

# GAS SAFETY Bulletin



## Message from the Editor

Hello, everyone! This issue of Gas Safety Bulletin features gas appliances bearing GU mark, centralised LPG pipework of buildings, safe use of LPG vehicles, statutory duties of registered gas supply companies, regulation of refrigerators using LPG as refrigerant, and LPG Cylinder Distributor Safety Performance Recognition Scheme. Readers can also find relevant legal knowledge about gas safety, as well as gas-related incident and prosecution statistics by type in 2019 for reference.



## GU Mark — a Symbol of Safe and Reliable Gas Appliances

In accordance with regulation 3B of the Gas Safety (Miscellaneous) Regulations (Cap. 51F), starting from 1 January 2003, all types of domestic gas appliances which are imported, sold or supplied for use in Hong Kong shall be approved in writing by the Gas Authority (i.e. Director of Electrical and Mechanical Services), and the approved gas appliances shall bear a GU mark for easy identification by the trade and customers.

In Hong Kong, the scope of the GU mark covers all domestic gas appliances (i.e. gas appliances which are designed, or intended, to be used primarily in domestic premises, irrespective of whether they are so used), such as cookers, water heaters and gas clothes dryers, etc. Gas appliances bearing a GU mark are designed and manufactured in accordance with recognised international/national safety standards and are subject to local quality assurance checks in Hong Kong laboratories to ensure compliance with safety and quality standards.

The legislation relating to the GU mark has been implemented for more than 17 years. Gas appliances installed before the legislation came into force are ageing and have already exceeded their average life expectancy. Besides, appliance suppliers may no



longer have spare parts for replacement. For the sake of safety, members of the public should consider replacing such gas appliances with ones bearing a GU mark.

In addition to purchasing and using gas appliances bearing the GU mark, users should also arrange a registered gas installer employed by a registered gas contractor to conduct a regular safety inspection on the domestic gas installations every 18 months to ensure their proper operation. If you smell gas or suspect a gas leak, you should immediately extinguish all fires and open all doors and windows to disperse the gas. If circumstances permit, you should turn off the main gas supply valve and then leave the scene as soon as possible. You should also call 999 to notify the Fire Services Department and contact the gas supply company to come to the scene to handle the incident. Members of the public are reminded not to bring in gas appliances or import non-approved gas appliances for use in Hong Kong. Any person who fails to comply with the relevant requirements commits an offence, and is liable on conviction to a maximum penalty of a fine at level 6 (\$100,000) and imprisonment for one year. 🔥

### Safety Tips

#### Use of Domestic Gas Appliances Bearing GU Mark

The legislation stipulated that from 2003 onwards, all models of domestic gas appliances imported for use in Hong Kong shall have the approval of the Electrical and Mechanical Services Department, and the approved gas appliances shall bear a GU mark.

Gas appliances installed before the legislation relating to the GU mark came into force have already exceeded their average life expectancy. For the sake of safety, please replace them with ones bearing a GU mark.



Enquiry: 1823  
Website [www.emsd.gov.hk](http://www.emsd.gov.hk)  
April 2020

Gas Authority  
**EMSD**



# Learn About

# LPG Pipework of Buildings

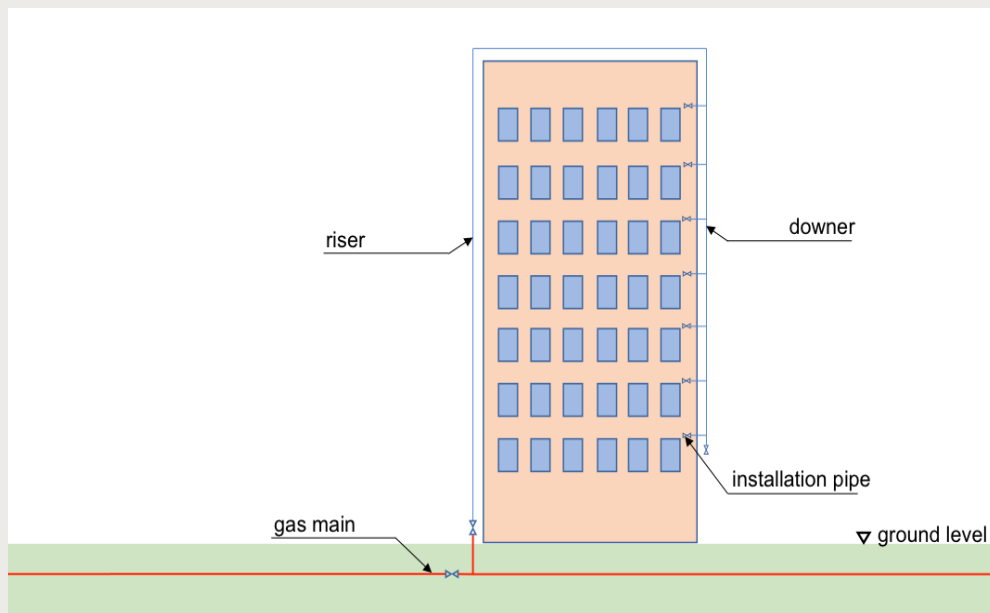
**A**t present, there are about 210 000 users of centralised LPG supply system in Hong Kong. What do these users know about the basic structure of the LPG pipework on the external walls of buildings or within domestic premises as well as the ways to prevent gas leaks?

