

STANDARD OPERATING PROCEDURE FOR  
GRANTING APPROVAL / LICENSES  
UNDER  
THE STATIC & MOBILE PRESSURE VESSELS (UNFIRED)  
RULES, 2016

02 DECEMBER 2024

*This SOP is only for reference and providing basic understanding. In case of any doubt or lack of clarity the provisions of the rules and conditions of the license FORM published in the Gazette of India, Extraordinary, Part-II, Section 3, Sub-section (i) vide notification G.S.R. 1109 (E), dated the 1st December, 2016 and subsequently amended vide G.S.R 388(E), dated the 20th April, 2018, G.S.R 148(E), dated the 25th February, 2019 and G.S.R. 609 (E) dated 31/08/2021 shall prevail at all the times.*

## **Definitions:**

The Static and Mobile Pressure Vessels (Unfired) Rules, 2016 (SMPV Rules, 2016) covers **storage and transportation** of compressed gases including cryogenic liquids in pressure vessels.

These rules cover the static pressure vessels as well as mobile pressure vessels.

As per the said Rules,

“**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 liters and includes inter connecting parts and components thereof upto 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.

Cryogenic liquids are stored in “**cryogenic pressure vessel**” defined as 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 and includes a permanently installed cryogenic pressure vessel of 1000 litre water capacity or less for storage of cryogenic liquid;

The pressure vessel for its safety shall be provided with additional fittings which are defined as “**fittings**” means the safety fittings that are directly fitted on the pressure vessel including safety relief valves, excess flow valves, level measuring, temperature measuring and pressure measuring devices;

**Vaporizers** used for conversion of gases from liquefied form to gaseous form are also classified as a pressure vessel. Vaporisers for liquefiable gases shall be indirect heating type or atmospheric heating type. The vaporizers for flammable, toxic and corrosive gases shall be approved by PESO.

Following compressed gases are considered for approval / license under the SMPV (U) Rules, 2016:-

1. Corrosive, Toxic, Permanent flammable gases
2. Non Corrosive, Non Toxic, Non flammable gases
3. Liquefied flammable gases
4. Liquefied Petroleum Gas
5. Liquefied Petroleum Gas for automotive purpose
6. Liquefied Natural Gas
7. Cryogenic Liquids including Liquid Nitrous Oxide
8. Liquid Carbon Dioxide

## **Static Pressure Vessels**

1. The static storage of compressed gas in a pressure vessel(s) comprises of following:-
  - a. Isolated storage of compressed gas for as such end use
  - b. Storage of compressed gas for filling in gas cylinders
  - c. Generation of compressed gas and filling in mobile pressure vessels or gas cylinders or as such end use
  - d. Storage of Auto LPG in a pressure vessel for dispensing as automotive fuel
  - e. Storage of liquefied natural gas for dispensing as LNG / LCNG as an automotive fuel
  - f. Storage of LPG for filling in cylinders
  
2. The compressed gas is delivered in the pressure vessel either by on site generation in the process plant or by connected pipeline from port or process plant or by transporting compressed gas in mobile pressure vessel and unloading in the pressure vessel.
  
3. The static pressure vessels are covered under license FORMS as follows:-

Sr No	Purpose	License FORM
1	Isolated storage of compressed gas for as such end use	LS-1A
2	Storage of compressed gas for filling in gas cylinders	LS-1A
3	Generation of compressed gas and filling in mobile pressure vessels or gas cylinders or as such end use	LS-1A
4	Storage of LPG for filling in cylinders	LS-1A
5	Storage of Auto LPG in a pressure vessel for dispensing as automotive fuel	LS-1B
6	Storage of liquefied natural gas for dispensing as LNG / LCNG as an automotive fuel	LS-1C

Following transactions are applicable for above mentioned license FORMS:-

1. Prior approval / In-supersession of prior approval
2. Grant of license
3. Endorsement of license
4. Renewal of license
5. Prior approval for amendment
6. Amendment of license
7. Transfer of license
8. Penal Action / Surrender of license

