its contents;(b)test loading if tested by water;(c)wind loading;(d)operational loading such as vibration or thermal (natural and operational).(5)Settlement .-Any particular differential settlement shall be limited to prevent excessive stress in the connected pipe-work and vessel shell.(6)Vessel supports .-(i) The design of supports for vessels shall follow the standard or code to which the vessel is constructed;(ii)the spacing of vessel support shall be decided after close consideration of vessel-shell stressing and transmission of the loadings to the ground;(iii)the design of supports for vessels shall provide flexibility to allow for movement of the vessel as a result of pressure and thermal expansion;(iv)the vessel shall be securely anchored or weighed or provided with adequate pier height to avoid floatation due to flood waters;(v)in case of structural steel supports such supports, excluding vessel saddles or supporting feet 45 cm or less in height, shall be encased in fire-resisting materials of adequate thickness.

**24. Fencing .-(1) The area where vessels pumping equipment, loading and unloading facilities and direct fired vaporisers are provided, shall be enclosed by an industrial type fence at least 2 metres high along the perimeter of the safety zone.**

(2)Every fence shall have at least two means of exit and the gates of such exits shall open outwards and shall not be self-locking.

**25. Cleanliness .-An area of three metres around the vessel shall be kept free from readily ignitable materials, such as weeds and long dry grass.**

**26. Earthing .-(1) All vessels used for storage of flammable liquefiable gases shall be electrically connected with the earth in an efficient manner.**

(2)Pipelines conveying flammable liquids shall be adequately prepared for electrical continuity and connected with the earth in an efficient manner.



**27. No smoking .-A permanent notice with letters at least 5 cms in height prohibiting smoking and naked lights shall be fixed to the fence surrounding the area where flammable or oxidising gases are stored and the notice shall be visible from outside.**

**28. Fire protection .-All vessels used for the storage of flammable compressed gases shall be protected against fire hazards as under,-**

(i)[ provision shall be made for an adequate supply of water and fire protection in the storage area in accordance with the provision of the rules and the regulations applicable in that area. The application of water may be by hydrants, hoses and mobile equipments, fixed monitors or by fixed spray systems which may be automatic. Control of water flow should be possible from outside any danger area. The fire water system shall be designed with medium velocity sprinklers for above ground storage vessels, filling sheds, loading or unloading area, and pump sheds having minimum spray density of ten litres per minute per square metre for the single largest risk area and with additional requirements for hydrant points. In plants referred to in Table 4-A of rule 22, the quantity of water available shall be sufficient for four hours of fire fighting, and in plants referred to in Table 4-B of rule 22, the same shall be for two hours of fire fighting. For other installations not covered under Table 4-A and 4-B, the fire water storage shall be as approved by the Chief Controller;](ii)hydrants, where provided, shall be readily accessible at all times and so spaced as to provide for the protection of all vessels;(iii)sufficient length of fire hose shall be provided and be readily available. The outlet of each hose line shall be equipped with a combination jet and fog nozzle. The hoses should be maintained well and periodically inspected;(iv)mobile equipment, fixed monitors or fixed spray systems shall be designed to discharge water at a rate sufficient to maintain an adequate film of water over the surface of the vessel and supports under fire conditions;(v)consideration shall be given to the provision of mobile or fixed water spray systems giving suitable and effective protection for vehicle loading and unloading areas;(vi)at least two dry chemical powder type fire extinguishers of 9 kg. capacity each shall be installed at each point of access to the installations.(vii)[ In Liquefied Petroleum Gas dispensing station for fuelling motor vehicles, having only underground or earth covered (mounded) liquefied petroleum gas storage vessels, two numbers seventy kilograms dry chemical type fire extinguishers shall be provided. In dispensing stations having above ground liquefied petroleum gas storage vessels, hydrants with minimum water pressure of seven kilograms per square centimetre shall be provided at convenient positions for all round coverages of storage vessels and handling area, and water sprinklers with spray density of ten litres per minute per square metre shall be provided. The fire water pump shall be preferably diesel engine driven with capacity to deliver water at the rate and pressure specified above. The minimum fire water storage at the premises shall be that needed for fighting fire at least for one hour.] [ Inserted by G.S.R. 141(E), dated 14.2.2000 (w.e.f. 18.2.2000).]

**29. Loading and unloading facilities .-(1) Pumps .-(i) pumps may be centrifugal or positive displacement pumps;**

(ii) design materials and construction of pumps shall be suitable for the type of gas to be handled and they shall be designed for the maximum outlet pressure to which they will be subjected to in operation; (iii) positive displacement pumps shall have a by pass valve or other suitable protection against over pressure. (2) Compressors. - (i) the design, material and construction of compressors shall be suitable for the type of gas which they are to handle and they shall be designed for the maximum outlet pressure to which they will be subjected to in operation; (ii) compressors other than multi-stage compressors shall take suction from the vapour space of the vessels being filled. (3) Transfer systems. - (i) transfer systems shall be so designed that the risk of a gas of a higher vapour pressure being transferred to equipment designed for gas of a lower vapour pressure is minimised; (ii) there shall be positive means of rapidly shutting-off flow, located at a safe distance from the vessel which is being filled or emptied; (iii) automatic alarm device to indicate the approach to maximum permissible height of automatic shut-off valves shall be used to prevent over filling. (4) Hoses. - (i) the hoses for liquid transfer shall be designed to withstand not less than four times the maximum operating pressure they will carry in service; (ii) the hoses shall be mechanically and electrically continuous. (5) [ In the tank-truck loading or unloading gantry, number of bays for parking tank-trucks shall not exceed eight, and number of such gantries in a premises shall not exceed two. (6) Rail tank wagon loading or unloading shall be restricted to a maximum of half a rake (six hundred tonnes). If full rake handling is required, it shall be placed in two separate gantries with fifty metres distance in between them. (7) All valves on the vessel and pipelines in the premises shall be permanently marked in a manner clearly indicating the direction of opening and closing.]

### **30. Transfer operations. - (1) Before transfer of gas, -**

(i) every vehicle shall be carefully examined at the installation to ensure that it complies in all respects with the requirements of these rules and shall be completely emptied before it is passed for filling; (ii) a visual check shall be made of the surroundings for unusual or dangerous situations before any filling or discharging procedure is commenced; (iii) warning notices, as necessary, shall be displayed; (iv) the receiving vessel shall be checked to ensure that it has sufficient ullage to receive quantity of gas being transferred to it; (v) the inter-connecting system, that is pipe work-fittings, valves or hoses, shall be checked to ensure that it is in safe working condition and that only valves and other fittings required in the transfer operations or any other operations proceeding simultaneously, are open. (2) During transfer the receiving vessel shall be checked to ensure that it is not being filled above its safe filling capacity or beyond its design pressure. (3) On completion of transfer before the vehicle is allowed to leave the licensed premises it shall be weighed over a weigh-bridge to ascertain the quantity of the compressed gas filled therein, if the vehicle is filled with a liquefiable gas. (4) When filling the vessels on vehicles with compressed gas, the following procedure shall be complied with in addition to the other requirements, namely: - (i) the place where the vehicle is parked shall be properly levelled; (ii) the vehicle shall be prevented from accidental movement during the transfer operation. The parking brake of the vehicle shall be on and the engine shall remain stopped, except when it is necessary to drive the pump. Where necessary, wheel chock blocks shall be used; (iii) any driving units or electrical equipment not required and not specifically designed for the transfer operation shall be stopped or isolated; (iv) the vessel mounted on a vehicle shall be electrically bonded to the fixed installation before any flammable liquefied gas transfer operation is carried out; (v) before a vehicle is moved, the electrical and the liquid and vapour

connections shall be disconnected, care being exercised to avoid spillage. Where wheel chock blocks have been used they shall be removed. The vehicle shall be checked to ensure that it is in safe working order and the surrounding areas checked to ensure that any liquefied flammable gas that may have leaked or has to be vented has safely dispersed.(5)For keeping attention during operations-(i)a competent person shall remain in attendance during all the operations connected with the transfer and ensure that all the requirements of these rules are complied with;(ii)if it is necessary to discontinue a vehicle loading operation temporarily, the loading hose, shall be disconnected from the vehicle for the period of such discontinuance.(6)The person in charge of transfer operations shall ensure that transfer operations are stopped in the event of-(i)any leakage;(ii)a fire occurring in the vicinity;(iii)a severe electrical storm occurring in the vicinity in the case of an operation which involves venting of flammable gas.[30-A. Dispenser for liquefied petroleum gas dispensing station.-The dispenser and connected fittings used for dispensing liquefied petroleum gas in motor vehicles provided in the liquefied petroleum gas dispensing station shall be designed, constructed, tested and maintained in accordance with the requirements laid down in Schedule II of these rules and be of a type approved in writing by the Chief Controller.

### **30.**

-B. Special provisions for filling fuel tanks of motor vehicles and unloading of tank-truck in liquefied petroleum gas dispensing station .-(i) Liquefied Petroleum Gas shall not be filled in fuel tank of motor vehicle while the engine of the vehicle is running.(ii)During the period of unloading of liquefied petroleum gas from tank-truck to the storage vessels, operation of dispensing liquefied petroleum gas to motor vehicles shall not be carried out.]