A centralised LPG supply system connects LPG storage installations (LPG compounds or LPG cylinder stores) near a building to LPG pipework outside the building with the gas main for supply of LPG to domestic users. The LPG pipework usually consists of:

- (1) vertical gas pipe (known as riser) from the ground floor to the roof ;
- (2) vertical pipe (known as downer) from the roof to the lower levels; and
- (3) installation pipe in the premise.

Similar to other utility pipes such as water supply pipes and drainage pipes, most of the risers and downers are installed outside the buildings. However, the installation pipes are usually installed in floor slabs or walls of the premises, and some may be installed on the external walls for ease of maintenance.

Risers, downers and installation pipes should be regularly inspected to ensure that the gas pipes are maintained in safe working condition. Users are reminded that gas leakage may cause fire and even explosion, resulting in loss of life and property. Registered gas supply companies (RGSCs) may also cut off the gas supply for safety reasons. Therefore, owners of gas pipes and the parties concerned must ensure that their gas



▲ LPG pipework inside and outside a building

pipes are maintained in good condition for their own safety and that of the public.

## How to avoid the hazard of gas leaks outside buildings?

Owners of gas pipes should arrange with the RGSCs to carry out regular safety inspections in order to ascertain the safe condition of the gas pipes. LPG leakage can occur outside the buildings when there is serious corrosion of exposed risers or downers. Fire or explosion can occur if there is any ignition source in the vicinity (e.g. air conditioners) and cause damage to the premises and external walls and injuries to residents.

Gas pipes are usually installed on the external walls of buildings, adjacent to other utility pipes. Any continuous water leakage from the utility pipes can cause corrosion of the metallic gas pipes. Owners of buildings should timely inspect and repair the utility pipes on the external walls to avoid any water dripping on the gas pipes. Should there be any renovation works of the external walls of buildings, the owners are recommended, when circumstances allow, to review the condition and installation locations of the gas pipes and consider necessary reconditioning or replacement of the gas pipes or relocation of the gas pipes away from the utility pipes as far as practicable. Relevant RGSCs may also be consulted if necessary.



▲ riser



▲ downer

## How to avoid the hazard of gas leaks inside buildings?

If water seepage problem has sustained for a long period, the metallic gas pipes (i.e. installation pipes) and steel bars concealed in the concrete floor slabs or walls of premises, particularly those in the bathrooms or kitchens, can be seriously corroded. The concrete may be cracked due to expansion of the rusted metal. LPG may leak from the corroded gas pipe via the cracks from the upper floor slab to the lower floor as LPG is heavier than air.

If the lower floor is equipped with false ceiling at the bathroom or kitchen, the leaked LPG may be trapped in the ceiling void. When switching on an electrical appliance such as lighting, dehumidifier or exhaust fan, the generated spark can cause fire or explosion. As a result, the residents may suffer from property damage or personal injury.

Owners of premises should consult their estate management office to ascertain whether any gas pipes are installed in floor slabs or walls and their locations. If there are any concealed gas pipes in floor slabs or walls, owners of premises should co-ordinate with the RGSCs to check any potential LPG trapped in the ceiling void during regular safety inspections. For the sake of safety, any false ceiling in the bathroom or kitchen should be provided with ventilation louvre to avoid the risk of LPG accumulation.

In addition, owners of premises are recommended to review the condition of the gas installation pipes and consider necessary replacement as well when there are any renovation works for the premises.