Following documents to be submitted for the above transactions:-

Sr No	Documents / Transactions	Prior approval / In-supersession of prior approval	Grant of license	Endorsement of license	Renewal of license	Prior approval for amendment	Amendment of license	Transfer of license
1	Covering letter	✓	✓	✓	✓	✓	✓	✓
2	Application FORM AS-1 duly signed by the applicant. The applicant shall mention his name and designation below the signature.	✓	✓	✓	✓	✓	✓	✓
3	Documents towards legal physical possession of land (Only registered lease agreement or land allotment document by a state industry board / corporation in the name of the applicant shall be considered)	✓	✓		✓	✓	✓	✓
4	Company documents:- as: a. Certificate of Incorporation b. Registered partnership deed & GST Certificate c. PAN Card, GST Certificate for proprietorship firm	✓	✓			✓	✓	✓

5	<p>specifications and plans drawn to scale clearly indicating— (Layout drawing of proposed license premises, the area of which shall distinctly colored or otherwise marked. In Layout drawing shall be made as per Chapter-III under SMPV (U) Rules 2016 and showing safety distances in around vessel/s as per Rule 22. 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</p>	✓	✓			<p>✓  Drawings should be colour coded. Yellow colour for deletion of existing facilities and red colour for new facilities.</p>	✓	✓
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	proposed to be licensed shall be shown.							
6	Site plan showing surrounding area lying within 100 meters from the edges of all facilities which are proposed to be licensed, however, for major installation of flammable or toxic gases it should be 500 meters as per Rule-46(1)(i)(c)	✓	✓			<p style="text-align: center;">✓</p> <p style="text-align: center;">Drawings should be colour coded. Yellow colour for deletion of existing facilities and red colour for new facilities.</p>	✓	✓
7	pipng and instrumentation diagram for the vessels, equipments and system proposed to be installed;	✓	✓			<p style="text-align: center;">✓</p> <p style="text-align: center;">Drawings should be colour coded. Yellow colour for deletion of existing facilities and red colour for new facilities.</p>	✓	✓
8	Hazard and Operability (HAZOP) study and a risk analysis report prepared by a reputed agency; (for major installations of flammable or toxic gases including LNG)	✓	✓			<p style="text-align: center;">✓</p>	✓	✓

9	No Objection Certificate (for flammable / toxic / corrosive gases)		✓				✓	✓
10	Safety relief valve test certificate issued under Rule 18		✓				✓	✓
11	Certificate of Control issued under Rule 13 or Hydro test certificate issued under Rule 19		✓			✓	✓	✓
12	Certificate of safety issued under Rule 33		✓				✓	✓
13	Fabrication drawing approval letter		✓			✓	✓	
14	Fabrication drawing duly signed by applicant, fabricator and competent person		✓			✓	✓	
15	Any other document*	✓	✓	✓	✓	✓	✓	✓
16	Undertaking duly signed by the applicant stating that the premises conforms to all the provisions of the SMPV (U) Rules	✓	✓	✓	✓	✓	✓	---

\* The Chief Controller or Controller may call for any document or drawing in case he is of the opinion that the document / drawing is required for ascertaining the provision of Rules / Conditions of license FORM.

LPG bottling plants shall also conform to the provisions of:-

- (i) OISD 144: for large capacity LPG bottling plants
- (ii) OISD 169: for small capacity LPG bottling plants

For Auto LPG and LNG / LCNG dispensing premises additional document to be submitted:-

- (i) Firm agreement with the supplier of Auto LPG / LNG
- (ii) Rating certificate by reputed credit rating agency for Auto LPG dispensing premises as per Auto LPG Control Order
- (iii) Marketing rights for dispensing of Auto LPG / LNG / LCNG for the particular district / area

For penal action / surrender of license following document shall be submitted:-

- (i) Covering letter
- (ii) Application FORM AS-1 duly signed by the applicant. The applicant shall mention his name and designation below the signature.
- (iii) Degassing certificate
- (iv) FIR / Accident report

The premises proposed to be licensed shall observe safety distance as per following table:-