### **31. Electrical apparatus and installations .-(1) No electrical wire shall pass over any storage vessel.**

(2)All electrical wires installed within the safety zone or any storage vessel for the storage of flammable compressed gases shall consist of insulated cables of approved type. The cables shall be mechanically continuous throughout and effectively earthed away from the vessels.(3)For pump rooms used for pumping flammable compressed gases-(i)all electrical meters, distribution boards, switches, fuses, plugs and sockets shall be of flame proof construction complying with the requirements of IS : 2148 : 1968 and the frames shall be effectively earthed;(ii)all electrical fixed lamps shall be enclosed in a well glass flame proof fitting conforming to IS : 2206 (Part I) : 1962.(4)All electrical portable hand lamps shall be of a type approved by the Chief Controller.[31-A. Classification of hazardous area for flammable gases.-(1) A hazardous area for flammable gases shall be deemed to be-(a)a division "o" area, if inflammable gases of vapours are expected to be continuously present in the area;(b)a division "1" area, if inflammable gases or vapours are likely to be present in the area under normal operating conditions; or(c)a division "2" area, if inflammable gases or vapours are likely to be present in the area only under abnormal operating conditions or failure or rupture of an equipment.(2)If any question arises as to whether hazardous area is a division "o" area or a division "1" area or a division "2" area, the decision thereon of the Chief Controller shall be final.

## **31.**

-B. Extent of hazardous area .-The extent of hazardous area for liquefied petroleum gas dispenser shall be as under:-(i)Entire space within the dispenser enclosure cabinet and forty-six centimetres horizontally from the exterior of enclosure cabinet and up to an elevation of one hundred and twenty-two centimetres above dispenser base and the entire pit or open space beneath the dispenser shall be division "1";(ii)Up to forty-six centimetres vertically, above the surrounding ground level and horizontally beyond forty-six centimetres up to six metres on all sides of the dispenser enclosure cabinet shall be division "2".]

**32. Lighting of storage and operating areas .-Operations shall not be carried out during the night unless adequate artificial lightings of approved type are available and used.**

**33. Certificate of safety .-A certificate of safety in the pro forma [prescribed by the Chief Controller] and signed by a competent person shall be furnished to the licensing authority before any vessel is used for the storage of any compressed gas or whenever any addition or alteration to the installations or foundations for the vessel is carried out.**

[\* \* \*] [ " Pro forma" omitted by G.S.R. 264(E), dated 10.3.1993.]

## **Chapter IV**

### **Transport**

**34. Application .-The rules in this Chapter shall apply to the transport of compressed gas by vehicles.**

**35. Vehicles for transport of compressed gas .-(1) Every vehicle for the transport of compressed gas shall be of a type approved, in writing, by the Chief Controller.**

(2)Where approval is sought to a vehicle under sub-rule (1) or to any of its special safety fittings, 12 numbers of detailed drawing drawn to scale and a scrutiny fee of rupees fifty shall be forwarded to the Chief Controller.(3)If the Chief Controller, after receipt of the drawing under sub-rule (2) and after making such further inquiries as he deems necessary, is satisfied that the vehicle or the special safety fittings, as the case may be, meets with the requirements laid down in these rules, he shall approve the drawing and return to the applicant one copy thereof duly endorsed.

**36. Design .-(1) Every vessel used for the transportation of compressed gas shall be constructed and tested in accordance with the requirements of rule 12 and shall meet with the requirements of sub-rules (2), (3), (4) and (5) of this rule.**

(2)The design stress shall include an allowance to enable the vessel to withstand shocks normally encountered by movements on road, such as, acceleration and deceleration for a minimum of 3 g. When the vessel is self-supporting, the vessel design shall provide for carrying the additional stresses normally carried by the chassis frame. Provision shall be made for distributing the localised stresses arising from attachments to the vessels.(3)Mounting of vessels on the chassis or underframe shall be done in such a manner as to keep the vibrations to the minimum.(4)All attachments to the vessel shall be protected against accidental damage which may result from collision, over-turning or other operational cause.(5)All vessels shall be designed to withstand the most severe combined stresses to which they may be subjected to by the pressure of the gas, the pumping pressures and shock loading caused by transport conditions.

**37. Protection of valves and accessories .-(1) All valves and accessories shall be safeguarded against accidental damage or interference.**

(2)Valves and accessories shall be mounted and protected in such a way that risk of accidental rupture of the branch to which the valve or accessory is connected is minimised.(3)Valves or accessories situated at the rear of a vehicle shall be protected by the rear cross member of the frame of the vehicle against damage and shall comply with sub-rule (2).

**38. Equipment .-(1) Piping, fittings, pumps and meters .-(i) all pipings, fittings, pumps and meters permanently mounted on the vehicle shall be designed to withstand the most severe combined stresses imposed by the following, namely:-**

(a)the maximum designed pressure of the vessel;(b)the super imposed pumping pressure of the shock loading caused by road movements;(ii)the materials used for vessel equipment shall be sufficient ductile to withstand rough usage and accidental damage. Brittle materials such as cast iron shall not be used.(2)Protection of piping and equipment .-(i) all piping and equipment shall be adequately protected to minimise accidental damage which may be caused by rough usage, collision or over-turning;(ii)any equipment or section of piping in which liquid may be trapped shall be protected against excessive pressure caused by thermal expansion of the contents.(3)Marking of connections .-All connections on the vehicle which require manipulation by the operator of the vehicle should be clearly marked to prevent incorrect operation. The form of this marking should correspond with the operating procedure laid down for the vehicle.

**39. Vehicle design considerations .-(1) General .-The vessel shall be securely attached to the chassis of the vehicle in such a manner as to take care of the forward movement of the vessel due to sudden deceleration of the vehicle.**

(2) Design safety requirements-Mechanical .-(i) the engine of the vehicle shall be of an internal combustion type;(ii)where the fuel system is gravity-fed, a quick action cut-off-valve shall be fitted to the fuel feed pipe in an easily accessible and clearly marked position;(iii)the engine and exhaust system together with all electrical generators, motors, batteries, switch-gears and fuses shall be efficiently screened from the vessel or the body of the vehicle by a fire-resisting shield or by enclosure within an approved fire-resisting compartment ;(iv)when the equipment referred to in clauses (i), (ii) and (iii) are mounted forward of the back of the driving cab, the cab can be considered to act as an acceptable shield, provided the back, the roof and the floor of the cab, are of fire-resisting construction for the full width of the cab, without any opening in the back or roof, and that the back extends downwards to the top of the chassis;(v)when the cab construction does not conform to the requirements mentioned above, a separate fire-resisting shield should be installed extending upwards without any openings from the top of the chassis to the top of the vessel;(vi)in any case, where windows are provided in the shield, they should be fitted in fire-resisting framing with wired glass or other heat-resisting material and shall not be capable of being opened;(vii)when the equipment referred to in clauses (i), (ii) and (iii) are mounted to the rear of the back of the cab, it shall be contained wholly within an approved fire-resisting compartment;(viii)in any case where the fuel used to propel a vehicle gives off a flammable vapour at a temperature less than 650C, the fuel tank shall not be behind the shield unless the following requirements are complied with, namely:-(a)the fuel tank is protected from blows by stout steel guards or by the frames of the vehicle;(b)the fill pipe of the fuel tank of the vehicle is provided with a cover having locking arrangement;(c)the fuel feed apparatus placed in front of the fire-resisting shield is used to lift the contents of the fuel tank;(ix)where a transfer pump is driven by the engine of the vehicle, provision shall be made to stop the engine from outside the cab.(3) Design safety requirements - Electrical .-The following requirements shall be complied with in connection with the electrical and antistatic properties of the vehicle, namely:-(i)The electrical system shall have-(a)the battery in an easily accessible position;(b)a readily accessible cut-off switch of not less than 300 Amps rating;(c)wiring so fixed and protected as to minimise accidental damage or undue wear.(ii)The vessel shall be electrically continuous with the chassis.(iii)The vehicle shall be provided with a bonding point or bonding cable.(iv)Tyres shall be of the "anti-static" type.(4) Design safety requirements-General .-(i) There shall be a clear space of at least 15 cm. between the back of the cab and the front of the vessel.(ii)The rear of the vessel shall be protected by a robust steel bumper and this bumper shall be-(a)attached so that collision stresses will be transmitted to the frame work of the vehicle or, in the case of an articulated vehicle to the frame work carrying the wheels of the vessel;(b)situated at least 7.5 cm. to the rear of the rear-most part of the vessel;(c)extended on each side of the vehicle to at least the maximum width of the vessel.(iii)The maximum weight of the liquefied gas for which the vehicle is designed should not exceed the difference in weight between the unladen weight of the vehicle and the maximum gross weight permitted for that class of vehicle under the appropriate transport regulations.

**40. Marking of vehicle .-All vehicles shall be conspicuously marked on the vessel to show the product which is being carried.**

**41. Fire protection .-(1) Two serviceable fire extinguishers of suitable size and type shall be provided on each vehicle, one on each side and should be accessible from outside the cab.**

(2)A person, while in, or attending, any vehicle conveying flammable gas, shall not smoke or use matches or lighters.(3)No fire, artificial light or article capable of causing fire or explosion shall be taken or carried on any vehicle carrying flammable gas.

**42. Operations .-(1) Drivers shall be carefully selected and given appropriate training in driving and safe handling of the equipment and the compressed gas carried in the vehicle.**

(2)When loading or discharging of a vehicle takes place within the operator's own premises, a competent person shall be present throughout the operations.(3)When discharge is in progress, at a customer's premises, the driver shall remain with his vehicle in such a position as so to be able to stop the discharge immediately in an emergency.(4)Every vehicle shall be constantly attended to by at least one person who is familiar with the rules in this Chapter:Provided that nothing in this sub-rule shall apply to vehicles which are left in places previously approved for the purpose by the Chief Controller.(5)In the event of an over-night stop away from home base, prior arrangements shall be made for the safe parking of the vehicle overnight. In an emergency, a driver may seek the co-operation of the local police in finding suitable parking facilities for his vehicle.

