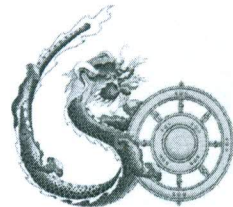




དཔལ་ལྷན་འབྲུག་གཞུང་ བསྟན་ཀྱིས་ལྷན་ཁག།  
 ཚོང་འབྲེལ་ལས་ཁུངས་ གིས་ཕུག།  
**DEPARTMENT OF TRADE**  
**MINISTRY OF ECONOMIC AFFAIRS**  
 ROYAL GOVERNMENT OF BHUTAN  
 THIMPHU : BHUTAN



MOEA/DT/ITPFD/POI-01/2022/8417

8<sup>th</sup> Sept 2022

Note

**Sub: SOP on LPG storing and handling**

In pursuance of the decision of the PPCM held at the Hon'ble Tengye Lyonpo's Conference on 1<sup>st</sup> September 2022, the Department would like to submit herewith the SOP for handling and storage of LPF cylinders in the depots.

We would like to submit that to the extent possible, we have conducted a number of consultation meetings with principal companies from India, Bhutanese dealers, officials from ROEAs<sup>oep</sup> and BSB to ensure that all technical aspects are covered adequately in the SOP. We have also incorporated comments received from Dasho on the draft SOP.

The department would like to formally submit this SOP for further directives.

*Approved for immediate implementation by DOT and ocl.*

*Stuen*  
 Director General

*[Signature]*  
 8/9/2022

Hon'ble Secretary



**STANDARD OPERATING PROCEDURE (SOP) FOR STORAGE AND HANDLING OF  
LIQUEFIED PETROLEUM GAS (LPG) AT LPG RETAIL OUTLETS (LPG DEPOT)**

**Ministry Of Economic Affairs**

## FOREWORD

The Ministry of Economic Affairs is pleased to issue the Standard Operating Procedure for the Storage and Handling of LPG Cylinders, 2022, as authorized under Chapter IV, Section 19, 20 and 22 of the Consumer Protection Act of Bhutan 2012. The purpose of this SOP is to guide both users and dealers of LPG cylinders from risks and hazards arising from LPG gas cylinders.

The SOP outlines minimum industry safety standards on the safe storage and handling of liquefied petroleum gas (LPG) cylinders, and mandates all dealers, LPG handlers and depot managers to ensure the safety of people, property and environment at all times. The SOP also lays down the minimum requirements in design, operation, inspection, maintenance, and safety at the LPG depots.

All dealers, LPG handlers, delivery agents are urged to kindly follow this SOP diligently as per roles and responsibilities defined in this SOP.

Ministry of Economic Affairs



## Table of Contents

FOREWORD.....	2
1. Introduction.....	4
2. OBJECTIVES.....	4
3. LEGAL AUTHORITY .....	4
4. SCOPE .....	4
5. CONSTRUCTION DETAILS OF THE LPG STORAGE SHED .....	5
6. ELECTRICAL INSTALLATIONS.....	8
7. STORAGE OF LPG CYLINDERS.....	8
8. PROCEDURE FOR HANDLING LPG CYLINDERS BY LPG DEALERS .....	9
9. RECEIPT OF LPG CYLINDERS.....	9
10. UNLOADING OF FILLED LPG CYLINDERS AT LPG STORAGE GO-DOWN (DEPOT) .....	9
11. STOCK/ PRICE CONTROLS.....	9
12. CONTROL MEASURES .....	10
13. CUSTOMER SERVICES AND BASIC AMENITIES TO BE PROVIDED BY THE DEALERS AT LPG DEPOT/GODOWN.....	10
14. OPERATIONAL AND HANDLING NORMS.....	12
15. FINES AND PENALTIES .....	14



## **1. INTRODUCTION**

- 1.1 Subsidized LPG product was in use in Bhutan since 1974. Bhutan Oil Distributors (BOD) was the only distributor of LPG cylinders in the country then.
- 1.2 DoT/MoEA introduced industrial LPG [19kg] in 2012 to cater to industrial users, and non-subsidized LPG in 2018 to supplement and address shortages in subsidized LPG.
- 1.3 LPG cylinders are procured and distributed by four dealers viz. a) Bhutan Oil Distributors (BOD/BOC), b) Damchen Petroleum Distributors (DPD, and c) Druk Petroleum Corporation Ltd (DPCL), (d) Bhutan Industrial Gas (BIG). Bhutan imports 1000 MTs of subsidized and non-subsidized LPG each per month and 500 MTs of industrial LPG per month from India through the Indian Oil Corporation Ltd (IOCL).