Sr No	Type of gas	Table
1	Corrosive, Toxic and Permanent Flammable Gases	Rule 22 Table 1
2	Non Corrosive, Non Toxic and Non Flammable Gases	Rule 22 Table 2
3	Liquefied Flammable Gases	Rule 22 Table 3
4	LPG Bottling plants above Storage capacity above 100 MT	Rule 22 Table 4
5	LPG Bottling plants above Storage capacity below 100 MT	Rule 22 Table 5A
6	Auto LPG dispensing premises	Rule 22 Table 5B
7	Non flammable, non toxic, cryogenic liquids including liquid nitrous oxide	Rule 22 Table 6
8	Liquid Carbon Dioxide	Rule 22 Table 7
9	Liquefied Natural Gas	Schedule IV

**Additional Notes:-**

1. License in FORM E & F of the Gas Cylinders Rules, 2016 shall be obtained for premises having cylinder storage / filling facilities along with static storage of compressed gas(es) in pressure vessels.
2. The premises used for storage of compressed gases shall conform to the provisions of Chapter III.
3. Fire fighting facilities for static pressure vessel premises shall be as per Rule 26 of these rules.
4. The degassing premises shall have facilities as specified in Appendix IIB of the rules.



5. Premises used for auto LPG dispensing shall conform to the provisions of Schedule II of the rules
6. Underground and mounded pressure vessel shall conform to the provisions of Schedule III of the rules.
7. Premises used for storage or storage and dispensing of LNG as automotive fuel shall conform to the provisions of Schedule IV of the rules.

**Delegation of power:**

The power for above mentioned licenses are delegated as follows

Sr No	License FORM	Head Office	Circle office	Sub Circle Office
1	LS-1A (Flammable, Toxic & Corrosive Gases)  LS-1C	Prior approval / In-supersession of prior approval, Grant, Prior approval for amendment, Amendment, Transfer, Renewal, Surrender, Penal Action of license	Endorsement, Inspection, Penal Action (Show cause & suspension)	
2	LS-1A (Non flammable, Non toxic & Non corrosive Gases, Cryogenic liquids, Liquid Carbon Dioxide)	---	Prior approval / In-supersession of prior approval, Grant, Prior approval for amendment, Amendment, Transfer, Renewal, Surrender, Penal Action of license	Endorsement, Inspection, Penal Action (Show cause & suspension)
3	LS-1B	---	Prior approval / In-supersession of prior approval, Grant, Prior approval for amendment, Amendment, Transfer, Renewal, Surrender, Penal Action of license	Endorsement, Inspection, Penal Action (Show cause & suspension)

### **Mobile Pressure Vessels:**

The transportation of above mentioned gases is carried out as follows:-

1. Mobile pressure vessels fabricated in India and transportation within Indian Territory
2. ISO tank containers fabricated in India and transportation within Indian Territory
3. Filled ISO tank containers imported in India and return of the same to the country of origin
4. Import of empty ISO tank containers, filled with compressed gas in India and exported
5. Import of empty pressure vessel and used for transportation within Indian Territory
6. Import of empty ISO tank container and used for transportation within Indian Territory

The above mentioned category of transport pressure vessels are licensed under following FORMS:-

Sr No	Purpose	License FORM
1	Mobile pressure vessels fabricated in India and transportation within Indian Territory	LS-2
2	ISO tank containers fabricated in India and transportation within Indian Territory	LS-2A
3	Filled ISO tank containers imported in India and return of the same to the country of origin	LS-2B
4	Import of empty ISO tank containers, filled with compressed gas in India and exported	LS-2B
5	Import of empty pressure vessel and used for transportation within Indian Territory	Import permission under Rule 4 and license FORM LS-2
6	Import of empty ISO tank container and used for transportation within Indian Territory	Import permission under Rule 4 and license FORM LS-2A

In addition to above license FORMS, the workshop wherein fabrication of pressure vessels, fittings, vaporizers is carried out shall be approved by PESO.