**43. Certificate of safety [in prescribed pro forma ]**

.-A certificate of safety [in prescribed pro forma ] [Inserted by G.S.R. 264(E), dated 10.3.1993. ]signed by a competent person shall be furnished to the licensing authority before any vehicle is used for the transportation of any compressed gas to the effect that the vehicle meets with the provisions of the rules in this Chapter.

**44. Inspection and maintenance of vehicles .-(1) [The licensee for any vehicle shall] ensure that it is at all times roadworthy, and that it is in a fit condition to fill, transport and discharge its load safely.**

(2)[ An examination of the vehicle to check that the vehicle is maintained as per sub-rule (1) shall be carried out every six months by a competent person and a certificate in the prescribed pro forma shall be issued by him.] [Substituted by G.S.R. 264(E), dated 10.3.1993. ]

## Chapter V

### Licenses

**45. License for storage of compressed gas .-No person shall store any compressed gas in any vessel except under and in accordance with the conditions of a license granted under these rules.**

**46. Prior approval of specification and plans of vessels and premises proposed to be licensed .-(1) Every person desiring to obtain a license to store any compressed gas in any vessel shall submit to the Chief Controller-**

(i)specifications and plans drawn to scale in triplicate clearly indicating-(a)the manner in which the provisions prescribed in these rules shall be complied with;(b)the premises proposed to be licensed, the area of which shall be distinctly coloured or otherwise marked;(c)the surrounding area lying within 100 metres of the edge of all facilities which are proposed to be licensed;(d)the position, capacity, materials of construction and ground and elevation views of all vessels, all valves and fittings, filling and discharge pumps and fire-fighting facilities where provided and all other facilities forming part of the premises proposed to be licensed; and(ii)a scrutiny fee of rupees one hundred paid in the manner specified in rule 11.(2)If the Chief Controller, after scrutiny of the specifications and plans and after making such inquiries as he deems fit, is satisfied that compressed gas can be stored in the premises proposed to be licensed, he shall return to the applicant one copy each of all the specifications and plans signed by him conveying his sanction which may be subject to such conditions as he may specify.[46-A. No Objection Certificate.-(1) An applicant for a new license other than a license in Form IV, shall apply to the District Authority with two copies of site plan showing the location of the premises proposed to be licensed under these rules for a certificate to the effect that there is no objection to the applicant's receiving a license for storage of compressed gas in pressure vessel at the site proposed, and the District Authority shall, if he sees no objection, grant such certificate to the applicant who shall forward it to the Chief Controller with his application.(2)Every certificate issued by the District Authority under sub-rule (1) above shall be accompanied by a copy of the plan of the proposed site duly endorsed by him under his official seal.(3)The Chief Controller, may refer an application not accompanied by a certificate granted under sub-rule (1) to the District Authority for his observation.(4)If the District Authority, either on a reference being made to him or otherwise, intimates to the Chief Controller that any license which has been applied for should not, in his opinion, be granted, such license shall not be issued without the sanction of the Central Government.(5)Notwithstanding anything contained in sub-rules (1) to (4) above, all licenses granted or renewed under the said rules prior to the date on which the above provisions come in force, shall be deemed to have been granted or renewed under these rules.](6)[ The provisions of this rule shall not apply to non-flammable, non-toxic compressed gases.] [ Inserted by G.S.R. 372(E), dated 17.5.2002 (w.e.f. 17.5.2002).]



**47. License for transport of compressed gas .-(1) No compressed gas filled in a vessel shall be transported by a vehicle except under and in accordance with the conditions for a license granted under these rules.**

(2)Nothing in this rule shall apply to the transport of compressed gas filled in a vessel by a railway administration.

**48. Grant of license .-A license prescribed under these rules shall be granted by the Chief Controller on payment of the fees specified in the [Schedule I] attached to these rules.**

**49. [ Application for license**

.-A person intending to obtain a license under these rules shall submit to the Chief Controller,-(i)an application,-(a)in Form I, if the application is in respect of a license to store compressed gas in pressure vessels;(b)in Form II, if the application is in respect of a license to transport compressed gas in a pressure vessel by a vehicle;(c)in Form I-A, if the application is in respect of a license to store and dispense liquefied petroleum gas as automotive fuel;(ii)a certificate of safety under rule 33 or rule 43 as the case may be;(iii)a test and inspection certificate as required under sub-rule (2) of rule 12;(iv)four copies of the drawings approved by the Chief Controller under rules 35 and 46;(v)license fee as specified in Schedule I;(vi)No Objection Certificate from the District Authority in respect of storage of compressed gas in pressure vessels alongwith the site plan duly endorsed;(vii)copy of the Registration Certificate of the vehicle issued under Motor Vehicles Act, 1988 (59 of 1988) in respect of mobile pressure vessels for transport of compressed gas.]

**50. Period for which licenses may be granted or renewed .- [(1) A license, in Form III or Form V for the storage of compressed gas in pressure vessel, or in Form IV for the transport of the compressed gas in a pressure vessel by a vehicle, shall be granted or renewed subject to a maximum of three years and shall remain in force until the thirty-first day of March of the year up to which the same is granted or renewed.]**

(2)Notwithstanding anything contained in sub-rule (1), the Chief Controller may, if he is satisfied that a license is required for a specific work which is not likely to last up to the 31st day of March of the year up to which the license is granted or renewed, grant or renew a license for such period as is necessary.[\* \* \*] [ Omitted by G.S.R. 243(E), dated 6.5.1997.]

**51. Particulars of license .-(1) Every license granted under these rules shall be subject to the conditions specified therein and shall contain all the particulars which are contained in the form specified under these rules.**

(2) One copy of the plan or plans for the licensed premises, signed in token of approval by the Chief Controller, shall be attached to the license which shall form part of such license and an identical copy shall be filed for record in the Office of the Chief Controller. (3) [ Every licensed premises under these rules shall have prominently marked thereon the number of the license held for it. (4) The emergency telephone numbers of local fire service, police and the principal marketing company or supplier of the compressed gas, and emergency instructions shall be conspicuously displayed in the licensed premises.]

**52. Power of licensing authority to alter conditions.-Notwithstanding anything contained in rule 51, the Chief Controller may omit, alter or add to any of the conditions specified in the Form of a license.**

**53. Prior approval necessary for alteration in the licensed premises .-(1) No alteration shall be carried out in the licensed premises until the plan showing such alteration has been approved in writing by the Chief Controller.**

(2) A person wishing to carry out any alteration in the licensed premises shall submit to the Chief Controller-(i) three copies of a properly drawn plan of the licensed premises showing in distinct colour or colours the proposed alteration and the reasons therefor; (ii) a scrutiny fee of rupees fifty paid in the manner specified in rule 11. (3) If the Chief Controller, after scrutiny of the plan showing the proposed alteration and after making such enquiries as he deems fit, is satisfied that the proposed alteration may be carried out, he shall return to the licensee one copy of the plan signed by him and conveying his sanction subject to such condition or conditions as he may specify. (4) The holder of a license shall apply to the Chief Controller for the amendment of the license as soon as the sanctioned alteration has been carried out.

**54. Amendment of license .-(1) Any license granted under these rules may be amended by the Chief Controller.**

(2) The fee for amendment of a license shall be rupees ten plus the amount, if any, by which the fee that would have been payable if the license had originally been issued in the amended Form exceeds the fee originally paid for the license. (3) A licensee who desires to have his license amended shall submit to the Chief Controller-(i) [ an application duly filled in and signed in Form I, or in Form I-A or in Form II, as the case may be;] (ii) the license sought to be amended together with the approved plans attached to it; (iii) where any alteration in the licensed premises has been carried out, three copies of the properly drawn plan showing the alteration sanctioned under rule 53 by the Chief Controller; (iv) fee for the amendment of the license as specified in sub-rule (2); (v) a certificate of safety, if required under rule 33.

**55. Renewal of license .-(1) A license granted under these rules may be renewed by the Chief Controller.**

(2) Every license granted under these rules, [\* \* \*] may be renewable for three financial years where there has been no contravention of the Act or the rules framed thereunder or of any conditions of the license so renewed. (3) Where a license which has been renewed for more than one year is surrendered before its expiry, the renewal fee paid for the unexpired portion of the license shall be refunded to the licensee, provided that no refund of renewal fee shall be made for any financial year during which the Chief Controller receives the renewed license for surrender. (4) [ Every application for renewal of the license shall be made in Form I, or Form I-A or Form II, as the case may be, and shall be accompanied by the license and prescribed fee.] [Substituted by G.S.R. 141(E), dated 14.2.2000 (w.e.f. 18.2.2000). ] (5) Every application for the renewal of a license shall be made so as to reach the licensing authority at least thirty days before the date on which it expires, and if the application is so made, the license shall be deemed to be in force until such date as the Chief Controller renews the license or until an intimation that the renewal of the license is refused has been communicated to the applicant. (6) Where the renewal of a license is refused, the fee paid for the renewal shall be refunded to the licensee after deducting therefrom the proportionate fee for the period beginning from the date from which the license was to be renewed up to the date on which renewal thereof is refused. (7) The same fee shall be charged for the renewal of a license for each financial year as for the grant thereof: Provided that-(i) if the application with accompaniments required under sub-rule (4), is not received within the time specified in sub-rule (5), the license shall be renewed only on payment of a fee amounting to twice the fee ordinarily payable; (ii) if such an application with accompaniments is received by the Chief Controller after the date of expiry but not later than thirty days from that, the license may, without prejudice to any other action that may be taken in this behalf, be renewed on payment of twice the fee ordinarily payable: Provided further that in the case of an application for the renewal of a license for a period of more than one financial year at a time, the fee prescribed under clause (i) or clause (ii) of the first proviso, if payable, shall be paid only for the first financial year of renewal. (8) No license shall be renewed if the application for renewal be received by the Chief Controller after thirty days of the date of its expiry.