## **2. OBJECTIVES**

- 2.1 To promote and strengthen safety standards while storing, transporting and handling of Liquefied Petroleum Gas (LPG) cylinders.
- 2.2 To mandate the dealers to adhere to minimum requirements in design, operation, inspection, maintenance, and safety at the LPG depots.

## **3. LEGAL AUTHORITY**

- 3.1 The legal authority for this SOP is derived from Chapter IV, Section 19, 20 and 21 of the Consumer Protection Act of Bhutan 2012 and Rules and Regulations thereof on Safety of Goods and Services.

## **4. SCOPE**

- 4.1 This SOP is applicable to all LPG dealers, delivery agents, workers and individuals who are directly or indirectly involved in storing, distribution and handling LPG Gas cylinders at LPG Depots and other facilities including households, to protect people, property and the environment from risks and hazards arising from LPG cylinders.



## 5. CONSTRUCTION DETAILS OF THE LPG STORAGE SHED

5.1 LPG cylinder storage shed shall be constructed from any nonflammable material having floor area of minimum 11 square meters for 1000 Kgs (equivalent to 70 cylinders) of LPG storage. Mastic flooring conforming to IS-1195/1196 shall be provided in the LPG cylinder storage shed. The ventilator area shall be a minimum 10 % of the floor area. Minimum safety distances as specified in table shall be maintained and minimum 1.8 M high brick masonry compound wall shall be provided all around the LPG storage shed maintaining minimum safety distances as specified in the table below.

Quantity of compressed gas in Cylinder in kgs	Minimum distance to be kept (in meters)
0 – 101	--
101 – 2000	3
2001 – 3000	4
3001 – 4000	5
4001 – 6000	6
6001 – 8000	7
8001 – 10000	8
10001 – 12000	9
12001 – 20000	12
over 20000	15

5.2 The existing LPG depots which are currently attached with retail fuel outlets should be separated and relocated to a suitable location as directed by the Ministry. There should be a dedicated LPG cylinder truck parking area in front of LPG cylinder storage shed.

5.3 The LPG depot premises shall not be used for any purpose other than for keeping of LPG Cylinders.

- 5.4 Liquefied Petroleum Gas (LPG) cylinders shall be stored only in the storage shed, which shall be constructed using suitable nonflammable materials, and the weighing scale should be installed outside the door of the LPG storage shed.
- i) The storage shed shall be adequately ventilated near the ground level and near or in the roof. The ventilators shall be provided with two thickness of fine copper or other non-corroding metal wire gauge of mesh.
  - ii) The above distances shall be kept clear at all times, between any building, public place, public road or any adjoining property which may be built upon and the storage shed used for the storage of liquefied petroleum gas cylinder.
  - iii) Notwithstanding anything contained in condition 4 above, cylinders containing liquefied petroleum gas exceeding 100 Kg. but not exceeding 500 Kg. may be kept in a storage shed forming part of, or attached to a building, provided that it is separated there from by a substantial partition and the only means of access to it is from outside air, such a storage shed shall not be situated under any staircase or near other entrances to, or exits from the rest of the building or other buildings.
- 5.5 The storage shed shall be under the charge of a person with sound knowledge on operation of the LPG depot.
- 5.6 Any accident, fire, explosion or untoward incident occurred within the LPG depot shall be immediately reported to the nearest police station or call 110 by quickest mode of communication.
- 5.7 Any person storing LPG cylinders, when called upon by a notice in writing, to execute any additions, alterations or repairs to the LPG cylinders storage shed, which in the opinion of the inspecting authority, are necessary for the safety of



the premises, shall execute the said additions, alterations or repairs within such period not being less than one month from the date of receipt of the notice, as may be specified in the notice.

5.8 The storage shed and the area surrounding it shall at all times be kept clean and free from all flammable materials, waste vegetation and, waste materials.

i) No fire, furnace or other source of heat or light other than flameproof electric light and fittings shall be allowed in the storage shed and within the safety zone required to be maintained.

ii) No person shall smoke in the storage shed or carry matches, fuses, or other appliances producing ignition in the premises. Conspicuous 'No smoking signs in Dzongkha, and English language shall be put up at prominent places outside the storage shed.

5.9 The dealer shall maintain a minimum of two potable foam type or ordinary chemical type fire extinguishers of 10 kg each BIS marked or approved which shall be kept ready at a convenient location for immediate use in the event of any fire hazard. In addition to other fire fighting for other mitigating facilities required for flammable or toxic gases.