Following transactions are carried out for above mentioned license FORMS:-

1. License FORM LS-2: To transport compressed gas in a pressure vessel by a vehicle
2. License FORM LS-2A: To transport compressed gas in ISO Tank Container within Indian Territory
  - a. Grant of license
  - b. Endorsement of license
  - c. Renewal of license
  - d. Amendment of license
  - e. Transfer of license
  - f. Surrender of license

Following list of documents are required for above transactions

Sr No	Transactions / Document list	Grant of license	Endorsement of license	Renewal of license	Amendment of license	Transfer of license	Surrender of license	Penal Action / Accident Case
1	Covering letter	✓	✓	✓	✓	✓	✓	✓
2	Application FORM AS-2 or Application FORM AS-4	✓	✓	✓	✓	✓	✓	
3	Registration certificate issued by Road Transport Authority	✓	✓	✓	✓	✓		
4	Fitness Certificate issued by Road Transport Authority	✓		✓	✓	✓		
5	Fabrication drawing approval letter	✓			✓	✓		
6	Approved fabrication drawing duly signed by the applicant, fabricator and competent person	✓			✓	✓		
7	Mounting drawing approval letter	✓			✓	✓		
8	Approved mounting drawing duly signed by the applicant, fabricator and competent person	✓			✓	✓		
9	Weighment slip	✓			✓	✓		
10	Certificate of safety issued under Rule 43	✓	✓		✓	✓		
11	Certificate of Control issued under Rule 13 or Hydro test certificate issued under Rule 19 or Initial inspection certificate issued by TPIA of Country of origin	✓		✓	✓	✓		
12	Safety relief valve test certificate issued under Rule 18	✓		✓	✓	✓		
13	Undertaking stating that the vehicle conforms to all the provisions of the SMPV (U) Rules, 2016 duly signed by the approved fabricator and Vehicle Owner	✓	✓	✓	✓	✓		
14	FIR Report / Accident Report							✓

3. License FORM LS-2B: Permission to import and transport compressed gas in ISO Tank Container

Following list of documents are required for above transactions

Sr No	Transactions / Document list	Grant of license	Penal Action / Accident Case
1	Covering letter	✓	✓
2	Application FORM AS-4	✓	
3	Registration certificate issued by Road Transport Authority	✓	
4	Certificate of safety issued under Rule 43	✓	
5	Initial Inspection report / Periodic Inspection report issued by TPIA of Country of origin	✓	
6	Filler Certificate issued by manufacturer or filler of the gas in the ISO Tank Container	✓	
7	DGFT permission for import of gases	✓	
8	Safety relief valve test certificate issued under Rule 18	✓	
9	Undertaking stating that the vehicle conforms to all the provisions of the SMPV (U) Rules, 2016 duly signed by the approved fabricator and Vehicle Owner	✓	
10	FIR Report / Accident Report		✓

4. Permission for import of pressure vessel

Following list of documents are required for above transactions

Sr No	Transactions / Document list	Grant of license
1	Covering letter	✓
2	Application FORM AS-3	✓
3	Initial Inspection report and Periodic Inspection report issued by TPIA of Country of origin	✓
4	Design drawing of pressure vessel vetted by TPIA of country of origin	✓

**Delegation of power:**

The power for above mentioned licenses are delegated as follows

Sr No	License FORM	Head Office	Circle office	Sub Circle Office
1	LS-2	NA	Grant, Endorsement, Amendment, Transfer, Renewal, Surrender, Penal Action of license	Grant, Endorsement, Amendment, Transfer, Renewal, Surrender, Penal Action of license
2	LS-2A	Grant, Surrender, Penal Action	Endorsement, Inspection, Penal Action	
3	LS-2B	Grant, Surrender, Penal Action	NA	NA
4	Import of pressure vessel	Grant, Surrender, Penal Action	NA	NA

### **Workshops for fabrication of pressure vessels, vaporizers and fittings:**

The workshop for fabrication of pressure vessel, vaporizer and fittings shall be approved by PESO. The procedure to grant approval for fabrication workshop is as follows:-

1. Applicant submits application with all the requisite documents as mentioned in Appendix I of the SMPV (U) Rules, 2016.
2. The premises is inspected by a an Circle / Sub Circle Office of PESO to assess / verify the availability of technical manpower for design, fabrication, quality control, machinery, tools, equipments, quality control facilities, availability of sufficient space for fabrication activities, etc.
3. On receipt of positive inspection report, the work shop shall be approved by PESO to undertake fabrication of pressure vessel.