**56. Refusal of license .-(1) The Chief Controller refusing to grant, amend, renew or transfer a license, shall record his reasons for such refusal in writing.**

(2) A copy of the order containing the reasons for such refusal shall be given to the applicant on payment of a fee of rupees five paid in the manner specified in rule 11.

**57. Suspension and cancellation of license .-(1) Every license granted under these rules shall be liable to be suspended or cancelled, by an order of the Chief Controller for any contravention of the provisions of the Act or these rules or of any condition contained in such license, or by an order of the Central Government if at any time the continuance of the license in the hands of the licensee is deemed objectionable:**

Provided that-(i) before suspending or cancelling a license under this rule, the holder of the license

shall be given an opportunity of being heard;(ii)the maximum period of suspension shall not exceed three months; and(iii)the suspension of a license shall not debar the holder of the license from applying for its renewal in accordance with the provisions of rule 55.(2)Notwithstanding anything in sub-rule (1), an opportunity of being heard may not be given to the holder of a license before his license is suspended or cancelled in case-(i)where the license is suspended by the Chief Controller as an interim measure for the violation of the provisions of the Act or these rules, or of any condition contained in such license or in his opinion such violation is likely to cause imminent danger to the public:Provided that where a license is so suspended, the Chief Controller shall give the holder of the license an opportunity of being heard before the order of suspension is confirmed; or(ii)where the license is suspended or cancelled by the Central Government, if that Government considers that in the public interest or in the interest of the security of the State the such opportunity should not be given.(3)The Chief Controller or the Central Government suspending or cancelling a license under sub-rule (1), shall record his or its reasons for so doing in writing.

**58. Procedure on expiration, suspension or cancellation of license .-A person licensed to store compressed gas shall, on the expiration, suspension or cancellation of his license, forthwith give notice to the Chief Controller of the nature and quantity of compressed gas in his possession and shall comply with any directions which the Chief Controller may give in regard to its disposal.**

**59. Appeals .-(1) An appeal shall lie with the Central Government against any order passed by the Chief Controller refusing to grant, amend or renew a license or cancelling or suspending a license.**

(2)Every appeal shall be in writing and shall be accompanied by a copy of the order appealed against and shall be presented within sixty days of the order passed.

**60. Procedure on death or disability of licensee .-(1) If a licensee dies or becomes insolvent or is mentally incapable or is otherwise disabled, the person carrying on the business of such licensee shall not be liable to any penalty or confiscation under the Act or these rules for exercising the powers granted to the licensee during such time as may reasonably be required to allow him to make an application for a new license in his own name for the unexpired portion of the original license in respect of the year in which the licensee dies or becomes insolvent or mentally incapable or is otherwise disabled:**

Provided that nothing in this sub-rule shall be deemed to authorise the exercise of any power under this sub-rule by any person after the expiry of the period of the license.(2)A fee of rupees five shall be charged for a new license for the unexpired portion of the original license granted to any person

applying for it under this rule.

**61. Loss of license .-**When a license granted under these rules is lost or accidentally destroyed, a duplicate may be granted on the submission of a copy of the plan or plans identical with those attached to the license and on payment of a fee of rupees ten paid in the manner specified in rule 11.

**62. Production of license on demand .-(1)** Every person holding or acting under a license granted under these rules shall produce it, or an authenticated copy of it, at the place to which the license applies, when called upon to do so by any of the officers specified in rule 69.

(2) Copies of any license may, for the purpose of this rule, be authenticated by the authority which granted the license-(a) on payment of a fee of rupees five in the manner specified in rule 11 for each authenticated copy; and (b) on the submission of a copy or copies of the plans identical with the approved plan or plans attached to the license. [62-A. Compliance of instructions of licensing authority.-If the licensing authority calls upon the holder of the license by a notice in writing to execute any repairs in the licensed premises which are, in the opinion of such authority, necessary for the safety of the premises, the holder of the license shall execute the repairs within such periods as may be specified in the notice.]

**63. Procedure on reports of infringement .-**The district authority shall inform the Chief Controller of the action taken by him on any reports of infringement of the Act or of these rules which the Chief Controller may make to him.

**64. Executive control over authorities .-**Every authority, other than the Central Government, acting under this Chapter shall perform its duties subject to the control of the Central Government:

Provided that nothing in this rule shall be deemed to affect the powers of executive control of the Chief Controller over the officers subordinate to him.

## **Chapter VI**

### **Exemption**

**65. Powers to exempt .-**The Central Government may, on the recommendation of the Chief Controller, in exceptional cases, by order and for reasons to be recorded in writing, exempt storage and transportation of any compressed gas in any vessel from all or any of the provisions of these

**rules, on such conditions, if any, as may be specified in the order.**

## **Chapter VII**

### **[ACCIDENTS AND INJURIES]**

**66. Notice of accident .-The notice of an accident required to be given under sub-section (1) of section 8 of the Act shall be given forthwith-**

(i)to the Chief Controller by express telegram (Telegraphic Address-Explosives, Nagpur) followed within twenty-four hours by a letter giving particulars of the occurrence; and(ii)to the officer-in-charge of the nearest police station by the quickest route. Pending the visit of the Chief Controller, or his representative, or until instruction is received from the Chief Controller that he does not wish any further investigation or inquiry to be made, all wreckage and debris shall be left untouched except insofar as its removal may be necessary for the rescue of persons injured, and recovery of the bodies of any persons killed by the accident or in the case of railways, for the restoration of through communication.

**67. Inquiry into accidents .-(1) Whenever a District Magistrate, a Commissioner of Police or a Magistrate subordinate to a District Magistrate holds an inquiry under sub-section (1) of section 9 of the Act, he shall adjourn such an inquiry unless the Chief Controller or an officer nominated by him is present to watch the proceedings or the Magistrate has received written information from the Chief Controller that he does not wish to send a representative.**

(2)The Magistrate shall, at least fourteen days before holding the adjourned inquiry, send to the Chief Controller notice in writing of the time and place of holding the adjourned inquiry.(3)Where an accident has been attended with loss of human life, the Magistrate, before the adjournment, may take evidence to identify any body and may order the internment thereof.(4)The Chief Controller or his representative shall be at liberty at any such inquiry to examine any witness, subject to the order of the Magistrate, on points of law.(5)Where evidence is given at an inquiry at which the Chief Controller or an officer nominated by him is not present, of any neglect as having caused or contributed to the explosion or accident or of any defect in or about or in connection with any installation or any vehicle appearing to the Magistrate or Jury to require a remedy, the Magistrate shall send to the Chief Controller notice in writing of the neglect or defect.

**68. Inquiry into more serious accidents .-(1) Whenever an inquiry is held under section 9-A of the Act, the persons holding such inquiry shall hold the same in open Court in such manner and under such conditions as they may think most effectual for ascertaining the causes and circumstances of the**

## accident, and enabling them to make the report under this rule:

Provided that where the Central Government so directs, the inquiry may be held in camera .(2)Persons attending as witnesses before the Court under sub-rule (1) shall be allowed such expenses as are paid to witnesses attending before a Civil Court subordinate to the High Court having jurisdiction in the place where the inquiry is held and in case of any dispute as to the amount to be allowed, the question shall be referred to the local Magistrate who, on a request being made to the Court, shall ascertain and certify the proper amount of such expenses.(3)All expenses incurred in or about in inquiry or investigation under this rule shall be deemed to be part of the expenses of the Department of Explosives in carrying the Act into execution.

## Chapter VIII Powers

**69. Powers of inspection, search, seizure, detention and removal .-(1) Any of the officers specified in the first column of the Table below may exercise the powers mentioned in sub-section (1) of section 7 of the Act in the areas specified in the corresponding entry in the second column of that Table:-**

Officers Areas

(1)	(2)	
1.	The Chief Controller, Deputy Chief Controllers, Controllers, and Deputy Controllers of Explosives and Assistant Controllers of Explosives.	The whole of India.
2.	All District Magistrates.	Their respective districts.
3.	All Magistrates subordinate to the District Magistrate.	Their respective jurisdictions.
4.	The Commissioners of Police.	Their respective jurisdictions.
5.	Deputy Commissioners of Police subordinate	The respective areas over which their authority extends.
6.	All police officers not below the rank of a Sub-Inspector.	-do-

Provided that the powers of removal and destruction under clause (d) of sub-section (1) of section 7 of the Act shall not be exercised by any Magistrate or police officer except under and in accordance with the instructions of the Chief Controller, Deputy Chief Controller, Controller or Deputy Controller or Assistant Controller of Explosives.(2)Every facility shall be afforded to the officers specified in sub-rule (1) to ascertain that these rules are being duly observed.APPENDIX - [I][See Rule 4(2)]

**1. Applicants name an full address.**

**2. Whether the applicant has manufactured any unfired pressure vessel.**

**Yes/No**

If yes-(i)date from which such vessels were manufactured.(ii)For whom the vessels were fabricated and there approximate numbers.(iii)Details of the vessels manufactured.