5.10 The dealer must have emergency/exigency plan in place at the LPG go-down/sheds.

5.11 Free access to the LPG depot premises shall be given at all reasonable times to any of the officials of the competent authorities viz; OCP, MoEA, RoEAs, BSB, and DoT and any other authorized officials for validating that the rules and the conditions of this SOP are duly complied with.





**6. ELECTRICAL INSTALLATIONS**

6.1 In premises where of the filled LPG cylinders are stored, all electric meters, distribution boards, switches, fuses, plugs and sockets, all electric fittings, fixed lamps, portable hand lamps and motors, shall be of flame proof construction. All electrical installations shall be done by trained and certified electricians.

**7. STORAGE OF LPG CYLINDERS**

7.1 The cylinders shall be stored in a cool, dry, well-ventilated place under/roof, away from boilers, open flames, steam pipes or any potential sources of heat.

7.2 The storage room or shed shall be of fire-resistant construction.

7.3 The cylinders shall not be stored under the materials which are corrosive in nature.

7.4 The cylinders shall not be stored along with any combustible material, and empty cylinders shall be segregated from the filled one.

7.5 The following method of stacking may be permitted:

- i) Filled cylinder shall be stored vertically and not be stacked more than 2 high;
- ii) Empty cylinder if stored vertically, shall not be stacked more than 3 high and; if stored horizontally, shall not be stacked more than 5 high;
- iii) The pile of the cylinder shall be kept stable by using chocks at the ends;
- iv) Minimum of 60-centimeter-wide gangway, to permit access and maneuvering of cylinders, shall be left between stacks of single or double rows and between stacks and walls.
- v) Separate area should be marked in LPG storage go-down for keeping/storing filled, empty and defective cylinders.



**8. PROCEDURE FOR HANDLING LPG CYLINDERS BY LPG DEALERS**

8.1 It will be the responsibility of the dealers to supply and distribute LPG with accurate Quantity, Quality and provide uninterrupted services to the customers/consumers.

8.2 The dealers shall distribute cylinders within its validity period, and expired cylinders, if any, should be sent back to supply points immediately for re-qualification.

**9. RECEIPT OF LPG CYLINDERS**

9.1 At the time of arrival of truck carrying filled LPG cylinders, the Dealers shall match the details of the Invoice with the receipt of consignment in the following manner:

- (i) Truck No.
- (ii) Type of cylinders
- (iii) Number of cylinders
- (iv) The time when truck left Supply Points
- (v) The time when truck reported at the go-down.

**10. UNLOADING OF FILLED LPG CYLINDERS AT LPG STORAGE GO-DOWN (DEPOT)**

9.1 The Dealers shall observe the following:

- i) While unloading filled LPG cylinders, weight of 10% cylinders taken randomly should be checked and maintain the records thereof.
- ii) Cylinders that have net weight below 29 – 30 kgs should be returned in the same truck, and record of the same should be maintained by the dealers.
- iii) The dealers shall ensure that, while unloading, LPG cylinders are handled cautiously and are not dropped or thrown on the ground from the truck.

**11. STOCK/ PRICE CONTROLS**

11.1 The dealers shall display opening stock and Retail Selling Prices of filled LPG cylinders, at the convenient place for reference of consumers.

11.2 The dealers shall maintain a daily stock-register for filled, empty and defective LPG cylinders.

11.3 The dealers shall maintain adequate stock at all times of both subsidized and non-subsidized LPG.

**12. CONTROL MEASURES**

12.1 Cylinders should be visually inspected for any kind of dents and cuts on the cylinders, and damaged cylinders, if any, should be segregated and return to supply point. Similarly, the cylinders which are due for Statutory Testing should also be segregated and returned to the supply point.

12.2 All the cylinders taken out for distribution should be checked for correctness of net weight of minimum 29 kg.

12.3 Dealers shall maintain record of defective cylinders and return the same to the respective supply point for necessary "Re-qualification" of the cylinder.

12.4 Rotate stock of full cylinders, and used cylinders on a 'first in, first out' basis.

**13. CUSTOMER SERVICES AND BASIC AMENITIES TO BE PROVIDED BY THE DEALERS AT LPG DEPOT/GODOWN**

13.1 The dealers shall ensure availability of stocks of filled cylinders in line with the quota allocated by the respective Regional Office of Economic Affairs, MoEA.

