

# SUPPLEMENT I

## Proposed Implementation Plan for Safe LP Gas Utilization in Sri Lanka

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Jointly by Mechanical Engineering Sectional Committee and  
Chemical Engineering Sectional Committee of IESL

# Proposed Implementation Plan for Safe LP Gas utilization in Sri Lanka

1. How can we guarantee the adequacy of the QA and QC policies of the gas companies that supply LPG to the nation? Does any of our LPG companies are ISO certified?
  - 1.1. Whatever the companies in LPG manufacture, supply and distribution shall be ISO certified to maintain proper QA and QC policies.
2. What are the proofs documents that required identifying Gas composition and quality?

We recommend reviewing following documentation and testing requirements by relevant authorities for Gas quality inspection before unloading for local filling facility.

  - 2.1. Technical specification issued for any particular purchase
  - 2.2. Quotation and proforma invoice received from supplier
  - 2.3. Purchase order issued for every purchase
  - 2.4. Supplier port composition analysis
  - 2.5. Arrival port - out harbor composition analysis by LPG company and CPC or a recognized laboratory. (Additional sample to be supplied to CPC or the recognized laboratory and retained for 6 months for further investigation if required)
3. What is the methodology proposed to accept a Compact domestic Gas regulator to the local market and how to decide the period of replacement / service life?
  - 3.1. Batch wise Test reports from the manufacture
  - 3.2. QC procedure of the equipment manufacturer
  - 3.3. Manufacturer recommended period of replacement LP Gas regulator

Note: Consumer should not entertain every 5 year replacement merely to give continuous sales for LP Gas regulators manufacture. The Manufacturer needs to prove the failure of diaphragm or critical component in the regulator (either through fatigue or due to any other reason) after proposed 5 years of design life
  - 3.4. Compact Gas Regulator Design Review to be done locally by design experts.
  - 3.5. Independent test laboratory report on design verification on operating pressures
  - 3.6. Local Agent of the regulator to be mentioned for warranty claim
  - 3.7. Part number and warranty certificate collection records to be maintain at local agents' office
  - 3.8. Helpline for LP gas regulator defect and warranty claim to be established by the local agent
  - 3.9. Most importantly, if gas regulators and accessories sales and distribution could be limited to the gas companies through their agents and dealers, it will be the best regulatory measure to avoid the inferior quality products in the market.
4. LP Gas hose construction and replacement
  - 4.1. LP hose standardization and approval requirement for custom clearance to be established
  - 4.2. Laboratory analysis or third-party recommendation to prove the need for replacement in 2 years to be supplied with evidence

- 4.3. Majority of LP gas hoses are mounted inside and no UV exposure and product life extension to be consider in defining the service life
5. QA and QC procedure of Gas filling system to be studied on following main criteria's
  - 5.1. Recording system of QA and QC process inside the factory
  - 5.2. QA and QC authority Levels within the factory
  - 5.3. Third party inspection (Ex. Technical experts assigned by CAA) of QA and QC procedure in every 3 months
  - 5.4. Gas filling Equipment Calibration and maintenance record review
6. In house (at re-filling facility) Gas cylinder defect identification and rectification system
  - 6.1. Internal mechanism on identification and recording of gas cylinder defects
  - 6.2. Rectification procedure and maintenance of record of each repair in gas cylinders to be maintained at factory workshop
  - 6.3. Final inspection of rectified gas cylinder by competent person who is qualified to carry out the work and final written approval to release the gas cylinder to the consumer market to be maintain internally for necessary cross reference
7. Gas cylinder fault detection process after selling gas cylinders to customers.
  - 7.1. All the complains/quarries receiving for defects and accidents to the Helpline to be recorded with a unique reference number and notified to the customer through SMS or suitable means
  - 7.2. The complaint log to be maintained with
    - 7.2.1. Records of transferring the complaint to the technical section
    - 7.2.2. Assigned crew to attend to the fault and rectify the same
    - 7.2.3. Solution provided and customer acceptance of the solution for the inspection of 3<sup>rd</sup> party inspectors.
  - 7.3. If the problem is identified due to factory defect of a gas cylinder or accessories, new gas cylinder or accessories to be issued
8. Qualification and competency of the staff
  - 8.1. Qualification of working staff and adequacy of competency in their duties
  - 8.2. Company should prove the assignment of adequate numbers of qualified people to each shift
  - 8.3. Training and certification of competency levels of working staff in gas distribution agent
9. Gas Cylinder Distribution
  - 9.1. LP Gas transport lorries and carriers to be supplied with loading and unloading equipment for safe cylinder loading and unloading
  - 9.2. Provide adequate number of people in each carrier for loading and unloading of LP gas cylinders to avoid mishandling (ie. Throwing, etc)
10. Transparent LP Gas related accident-recoding mechanism
  - 10.1. It is advisable to continue the recently introduced Gas related accident monitoring system (providing a hotline by the government authorities and police) in future as well.

Where government receive the call on accident first, and it will be notified to the relevant LP Gas distribution company. LP gas distribution company should visit and written record on investigation to be filled at respective government institution within 3 days from the accident.

11. Approval of LP Gas Related equipment sales in Sri Lanka

- 11.1. IESL recommend establishing a common framework for every equipment manufacture to comply before granted approval for sale of their equipment in Sri Lanka
- 11.2. All necessary technical documents to be submitted to an expert committee that comprise of representation from relevant stakeholders
- 11.3. All LP Gas Related equipment suppliers should maintain authorized local agent in Sri Lanka for warrantee claim and other technical matter representation