**3. Specifications of Code proposed to be adopted for the manufacture of the vessels or containers.**

**4. Organisational set-up with specific reference to qualifications and experience of the personnel engaged in the manufacture of vessels.**

**5. Organisational set-up of the inspecting personnel engaged by the applicant.**

**6. Process of manufacture of vessels or containers, beginning with raw material and ending with the finished vessels or containers.**

**7. Quality control checks or tests carried out at each stage of manufacture of vessels or containers.**

**8. (i) Details of the equipment installed for chemical analysis and mechanical tests.**

(ii)Details of templates or gauges provided to check or test.(iii)Steps taken to check the accuracy of testing and checking equipment and frequency of such checking.

**9. Equipment available for carrying out non-destructive examination such as radio-graphy, Gamma ray, ultrasonic tests, etc.**

**10. List of machinery provided for manufacturing vessels or containers.**

**11. Name and address of the independent inspecting authority.**

**12. Records and certificate of tests:-**

(i)Proforma of records for various tests carried out by the inspecting and certifying organisation;  
and(ii)Proforma of tests and inspection certificate issued by the independent inspecting



authority.[APPENDIX - II] [Added by G.S.R. 264(E), dated 10-3-1993.][See rule 2(d) and 2(p)]Qualification And Experience Of Inspector Or Competent Person

Sl. No.	Rule under which competency is recognised	Qualification and other requirements	Experience for the purpose	Minimum facilities
1.	Rules 12(3)	(1) Degree in chemical or Mechanical or Metallurgical or Marine Engineering from a recognised university or equivalent professional qualifications.(2) Physically fit and mentally sound for carrying out tests and examination.	(1) A minimum experience of 10 years in design, fabrication and stage-wise inspection during fabrication of pressure vessels and equipments operating under pressure.(2) He shall be - (a) Conversant with the relevant codes of fabrication and test procedures relating to pressure vessels and their fitting. (b) Conversant with the statutory requirements concerning design and safety of unfired pressure vessels.	Standard gauges and instruments conforming to national/international standards for test and examination at every stage of fabrication. Either the Inspector shall have these or these shall be available to him. The Inspector shall be responsible for ensuring the equality and accuracy of these gauges and instruments used by him. A documented system to ensure this shall be maintained by the Inspector.
2.	Rule 18,19, 33, 43 & 44	(1) Degree in Chemical or Mechanical or Marine Engineering or equivalent professional qualifications.(2) Physically fit and mentally sound for carrying out tests and examinations.	(1) A minimum experience of 10 years in-(a) Design and fabrication, erection, operation, maintenance and;(b) testing examination and inspection of pressure vessels or equipment operating under pressure.(2) He shall be-(a) conversant with the relevant code of practice and test procedures relating to pressure vessels;(b) conversant with statutory requirements concerning safety of unfired pressure vessels installations & transport vehicles.(c) Conversant	Standard gauges, pumps and gadgets for hydraulic and pneumatic pressure tests, non-destructive tests, equipments for ultrasonic thickness test, ultrasonic flaw detection magnetic particle inspection and any other test that may be required by Chief Controller in specific cases. Either the Competent Person shall have these facilities or these shall be available to him. The Competent Person shall be responsible for ensuring the quality and accuracy of the gauges and equipments and the competence of any person that may be employed for performing

with non-destructive testing techniques as are applicable to pressure vessels.(d) able to identify defects and arrive at a reliable conclusion, with regard to the safety of pressure vessels. a nondestructive test.

Note. - In case of and organisation, the constituent members shall fulfill the requirements under column 3 individually and those under column 4, collectively. APPENDIX - III[See rule 2(p) and 11A]A. APPLICATION OF RECOGNITION AS COMPETENT PERSON UNDER THE STATIC AND MOBILE PRESSURE VESSELS (UNFIRED) RULES, 1981[See rules 18,19,33,43 & 44(2)]

**1. Name & Full address of the organisation :**

**2. Organisation status (specify whether individual or Govt., Autonomous, co-operative, Corporate or Pvt. Body registered under Company Act.)**

**3. Purpose for which competency is sought (Specify the rules)**

**4. Whether the organisation/person has been declared as a competent person under any other status, if so, give details.**

**5.**

(i)Set up of the organisation/person.(ii)Name & qualification (of constituent members in case of organisation).(iii)Experience (of constituent members in case of organisation with regard to fabrication, installation, maintenance in case of transport vehicles and examination and testing of pressure vessels and various fittings and in other related fields. Please refer to requirements mentioned in column 4 of Appendix II. (Please attach documentary evidence of the experience).

**6. Particulars of equipment, Gauges etc. available with the Organisation for carrying out the inspection/Testings.**

**7. Details of the procedures followed in carrying out stage by stage inspection/test for certification under different rules.**

**8. Any other information.**

## 9. Declaration

I ..... hereby, on behalf of ..... Certify the details furnished above are correct to the best of my knowledge. I undertake to -(i)maintain the facilities is good working order and calibrated periodically;(ii)to fulfil and abide by all the conditions stipulated in the certificate of competency and instructions issued by the Chief Controller from time to time.....Signature of the Head of the organisationName & Designation.....Seal of the InstitutionPlace.....Date.....**B. APPLICATION FOR RECOGNITION AS AN INSPECTOR COMING UNDER THE PURVIEW OF STATIC AND MOBILE PRESSURE VESSELS(UNFIRED) RULES, 1981[See rules 12(2)]**

**1. Name & Full address of the organisation :**

**2. Organisation status (specify whether individual or Govt., Autonomous, co-operative,Corporate or Pvt. Body registered under Companies Act.)**

**3. Whether the organisation/person has been declared as a competent person under any other status, if so, give details.**

**4.**

(i)Set up of the organisation.(ii)Name & qualification of its constituent members.(iii)Experience of the organisation and constituent members with regard to stagewise inspection during fabrication of pressure vessels and various fittings and in other related fields. Please refer to requirements mentioned in column 4 in Appendix II. (Please attached documentary evidence of the experience).

**5. Particulars of equipment, Gauges etc. available with the Organisation for carrying out the inspection/Testing.**

**6. Details of the procedures followed in carrying out stage by stage inspection/test for certification.**

**7. Proforma of test and Inspection certificates to be issued to various parties.**

**8. Any other information.**

## 9. Declaration

I \_\_\_\_\_ hereby, on behalf of \_\_\_\_\_ Certify the details furnished above are correct to the best of my knowledge. I undertake to fulfil and abide by all the

conditions stipulated in the certificate of competency and instructions issued by the Chief Controller from time to time.....Signature of the Head of the organisationName & DesignationSeal of the InstitutionPlace.....Date.....C.

**APPLICATION FOR GRANT OF CERTIFICATE OF COMPETENCY TO A PERSON FOR CERTIFYING STORAGE INSTALLATIONS OR TRANSPORT VEHICLES OWNED AND OPERATED BY THE ORGANISATION IN WHICH HE IS EMPLOYED**

**1. Name**

**2. Date of birth**

**3. Name of the organisation**

**4. Designation**

**5. Educational qualification (Copies of testimonials to be attached)**

**6. Particulars of professional experience (in chronological order):**

Name of the organisation   Period of service   Designation   Area of responsibilities

**7. Membership, if any, of professional bodies.**

**8. Details of facilities (examination, testing etc.) at his disposal.**

**9. Purpose for which competency certificate is sought (specify the rules).**

**10. Whether the applicant has been declared as a competent person under any statute (if so, give details)**

**11. Any other relevant information.**

**12. Declaration by the applicant.**

I here by declare that the information furnished above is true. I undertake -(a)that is the event of my leaving the aforesaid organisation, I will promptly inform the Chief Controller;(b)to fulfill and abide by all the conditions stipulated in the certificate of competency and instruction issued by the Chief Controller from time to time.....Signature of applicantPlace.....Date.....I \_\_\_\_\_ certify that Shri. \_\_\_\_\_ whose particulars are furnished above, is in our employment and nominate him on behalf of the organisation for the purpose of being declared

as a competent person under the rules. I also undertake that I will---(a)notify the Chief Controller in case the competent person leaves our employment;(b)provide and maintain in good order all facilities at his disposal as mentioned above;(c)Notify the Chief Controller any change in the facilities.....SignaturePlace.....Date.....Name and Designation .....Telephone No.....Telex No. ....Official Seal\*Example : "An officer in a refinery for certifying LPG storage vessels or the installation"[SCHEDULE I] [Substituted by G.S.R. 141(E), dated 14-2-2000 (w.e.f. 18-2-2000).](See Rule 48)LICENCE FORMS, PURPOSES, LICENSING AUTHORITY AND LICENCE FEES

Sl. No.	Form of licence	Purpose for which granted	Authority empowered to grant licence	Fees
(1)	(2)	(3)	(4)	(5)
1.	III	To store compressed gas in pressure vessels	Chief Controller	(a) Where the total water capacity of vessels in an installation does not exceed 5,000 litres Rs.1000.00 (b) Where the total water capacity of vessels in an installation exceeds 5,000 litres Rs.1,000 for the first 5,000 litres and for every additional 1,000 litres or part thereof Rs.500.00 subject to a maximum of Rs.10,000.
2.	IIV	To transport compressed gas in a pressure vessel by a vehicle	Chief Controller	Rs. 1,000
3.	V	To store and dispense liquefied petroleum gas in liquefied petroleum gas dispensing station as automotive fuel to motor vehicles	Chief Controller	Same as the licence in Form III