Similar procedure is adopted for workshop undertaking fabrication of vaporizers or fittings.

After approval of workshop the fabricator shall seek type approval / design approval of the pressure vessel / vaporizer or fittings he propose to fabricate.

For seeking type approval of pressure vessel / vaporizer / fittings following documents to be submitted:-

Sr No	Approval / Documents	Fabrication drawing	Mounting drawing	Vaporizer	Fitting
1	Covering letter	✓	✓	✓	✓
2	Fabrication drawing for inner pressure vessel duly vetted by Inspector	✓	✓	--	--
3	Fabrication drawing for outer pressure vessel duly vetted by Inspector	✓	✓	--	--
4	Fabrication drawing of vaporizer or fitting	--	--	✓	✓
5	Approved copy of fabrication drawing	--	✓	--	--
6	Fabrication drawing approval letter	--	✓	--	--
7	Mounting drawing	--	--	--	--
8	Design calculations duly vetted by Inspector	✓	--	✓	✓
9	Design appraisal certificate issued by Inspector	✓	--	✓	✓
10	Safety relief valve certificate issued under Rule 18 (For revalidation only)	✓	--	--	--
11	Certificate of control / Hydro test certificate issued under Rule 19 (for revalidation only)	✓	--	--	--

### **Delegation of power:**

The power for above mentioned licenses are delegated as follows

Sr No	License FORM	Head Office	Circle office	Sub Circle Office
1	Approval of workshop for fabrication of pressure vessel /Vaporizer / Fittings	Approval	Renewal, Inspection	Inspection
2	Approval of fabrication drawing	Approval	NA	NA
3	Approval of mounting drawing	Approval	Approval in case of change in prime mover of existing LS-2 licenses	NA

### **Competent Persons and TPIA:**

Minimum qualifications and eligibility criteria for recognition of Inspector / Competent Persons / TPIA shall be as per the provisions of Appendix IIA of these rules.

The Expression of Interest for recognition of TPIA along with other details as approved by DPIIT is made available on PESO website: <https://peso.gov.in/web/updates/expression-interest-empaneling-third-party-inspecting-agency-under-smpvu-rules-2016>

### **Auto LNG Installer, Auto LPG Installer and Auto LPG Operator:**

The selection of LCNG / Auto LNG installer or Auto LPG installer shall be as per following checklist:-

1. Be proprietary firm or partnership firm or private limited company or limited company
2. Possess adequate tools and machinery to execute installation work
3. Possess ISO certification
4. Have sufficient in-house specialists well conversant with
  - a. Installation of LCNG or Auto LNG or Auto LPG equipments, their operations, maintenance and training of personnel
  - b. LCNG or Auto LNG or Auto LPG regulations and the hazards associated
  - c. Codes of practice relating to setting up LCNG or Auto LNG stations or Auto LPG stations
  - d. Interpretation of drawing and schemes as far as relevant for the execution of the work
5. Strength of the personnel engaged by the firm or company shall be in agreement with the number of stations proposed to be installed or maintained
6. Have professional administration and organization with clear levels of responsibility
7. Take responsibility for the development of professional skills of its personnel
8. Take responsibility of operations, periodic maintenance and breakdown maintenance in the stations and enters into a legal agreement with its dealers in this respect for specific period