13.2 Filled cylinders' stock equivalent to two days of average daily off-take and turnaround time of the truck from the supply point must be maintained at the supply point.



- 13.3 The Dealers shall ensure prompt service and courteous behavior at all times.
- 13.4 Dealer shall resolve any complaints either from an individual or from the regulating agencies and maintain record thereof.
- 13.5 The working hours from 8:00 AM- 5:00 PM should be observed and prominently displayed at the LPG Depot for consumer's information.
- 13.6 The Dealer shall provide one telephone connection to every LPG outlet to enhance public service delivery, and also each depot must have stable internet connection.
- 13.7 First Aid Box should be available at the LPG depot, with necessary medicinal aids and accessories.
- 13.8 The Dealers to ensure that their premises are kept in clean condition to avoid fire hazard at the depot.
- 13.9 Safety equipment such as safety foot wares/gloves and others should be provided and maintained in good working condition.
- 13.10 The staff working in the LPG depots should be well trained in handling LPG cylinders and also to operate safety equipment at site.
- 13.11 The dealers shall install weighing machine at the entrance of the LPG go-down/shed for interested consumers to cross-check the net-weight of cylinder.
- 13.12 The dealers shall approach BSB for calibration /recalibration of the weighing machine on a periodical basis or when the recalibration is due.



## 14. OPERATIONAL AND HANDLING NORMS

- 14.1 The cylinder shall be adequately supported during handling.
- 14.2 Small portable trolleys should be used to transport and deliver cylinders from truck to storage and to customer to avoid any damage to the cylinder valve, and other parts.
- 14.3 The cylinders shall be handled cautiously and avoid falling or colliding of one cylinder with another or should not be subjected to any undue shock.
- 14.4 Sliding, dropping or playing with cylinders is strictly prohibited.
- 14.5 Liquefied petroleum gas cylinder shall always be kept in an upright position and shall be so placed that they cannot be knocked over.
- 14.6 The cylinders in horizontal position shall be so secured that they cannot roll.
- 14.7 Open flames, lights, lighting of fires, welding and smoking shall be prohibited in close proximity to any LPG depot.
- 14.8 Working places shall not be used as a storage places. The working place (sales counter) should be separated from the LPG storage space.
- 14.9 The Dealers should have mandatory PPE at the working site and ensure that all workers use suitable personal protective equipment (PPE) while handling the LPG – wear safety foot wares/gloves and other as deemed appropriate to protect against falling/slipping of cylinders.
- 14.10 Dealer shall check leakage of the LPG cylinders using LPG leak detector from time to time.



- 14.11 The dealers shall not attempt to repair a cylinder and/or its cylinder valve: If a damaged/defective cylinder is involved in an incident (especially cylinders involved in fires) it must be withdrawn from service and set aside and made clearly identifiable.
- 14.12 The dealers should ensure that cylinder valve outlets are properly capped, plugged or PVC shrink wrapped to keep the outlet clean and contamination free.
- 14.13 The dealers shall not disguise damage to cylinders: If a cylinder has been damaged (e.g. due to some impact, involved in a fire), never paint over the damaged, discolored or heat affected cylinders. Damaged cylinders must be notified to the gas company so that a detailed examination can be carried out to determine whether the cylinder(s) concerned can be repaired. Cylinders must never be tampered with, repainted or relabeled by anyone other than the authorized cylinder owner.
- 14.14 The dealers shall not transfer, and siphon gas from one cylinder to another.



## 15. FINES AND PENALTIES

- 15.1 Non-compliance shall be dealt as per Section 78 and 79 of the “Consumer Protection Act 2012”, and Consumer Protection Rules and Regulation 2015 (Revision) Regulations 2022.
- 15.2 All Dealers shall abide by the SOP, including other applicable rules and regulations of Ministry of the Economic Affairs, Bhutan Standard Bureau (BSB), and any other relevant agencies in the country.
- 15.3 RoEAs/MOEA shall closely monitor, and inspect the LPG depots in line with the quota allocation within their respective jurisdiction.
- 15.4 The Dealers shall not force customer to buy, sell or exchange domestic Pressure Regulators / LPG Cylinders/ any other products related to LPG cooking systems.
- 15.5 The Dealers shall maintain record of all Inspection reports, correspondence received from the competent authorities from time to time, and action taken reports.
- 15.6 The platform type Digital Weighing Scale of least count +/-10 grams should be used and regularly checked/calibrated with standard weight for accuracy. The Dealer shall use a weighting scale certified by competent authority (BSB).