SCHEDULE - II(See Rule 30A)Design, construction, testing and maintenance of dispenser for liquefied petroleum gas dispensing station and its pipe connections :-a) The type of the dispenser used for dispensing liquefied petroleum gas shall conform to specification and be of a type approved by the Chief Controller.b) The dispenser shall be provided with an excess flow valve, a remote operated shut-off valve and a pipe shear provision in that order in the liquid inlet pipe.c) The dispenser shall be installed on a firm foundation and protected against physical damage.d) A breakaway device with excess flow valves or quick action cut-off valves on both sides of the breakaway device conforming to Underwriters Laboratory, USA, specification number 567 or equivalent shall be provided on the delivery line from the dispenser before the connection of the hose so as to prevent spillage of liquefied petroleum gas from both sides of the breakaway point in the event of its breakage.e) The dispensing nozzle at the end of the hose shall be of self sealing type

of twenty two millimetres nominal size and suitable for matching with filler connection of cylinders fitted to vehicles as fuel tanks, as specified in Australian specification AS-1425 or other established standard approved by the Chief Controller.f) The hose for delivery of liquefied petroleum gas by the dispenser to motor vehicles shall be suitable for commercial propane. The design pressure of the hose shall be minimum thirty two kilograms per square centimeters with a safety factor of five and shall be tested at one and half times of the design pressure at an interval not exceeding one year. The hose shall be electrically and mechanically continuous.g) The length of the hose connected to the dispenser shall not exceed five meters and fifty centimeters.h) Clearly identified switches and circuit breakers shall be provided at easily accessible location not less than six meters away from the dispenser to cut-off power supply in the event of fire, accident or other emergency. The switches or circuit breakers shall be visible from point of dispensing liquefied petroleum gas to motor vehicles.i) Every dispensing unit from which liquefied petroleum gas introduced into the cylinders fitted to the motor vehicles, shall be equipped with self sealing type fuelling nozzle form which the liquid released on disconnection shall not exceed fifteen millimetres.j) All metallic liquefied petroleum gas pipings shall be rated for Propane and designed to American Standard ASME-B-31.3 with minimum design pressure of thirty two kilogrammes per square centimeters with a factor of safety of four. The materials of pipe shall be low carbon or alloy-steel conforming to American Standard ASTM-SA-333 grade 6, or SA-106 grade B Schedule 80, or API-5L or equivalent. The pipeline shall be tested at one and half times of pressure if pneumatically tested. Joints of pipeline above forty millimeters diameter shall be welded or flanged. Threaded or screwed connection shall not be provided except for special fittings like excess flow valve, pump connections upto fifty millimeters.FORM - I(See Rules 49, 54 and 55)APPLICATION FOR THE GRANT, AMENDMENT OR RENEWAL OF A LICENCE TO STORE COMPRESSED GAS IN VESSEL OR VESSELSDocuments listed overleaf must be enclosed with this application it is for the grant of a licence in Form -III

1. Applicant's name**	The replies to be given in this column.
Applicant's calling	_____
Applicant's Full postal address	_____
2. Situation of the premises where liquefied petroleum gas is to be stored.	_____
State	_____
District	_____
Town or Village	_____
Nearest Railway Station	_____
3. Nature of compressed gas proposed to be stored.	
(Please state whether flammable, corrosive or toxic.)	
4. Chemical name of compressed gas proposed to be stored.	
5. Quantity of the compressed gas proposed to be stored.	

6. Quantity and chemical name of the compressed gas already stored in the premises.

7. Number of licence held for the premises and then full name of the holder of the licence.

I hereby declare that the statements made above have been checked up by me and are true and I undertake to abide by the terms and conditions of the licence which will be granted to me.....Signature & designation of the applicant.Date of Application\*\*Where the application is made on behalf of a Company the name and address of the Company and the name of the Manager or Agent should be given and the application should be signed by him. Every change in the name of the Manager or Agent shall be forthwith intimated to and his specimen signature filed with the licensing authority.Documents required to be submitted with application for a licence in Form - III(i)Four copies of specification and plans approved under Rule 46.(NOT REQUIRED FOR RENEWAL OF A LICENCE WITHOUT AMENDMENT).(ii)Licence together with approved plans and specifications attached thereto.(NOT REQUIRED FOR THE FIRST GRANT OF A LICENCE).(iii)Requisite amount of fee for the grant or amendment of a licence paid in the manner specified in Rule 11.(iv)A certificate of safety is required under Rule 33.FORM - I-A [Inserted by G.S.R. 141(E), dated 14-2-2000 (w.e.f. 18-2-2000).](See Rules 49, 54 and 55)APPLICATION FOR THE GRANT, AMENDMENT OR RENEWAL OF A LICENCE TO STORE AND DISPENSE LIQUEFIED PETROLEUM GAS IN LIQUEFIED PETROLEUM GAS DISPENSING STATION AS AUTOMOTIVE FUEL TO MOTOR VEHICLESDocuments listed overleaf must be enclosed with this application it is for the grant of a licence in Form-V

### **1. Applicant's name\*\***

Applicant's callingApplicant's Full postal address

### **2. Situation of the premises where liquefied petroleum gas is to be stored.**

StateDistrictTown or VillageNearest Railway Station

### **3. Type of liquefied petroleum gas proposed to be stored.**

### **4. Chemical name and composition of liquefied petroleum gas proposed to be stored.**

### **5. Quantity of the liquefied petroleum gas proposed to be stored.**

### **6. Particulars of the licence held for the premises under these rules and Petroleum Rules, 1976, if any.**

## 7. i) Quantity of liquefied petroleum gas already stored

ii) Quantity of Petroleum already stored, if any I hereby declare that the statements made above have been checked up by me and are true and I undertake to abide by the terms and conditions of the licence which will be granted to me.....Signature & designation of the applicant. Date of Application : \*\*Where the application is made on behalf of a Company the name and address of the Company and the name of the Manager or Agent should be given and the application should be signed by him. Every change in the name of the Manager or Agent shall be forthwith intimated to and his specimen signature filed with the licensing authority. Documents required to be submitted with application for a licence in Form - V(i) Four copies of specification and plans approved under Rule 46. (Not required for renewal of a licence without amendment); (ii) Specification with certificates of dispenser, pipings, hoses and other fittings. (required for grant or amendment of licence) (iii) Licence together with approved plans and specifications attached thereto. (Not required for the first grant of a licence) (iv) Fee for the grant, amendment or renewal of a licence specified under the scheduled, sub rule (2) of rule 54 and sub-rule (7) of rule 55, as the case may be, to be paid in the manner specified in Rule 11. (v) A certificate of safety under Rule 33 (not required for renewal of licence)]. FORM - II (See Rules 49 and 54) APPLICATION FOR THE GRANT OR AMENDMENT OF A LICENCE TO TRANSPORT COMPRESSED GAS IN A VEHICLE Documents listed overleaf must be submitted with this application

To be filled in  
and signed by  
the applicant.

1. Applicant's  
name and full  
postal  
address

2. Particulars  
of the vehicle  
in which  
compressed  
gas is  
proposed to  
be  
transported

(i) Make and  
Model

(ii) Engine  
number

(iii) Chassis  
number



(iv)

Registered  
number

(v) Date upto

which the  
vehicle is  
registered

---

(vi) Name  
and full

postal  
address of the  
registered  
owner

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3. Name of  
the  
compressed  
gas proposed  
to be  
transported

(Please state  
whether  
flammable,  
corrosive or  
toxic).

4. Chemical  
name of  
compressed  
gas to be  
transported  
in the vehicle

5. Water  
capacity of  
the pressure  
vessel and net  
weight of the  
compressed  
gas proposed  
to be  
transported.

6. Number  
and date of  
approval of  
the design

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drawing of  
the vehicle by  
the Chief  
Controller

7. Does  
(vehicle  
described  
above) fully  
conform to  
the  
requirements  
laid down in  
the rules and  
the design  
drawing  
approved by  
the Chief  
Controller.

8. Full postal  
address of the  
place where  
the vehicle  
will be  
normally  
stationed.

I/We declare that the particulars given above have been checked up by me/us and are correct. I/We undertake to transport compressed gas in the vehicle particulars of which are given above, in accordance with the provisions of the Indian Explosives Act, 1884 and the Static and Mobile Pressure Vessels (Unfired) Rules, 1981 framed thereunder and any other law or rule for the time being in force. I/We understand that any contravention of the said Act and the rules framed thereunder is punishable with imprisonment for a term which may extend to two year, or with fine which may extend to three thousand rupees, or with both.....Signature of applicantPlace:-----Date:-----Documents required to be submitted with this application(1)Two copies of drawing approved under Rule 35.(2)Safety certificate required under Rule 43.(3)Expired licence, if the vehicle was previously licensed.(4)Required amount of fee paid in the manner specified in Rule 11.FORM III(See Rules 49 and 50)LICENCE TO STORE COMPRESSED GAS IN PRESSURE VESSEL OR VESSELSLicence No. ....Fee Rs. ....Licence is hereby granted to

valid only for the storage of \_\_\_\_\_ cubic metres \_\_\_\_\_Kgs. in \_\_\_\_\_  
\_\_\_\_\_ No. of pressure vessels in the licensed premises described below and shown in the plan  
No. \_\_\_\_\_ subject of the provision of the Indian Explosives Act, 1884 (4 of 1884) and the  
rules made thereunder and to the further conditions of this licence.The licence shall remain in force  
upto the 31st day of march 20\_\_\_\_\_.The \_\_\_\_\_20\_\_\_\_\_Chief

Controller of Explosives Description and location of the licensed premises The licensed premises, the layout boundaries and other particulars of which are shown in the attached approved plan No.