The selection of Auto LPG operator shall be as per following checklist:-

1. Be a registered company
2. Possess requisite rating under Auto LPG Control Order
3. Possess a background of operating and managing a business activity
4. Have sufficient in-house specialists well conversant with
  - a. Knowledge and experience in installation of auto LPG equipments, their operations, maintenance & in training of personnel
  - b. Auto LPG regulations and the hazards associated
  - c. Codes of practice relating to setting up auto LPG stations
  - d. Number of such personnel engaged by the company shall be related to the stations proposed to be put up by the company
5. Have professional administration and organization with clear levels of responsibility
6. Take responsibility for the professional skills of its personnel
7. Have a firm arrangement with auto LPG supplier for un-interrupted supply of LPG of Auto LPG specification to the company stations
8. Have a firm arrangement with installer for installation and maintenance of its stations. The period of such arrangement should be specified
9. Have a well laid out policy with regard to selection and management of its dealers or franchisees
10. Take responsibility of operations, periodic maintenance and breakdown maintenance in the stations and enters into a legal agreement with its dealers in this respect
11. Take responsibility in selection and training of Managers and operators of Auto LPG dispensing station of its franchisees/dealers and enter into a legal agreement with its dealers in this respect

**Additional Notes:**

1. All the applications shall be submitted online only through National Single Window Portal. (<https://www.nsws.gov.in/>)
2. Scrutiny fees as specified in Schedule I shall be submitted online only. Fees for approval of pressure vessel shall be as per each drawing of the pressure vessel. For cryogenic pressure vessel fees for approval of outer pressure vessel, inner pressure vessel, piping and instrumentation diagram shall be separately submitted for each drawing of each gas.
3. The pressure vessel used for storage and transport of compressed gases and cryogenic liquids shall conform to the provisions of Chapter II.
4. Following provisions of the SMPV (U) Rules, 2016 shall be applicable:-

a. Design of pressure vessel:	Chapter II
b. Fittings installed on pressure vessel:	Rule 18
c. Periodic testing of pressure vessel:	Rule 19
d. Static pressure vessel installations:	Chapter III
e. Vehicle for transporting compressed gas:	Chapter IV
f. Repair and modification of pressure vessel:	Rule 6
5. Following inspection / test shall be carried out for the pressure vessel by PESO recognized Inspector / Competent Person / TPIA:

- a. Stage wise inspection during fabrication of pressure vessel under Rule 13
  - b. Testing of safety relief valve & fittings under Rule 18
  - c. Periodic testing of pressure vessel under Rule 19
  - d. Certificate of safety for static pressure vessels premises under Rule 33
  - e. Certificate of Safety for vehicle under Rule 43
6. The certificate of control or test certificate for safety relief valve / periodic testing of pressure vessels and certificate of safety of the premises / vehicle shall be issued online. In case for the imported pressure vessel and ISO Tank Container initial inspection certificate along with periodic inspection certificate issued by TPIA of country of origin shall be applicable.
  7. Any pressure vessel which fails to pass the periodic test (hydraulic / pneumatic) or which for any reason is found unsafe for use shall be destroyed or rendered unsuitable for use.
  8. It shall be sole responsibility of the licensee to ensure that the
    - a. static pressure vessel premises are maintained as per description, approved plan and safe for storage of compressed gas(es)
    - b. mobile pressure vessel and the vehicle is maintained road worthy, fit to fill, transport and discharge its load safely at all the times.
  9. License granted under these rules shall be renewed before the date of expiry as per provision of Rule 55.
  10. Every license granted under these rules is liable for penal action as per provision of Rule 57.

**Departmental Action:-**

If the Chief Controller or Controller authorized by him, 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 or transported in the pressure vessel, he shall grant approval / license through online module conveying his sanction which may be subject to such conditions as he may specify.

After grant of license, the officers of PESO shall conduct inspection of the premises / vehicle to ensure conformity of the premises / vehicle to the provisions of the Act and these rules, and shall endorse the licence and from the date of such endorsement, the licence shall come into force.

If the licensing authority observes on inspection, that the premises / vehicle do not conform to the provision of the Act and rules and not fit for endorsement, he shall communicate to the licensee-

- (i) his direction for rectification of deficiency; or
- (ii) reasons for not endorsement of the licence; or
- (iii) reasons for revocation of the licence, as the case may be

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

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