

Your Ref : **Our Ref:** CD/FSSD/12/02/03/01

Date : 5 Jan 2018

Registrar, Board of Architects
Registrar, Professional Engineers Board
President, Singapore Institute of Architects
President, Institution of Engineers, Singapore
President, Association of Consulting Engineers, Singapore

Dear Sir/Mdm

AMENDMENT TO THE FIRE CODE 2013 – FIRE SAFETY REQUIREMENTS FOR LIQUEFIED PETROLEUM GAS (LPG) CYLINDER INSTALLATIONS

Currently, the various separation distances for LPG installation with respect to exits, door openings, boundary line, etc. are stipulated in Cl.4.1 of Appendix 13 in the Fire Code.

2. SCDF has received waiver applications to permit closer separation distance due to site constraints, in particular for shop units used as eating establishments with narrow widths and are installed with LPGs along the back-lane, public street or service road.
3. The Fire Code Review Committee has deliberated the issue and agreed with the amendments to Appendix 13 to allow for closer separation distances subject to conditions. These amendments i.e. introduction of new clauses 6 and 7 are shown in Annex A of this circular.



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4. Please convey the contents of this circular to members of your Board/ Institution/ Association. The changes to Appendix 13 shall take immediate effect from the date of this letter. This circular is also available in CORENET-e-Info: <http://www.corenet.gov.sg/einfo>. For any clarification, please contact LTC Han Fook Kuang at DID: 68481467 or Email: Han_Fook_Kuang@scdf.gov.sg.

Yours faithfully

(transmitted via email)

MAJ Tan Chung Yee
Fire Safety & Shelter Department
for Commissioner
Singapore Civil Defence Force

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AMENDMENTS TO THE FIRE CODE

Two New Clauses To Be Inserted After Cl 5.4(e) Of Appendix 13

6 *Gas Leak Detection System and Other General Requirements*

- i. *Gas leak detection system shall be provided within kitchen and dining area involving LPG piping system (regardless whether the room / area is natural or mechanically ventilated, or air-conditioned as stated in Cl 4.3.1, Cl 5.2.1, Cl 5.4(d)(ii), and Cl 3(a) of Annex A) that shall upon detection, automatically shut off gas supply and sounding the alarm;*
- ii. *A fail-safe central solenoid isolation valve interlocked with the gas leak detection system shall be installed at the main pipe immediately outside the metal cabinet;*
- iii. *All flexible pigtail tubings shall be of heavy duty type, UL listed and integrated with one-way check valve;*
- iv. *If vapour manifold is installed for temporary use when vaporizer is under repair or replacement, its design shall adhere to the similar design criteria for liquid line;*
- v. *The LPG installation (i.e. including all pipings, manifold system, devices / equipment such as vaporizer and pressure release valves etc.) shall be separated with 2-hour fire-rated masonry wall from other area and all shop units;*
- vi. *The LPG installation shall be protected with 2-hour fire-rated roof cover if there is any other equipment such as air-conditioned condensing unit etc. installed above it;*
- vii. *All electrical fittings shall comply with IEC 60079, including Parts 10, 14 and 17, i.e. electrical installations in hazardous areas;*
- viii. *Hose reel coverage shall be provided;*
- ix. *The LPG installation shall be within 45m range from fire engine access road and fire hydrant is within 50m range from the fire engine access road;*
- x. *Where LPG installation is located within a back-lane, public street or service road, it shall be accessible from both ends of the back-lane, public street or service road.*

7 *Reduced separation distances for LPG installation*

7.1 *The separation distances stipulated under Cl 4.1.2, Cl 4.1.3 and Cl 4.1.8 can be reduced as follows provided the conditions stipulated under Cl 7.2 are fulfilled:*

- 7.1.1 *At least 1.5m separation between LPG installation and the common boundary lines of the two abutting shop units;*
- 7.1.2 *At least 3m separation between LPG installation and the opposite property;*
- 7.1.3 *At least 1.5m separation between LPG installation compartment and the exit, if this exit is the only exit for the shop unit;*
- 7.1.4 *At least 1.5m separation between LPG installation and the final discharge of exit staircase, if this staircase is the only exit staircase serving upper or basement levels.*

7.2 Conditions for reduced separation distances for LPG installation

- 7.2.1 *The LPG storage shall be fully protected with masonry wall including 2-hour fire-rated roof cover; access door shall also be 1-hour fire-rated with low level air gap of 75mm for ventilation purposes; masonry wall facing other adjacent shop unit shall be extended at least 0.3m higher than the entire LPG installation [see Cl 6(v)];*
- 7.2.2 *In addition to clause 6(i), gas leak detector(s) shall be provided at the LPG installation that shall upon detection, automatically shut off the gas supply, sound the alarm and activate the strobe light located next to the LPG storage (with “Gas Leak” indication beside the strobe light);*
- 7.2.3 *The minimum alarm sounding duration shall be 3 mins and the strobe light (blue) shall flash continuously;*
- 7.2.4 *Red background signage with white lettering of 50mm in size with the following details shall be placed at the LPG storage compartment and at the Emergency Shut-off Valve (ESV) pull box:*

GAS LEAK WARNING
When strobe light and/or alarm sounding is
activated, keep away and call 995
Gas supplier’s contact: 6xxx xxx

- 7.2.5 *Emergency shut-off switch for the isolation valve shall be provided beside the ESV pull box;*
- 7.2.6 *The total number of gas cylinders shall be limited to 6.*

Note

Consent from relevant government agencies shall be obtained for locating the LPG installation on state land;

Shop unit with LPG installation shall have a Fire Safety Certificate (FSC).