\_\_\_\_\_ are situated \_\_\_\_\_ and consists of \_\_\_\_\_  
\_\_\_\_\_ for storage of (a) Flammable/Corrosive/Toxic gases  
\_\_\_\_\_ (b) non-toxic Gases \_\_\_\_\_ and situated  
at \_\_\_\_\_ (Plot number) (Name of Street) (Village or  
Town) (Police Station) District).

Space for Endorsement or Renewals

The licence shall be renewable without any concession in fee for three years in the absence of contravention of the provisions of the Indian Explosives Act, 1884, or the Static and Mobile Pressure Vessels (Unfired) Rules, 1981 framed there under or of the conditions of the licence.

Date of renewal

Date of expiry

Documents required to be submitted with this application (1) Two copies of drawing approved under Rule 35. (2) Safety certificate required under Rule 43. (3) Expired licence, if the vehicle was previously licensed. (4) Required amount of fee paid in the manner specified in Rule 11. FORM III (See Rules 49 and 50) LICENCE TO STORE COMPRESSED GAS IN PRESSURE VESSEL OR VESSELS Licence No. .... Fee Rs. .... Licence is hereby granted to

valid only for the storage of \_\_\_\_\_ cubic metres \_\_\_\_\_ Kgs. in \_\_\_\_\_  
\_\_\_\_\_ No. of pressure vessels in the licensed premises described below and shown in the plan No. \_\_\_\_\_ subject of the provision of the Indian Explosives Act, 1884 (4 of 1884) and the rules made thereunder and to the further conditions of this licence. The licence shall remain in force upto the 31st day of March 20\_\_\_\_\_. The \_\_\_\_\_ 20\_\_\_\_\_ Chief

Controller of Explosives Description and location of the licensed premises The licensed premises, the layout boundaries and other particulars of which are shown in the attached approved plan No.

\_\_\_\_\_ are situated \_\_\_\_\_ and consists of \_\_\_\_\_  
\_\_\_\_\_ for storage of (a) Flammable/Corrosive/Toxic gases  
\_\_\_\_\_ (b) non-toxic Gases \_\_\_\_\_ and situated  
at \_\_\_\_\_ (Plot number) (Name of Street) (Village or  
Town) (Police Station) District).

Space for Endorsement or Renewals

The licence shall be renewable without any concession in fee for three years in the absence of contravention of the provisions of the Indian Explosives Act, 1884, or the Static and Mobile Pressure Vessels (Unfired) Rules, 1981 framed there under or of the conditions of the licence.

Date of renewal

Date of expiry

This licence is liable to be cancelled if the licensed premises are not found conforming to the description and conditions attached hereto and for contravention of any of the rules and conditions under which this licence is granted and the holder of this licence is also punishable with imprisonment for the term which may extend to two years, or with fine which may extend to three thousand rupees, or with both. Conditions

- 1. The licensed premises shall not be used for any purpose other than storage and transfer of compressed gas and purposes directly connected therewith.**
- 2. The compressed gas shall be stored only in one or more vessels of capacity.....cubic metres.....Kg. and in position shown in the approved plan attached hereto.**
- 3. Every vessel shall be outside any building and shall be supported on well designed foundations.**
- 4. The storage vessel shall at all times maintain from any other facility, building, boundary, fencing or protected works the distances specified in Table I and Table II of Rule 22.**
- 5. [ A suitable hard stand for parking of the vehicle during loading or unloading of any compressed gas shall be provided . The following minimum safety distances shall be provided between the centre of the hard stand and the storage vessel or boundary line of installation; as well as between the loading or unloading points and storage vessel or boundary line of installation, -**
  - i) As per Table-4(A) or Table-4(B), as the case may be, in case of refinery, terminal and cylinder filling plants for flammable liquefied gasesii) Four metres and fifty centimeters in case of non-corrosive, non-toxic and non-flammable gases;iii) Nine meters in all other casesProvided that in the underground vessels for storage of liquefied petroleum gas, the minimum distance between the hard stand and such vessel shall be three metres.] [Substituted by G.S.R. 141(E), dated 14-2-2000 (w.e.f. 18-2-2000).]
- 6. There shall be no opening in any vessel other than those necessary for the introduction or removal of the compressed gas or for providing other fitments.**

- 7. All fitments of the vessel shall be well maintained.**
- 8. No alteration of the position of the vessel and no replacement of the vessel shall be effected except with the previous sanction, in writing, of the licensing authority. All alterations so sanctioned under this condition shall be shown on an amended plan to be attached to the licence.**
- 9. If the licensing authority calls upon the holder of a licence by a notice in writing to execute any repairs in the licensed premises which are, in the opinion of such authority, necessary for the safety of the premises, the holder of the licence shall execute the repairs within such period as may be specified in the notice.**
- 10. Every vessel before being repaired or exhumed shall be made free of compressed gas and thoroughly cleaned. When a vessel is opened for cleaning or repairs, no lamp of any description either ordinary or electric, electric cables or fans and no articles, appliances or equipment capable of igniting flammable vapours shall be brought near the vessel.**
- 11. No person shall cause to repair or repair either by the use of fire, welding, hot riveting or brazing any vessel used for the storage of flammable gas unless it has been thoroughly cleaned and gas-freed or otherwise prepared for safely carrying out such hot work and certified in writing, by a competent person, to have been so prepared. Where the vessel has been certified as gasfree, the certificate shall be preserved by the licensee for a period of not less than three months and produced to the Chief Controller, on demand.**
- 12. No person shall enter any vessel used for the storage of a toxic or corrosive gas unless he is adequately protected by means of clothing, gas masks and such other protective equipment.**
- 13. Compressed gas shall enter the vessel through sound pipes having no leaks at any place.**
- 14. The vessel shall not be filled between the hours of sunset and sunrise, except in such manner and under such other condition or conditions as are specifically endorsed on the licence by the licensing authority.**

**15. No artificial light capable of igniting flammable vapour shall at any time be present within 9 metres of the vehicle and the loading or unloading points during the transfer of the compressed gas and no person engaged in such transfer shall smoke.**

**16. No compressed gas shall be removed from the vessel except by means of transfer facilities marked in the plan attached hereto.**

**17. All electrical equipment such as motors switches, starters, etc., used for transfer of flammable compressed gas shall be of flameproof construction conforming to IS:2148.**

**18. Every person managing or employed on or in connection with the licensed premises shall abstain from any act whatsoever which tends to cause fire or explosion and which is not reasonably necessary and to the best of his ability, shall prevent any other person from doing such act.**

**19. The licensee shall provide for each licensed premises a minimum of two portable foam type or dry chemical type fire extinguishers of 9 kg. capacity each, which shall be kept ready at convenient location for immediate use in the event of any fire.**

**20. Except for necessary pipes and valves and approved electric lights the space within the licensed premises shall be kept entirely clear and unoccupied.**

**21. All valves in the premises must be permanently marked in a manner clearly indicating the direction of opening and shutting the valve.**

**22. Any accident, fire or explosion within the licensed premises which is attended with loss of life or serious injury to person or property shall be immediately reported to the nearest Magistrate or to the officer in-charge of the nearest police station and by express telegram to the Chief Controller of Explosives (Telegraphic address-"EXPLOSIVES" Nagpur).**

**23. Free access to the licensed premises shall be given at all reasonable times to any of the officers specified in Rule 69 and every facility shall be afforded to such officer for ascertaining that the rules and the conditions of**

**this licence are duly observed.**

[FORM - IV] [Substituted by G.S.R. 243(E), dated 6-5-1997.](See rules 49 and 50)LICENCE TO  
TRANSPORT COMPRESSED GAS IN A PRESSURE VESSEL BY A VEHICLE

Licence No.....Fee Rs.....Licence is hereby granted to

\_\_\_\_\_ to transport compressed gas by the  
vehicle as described below subject to the provisions of the Indian Explosives Act, 1884 (4 of 1884)  
and the rules made thereunder and to the further conditions of this licence. This licence will remain  
valid upto the 31st day of March \_\_\_\_\_(year) Date of Issue: Chief Controller of  
Explosives

**DESCRIPTION OF THE VEHICLE**

Make and Model \_\_\_\_\_

Chassis Number \_\_\_\_\_

Name of the registered  
owner \_\_\_\_\_

Chemical name of the compressed gas to be carried in the  
Vehicle \_\_\_\_\_

Authorised carrying capacity of the  
container \_\_\_\_\_

**Endorsement of Renewals**

Date of Renewal

Date of Expiry Signature and office Stamp of the Licensing Authority

This licence is liable to be cancelled if the licensed vehicle is not found conforming to the  
requirements of chapters II and IV of the Static and Mobile Pressure Vessels (Unfired) Rules 1981,  
or for the contravention of any of the said rules and conditions under which this licence is granted  
and the holder of this licence is also punishable with imprisonment for a term which may extend to  
two years or with fine which may extend to three thousand rupees, or with both. [FORM - V] [Added  
by G.S.R. 141(E), dated 14-2-2000 (w.e.f. 18-2-2000)](See rules 49 and 50)LICENCE TO STORE  
AND DISPENSE LIQUEFIED PETROLEUM GAS IN LIQUEFIED PETROLEUM GAS DISPENSING  
STATION AS AUTOMOTIVE FUEL TO MOTOR VEHICLES Licence No :.....Fee  
Rs. ....Licence is hereby granted to

\_\_\_\_\_ valid for storage of  
\_\_\_\_\_ kilograms of liquefied petroleum gas in  
\_\_\_\_\_ numbers pressure vessels in the premises described below and  
dispensing of liquefied petroleum gas as automotive fuel to motor vehicles, subject to the provisions  
of the Indian Explosive Act, 1884 (4 of 1884) and the Static and Mobile Pressure Vessel (Unfired)  
Rules, 1981. The licence shall remain in force upto 31st  
March \_\_\_\_\_ The..... Chief Controller of Explosives (Date  
of Issue) Description of location and facilities of the licensed premises The licenced premises, the

layout, boundaries and other particulars of which are shown in the attached approved plan No.

\_\_\_\_\_ dated \_\_\_\_\_ are situated at

(address) \_\_\_\_\_ and

consists of :-i) Storage

vessels \_\_\_\_\_

(Identification number and water capacity) (specify whether aboveground, mounded or

underground)ii) \_\_\_\_\_ numbers dispensers, make \_\_\_\_\_ iii)

other facilities \_\_\_\_\_

Space for endorsement of renewals

The licence shall be renewable without any  
concession in fee for three years in the absence of  
contravention of the provisions of the Indian  
Explosives Act, 1884 or the Static and Mobile  
Pressure Vessels(Unfired) Rules, 1981 framed there  
under, or of the condition of the license.

Date of Renewal

\_\_\_\_\_

\_\_\_\_\_

This licence is liable to be cancelled if the licensed premises are not found confirming to the description and conditions attached hereto and for contravention of any of the rules and conditions under which this licence is granted. The holder of this licence is also liable for punishment under section 9 B of the Explosives Act, 1884 for the contraventions of the provisions of the said Act and the rules framed thereunder. Conditions

**1. The licensed premises shall conform to the description of location and facilities and to the approved plan, as mentioned on the body of the licence.**

**2. The licensed premises shall be used only for the purpose it is licensed for.**

**3. Liquefied petroleum gas shall be stored only in one or more pressure vessels installed aboveground, underground or aboveground covered with earth (mound) as per provisions of these rules.**

**4. Liquefied petroleum gas storage vessel, dispenser, pumps, compressor, pipings and other fittings shall be of a design suitable for commercial propane.**

**5. Storage vessels shall not be installed within any building or shed.**



**6. A hard stand for parking the tank-truck for the purpose of unloading liquefied petroleum gas into the storage vessels shall be provided as per rules.**

**7. The facilities and equipments of the licensed premises shall meet the safety distance requirements as specified in Table-5 of rule 22.**

**8. Liquefied petroleum gas shall be dispensed only into those cylinders used as fuel tanks of motor vehicles, which are duly approved by the Chief Controller, and have passed the periodic statutory tests under Gas Cylinders Rules, conducted by a testing station recognised by the Chief Controller.**

**9. The type of the dispenser used for dispensing liquefied petroleum gas shall conform to a specification approved by the Chief Controller---**

(a)It shall be provided with an excess flow valve, a remote operated shut-off valve and pipe shear provision in the liquid inlet pipe.(b)The dispenser shall be installed on a firm foundation and protected against physical damage.(c)A breakaway device with excess flow valves or quick action cut-off valves on both sides of the breakaway device conforming to Underwriters Laboratory USA, specification no 567 or equivalent shall be provided on the delivery line from the dispenser before the connection of the hose so as to prevent spillage of liquefied petroleum gas from both sides of the breakaway point in the event of its breakage.

**10. The design pressure of the hose for delivery of liquefied petroleum gas by dispenser to motor vehicles shall be minimum thirty two kilograms per square centimetre with a safety factor of five and shall be tested at one and half times the design pressure at an interval not exceeding every one year. The hose shall be mechanically and electrically continuous. The length of the hose shall not exceed five meters and fifty centimeters.**

**11. The dispensing nozzle at the end of the hose shall be self sealing type of twenty two millimeters nominal size and suitable for matching with filling connection of cylinders fitted to vehicles as fuel tanks, as specified in Australian Specification AS-1425 or equivalent standard approved by the Chief Controller.**

**12. Clearly identified switches or circuit breakers shall be provided at easily accessible location minimum six meters away from dispenser to cut-off the power supply in the event of fire, accident or other emergency. The switches**

**or circuit breakers shall be visible from the point of dispensing liquefied petroleum gas to motor vehicles.**

**13. Pump used for pumping liquefied petroleum gas shall be of either centrifugal submersible or positive displacement type. Positive displacement pump shall be provided with by-pass to prevent over-pressure.**

**14. Hazardous area classification for the dispenser shall be as under :-**

(a) Entire space within the dispenser enclosure cabinet and forty six centimeters horizontally from the exterior of enclosure cabinet and up to an elevation of one hundred and twenty one centimeters above dispenser base and the entire pit or open space beneath the dispenser shall be Division-2. (b) Up to forty six centimeters vertically above the surrounding ground level and horizontally beyond forty six centimeters up to six meters on all sides of the dispenser enclosure cabinet shall be Division-2.

**15. All metallic liquefied petroleum gas pipings shall be rated for Propane and designed to American Standard ASME-B-31.3 with minimum design pressure of thirty two kilograms per square centimetres with a factor of safety of four. The materials of pipe shall be low carbon or alloy-steel conforming to American Standard ASTM-SA-333, grade 6, or SA-106, Grade-B Schedule 80; or API-5L or equivalent. The pipeline shall be tested at one and half times of the design pressure, if hydro-tested. Joints of pipeline above forty millimeters diameter shall be welded or flanged. Threaded or screwed connection shall not be provided except for special fittings like excess flow valve, pump connection up to fifty millimeters diameter.**

**16. No addition or alteration in the licensed premises shall be carried out without prior sanction of the licensing authority.**

**17. No person shall enter or cause to repair or repair either by the use of fire, welding, hot riveting or brazing any vessel used for the storage of flammable gas unless it has been thoroughly cleaned and gas-free or otherwise prepared for safely carrying out such hot work and certified in writing, by a competent person, to have been so prepared. Where the vessel has been certified as gas-free, the certificate shall be preserved by the licensee for a period of not less than six months and produced to the Chief Controller, on demand.**

**18. The operation of the licensed premises shall be under the supervision of a person having knowledge of the equipments used in the premises and trained in handling compressed gas, and other operators shall be conversant with the hazards associated with the compressed gas and fire fighting operations.**

**19. Liquefied petroleum gas shall not be removed from the vessel except by means of transfer facilities shown in the approved plan attached to the licence.**

**20. Smoking, naked lights, lamps, source of fire or any other stimulant capable of igniting flammable vapours shall not be allowed inside the premises.**

**21. The vessel shall not be filled between the hours of sunset and sunrise, except in such manner and under such other condition or conditions as are specifically endorsed on the licence by the licensing authority.**

**22. All electrically equipment such as motors switches, starters, etc, used for transfer of liquefied petroleum gas shall be of flameproof construction conforming to IS:2148 or of a type approved by Chief Controller.**

**23. Every person managing or employed on or in connection with licensed premises shall abstain from any act whatsoever which tends to cause fire or explosion and which is not reasonably necessary and to the best of his ability, shall prevent any other person from doing such act.**

**24. At least two numbers of nine kilograms capacity dry chemical type fire-extinguishers shall be provided near the tank-truck unloading area and one number similar extinguisher shall be provided near each dispenser and transfer pump location. In dispensing station having aboveground liquefied petroleum gas storage vessels, hydrants with minimum water pressure of seven kilograms per square centimeters shall be provided at convenient positions for all-round coverage of liquefied petroleum gas storage vessels, and handling area and water sprinklers with a spray density of ten litres per minute per square metre shall be provided. The fire water pump shall be preferably diesel engine driven, with capacity to deliver water at the rate and pressure specified above. The minimum fire water storage at the premises**

**shall be needed for fighting fire at least for one hour.**

**25. During the period of unloading of liquefied petroleum gas from tank-truck to the storage vessels dispensing operation to vehicles shall not be carried out.**

**26. The emergency telephone numbers of local fire service, police and the principal marketing company, and emergency instructions shall be conspicuously displayed in the licensed premises.**

**27. All valves on the vessel and pipelines in the premises must be permanently marked in a manner clearly indicating the direction of opening and closing.**

**28. If the licensing authority calls upon the holder of a licence by a notice in writing to execute any repairs in the licensed premises which are, in the opinion of such authority, necessary for the safety of the premises, the holder of the licence shall execute the repairs within such period as may be specified in the notice.**

**29. Any accident, fire or explosion within the licensed premises which is attended with loss of life or serious injury to person or property shall be immediately reported to the nearest Magistrate or to the officer-in-charge of the nearest police station and by express telegram to the Chief Controller of Explosives (Telegraphic address - "EXPLOSIVES" Nagpur)**

**30. Free access to the licensed premises shall be given at all reasonable times to any of the officers specified in rule 69 and every facility shall be afforded to such officer for ascertaining that the rules and the conditions of this licence are duly observed.**