▲ installation pipes

## Who can carry out inspection and maintenance of gas pipes?

According to the Gas Safety Ordinance (Cap. 51), only a registered gas installer employed by a registered gas contractor can carry out gas installation, inspection and maintenance works. A list of registered gas contractors is available on the EMSD website. Owners of gas pipes may contact the RGSCs or registered gas contractors to seek their advice on the condition of gas pipes and to establish a maintenance and replacement programme for aged pipes, including visual inspection, reconditioning and repainting or replacement. This can facilitate early and timely replacement of aged pipes by the owners of gas pipes, thus avoiding the hazard of gas leakage. 🚒

# Safe Use of **LPG Vehicles**



**W**hen using LPG vehicles, attention should be paid to the following points to ensure gas safety:

- When refuelling at LPG filling stations, switch off the engine and follow the refuelling procedures. To avoid danger, ensure that the dispensing nozzle has been detached from the vehicle before driving the vehicle away from the filling station after completion of refuelling.
- As soon as any malfunction of vehicle fuel system is found or suspected, send the vehicle to LPG vehicle fuel system maintenance workshops with red or blue identification signage for inspection and repair. Never attempt to repair by yourself as this may cause an accident.
- In case of traffic accident, if the situation allows, turn off the engine and the shut-off valve of the LPG fuel tank to

cut off the gas supply. When there is a fire or LPG leakage, leave the vehicle immediately and call 999 for assistance. Do not generate naked flame or operate any electrical switches as this may produce electric spark.

For more information about the safe use of LPG vehicles, please refer to the leaflet "Safe Use of LPG Vehicles" which can be downloaded from the following website or by scanning the QR code below:



[https://www.emsd.gov.hk/filemanager/en/content\\_392/SafeUseVehicle.pdf](https://www.emsd.gov.hk/filemanager/en/content_392/SafeUseVehicle.pdf) 🚒





## Statutory Duties of Registered Gas Supply Companies

According to the Gas Safety (Registration of Gas Supply Companies) Regulations (Cap. 51E of the Laws of Hong Kong), any company which wishes to carry on the business of a gas supply company, including importing, manufacturing or supplying town gas, liquefied petroleum gas, natural gas or any mixture of such gases, whether in the form of a liquid or vapour, shall be registered with the Gas Authority. When applying for becoming a registered gas supply company, the company must prove that it has sufficient material and human resources to carry on its business plans and the business of a gas supply company, and has the ability to comply with the relevant legal requirements before it can be granted registration by the Gas Authority.

### General Self-regulating Duty of Registered Gas Supply Company


Regulation 9 of the Gas Safety (Registration of Gas Supply Companies) Regulations stipulates that it shall be the duty of every registered gas supply company to ensure, in carrying on its business as a gas supply company, so far as is reasonably practicable, the health and safety at work of all its employees and to conduct its operations in a safe manner so that members of the public are not exposed to undue risks from gas. The duties include: (i) provision of a working environment for its employees that is safe and without risks to health; (ii) ensuring the safe operation of its plant and systems of work; and (iii) provision of such information, instruction, training and supervision to ensure the health and safety at work of its employees.



### Other Main Duties

Besides, registered gas supply company must discharge other duties required under the Gas Safety (Registration of Gas Supply Companies) Regulations in accordance with its scope of business. These duties may include to:

- provide the Gas Authority with a written statement of its health and safety arrangements, stating its general policy with respect to the health and safety at work of its employees and the organisation and arrangements for the time being in force for carrying out that policy;
- notify the Gas Authority of its gas distributors and monitor the safe operation of its gas distributors;
- report major gas emergencies to the Gas Authority and furnish him with written reports; and
- have arrangements in force for dealing with reports of escaping gas.

As at March 2020, there were 25 registered gas supply companies in Hong Kong. For details of the gas businesses carried on by these companies, please visit the following website of the Electrical and Mechanical Services Department: [https://www.emsd.gov.hk/en/gas\\_safety/registers/registered\\_gas\\_supply\\_companies\\_list/index.html](https://www.emsd.gov.hk/en/gas_safety/registers/registered_gas_supply_companies_list/index.html). 

## Regulation of Refrigerators Using LPG as Refrigerant


Some household electric refrigerators (commonly known as refrigerators) sold in Hong Kong market use LPG as refrigerant, the composition and flammability of which are set out in the Material Safety Data Sheet (MSDS). If the composition of a refrigerant falls within the definition of "LPG" under the Gas Safety Ordinance, the importation, manufacture, storage, transport, supply and use of this refrigerant shall comply with the requirements of the Ordinance.

According to the Interpretation of the Gas Safety Ordinance, LPG means any gas which is a mixture of:

- hydrocarbons primarily consisting of butanes, butylenes, propane or propylene; or
- all or any of the hydrocarbons referred to in paragraph (a).

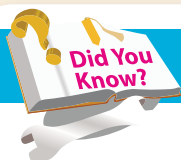
For safety guidelines related to the standards, storage, transportation, maintenance and scrapping of household electric refrigerators using LPG as refrigerant, please refer to the Guidance Note on Household Electric Refrigerators

Containing LPG as Refrigerant published by the Electrical and Mechanical Services Department.

All household electrical products supplied in Hong Kong, including household electric refrigerators, are regulated by the Electrical Products (Safety) Regulation. Suppliers have the responsibility to ensure that the electrical products they supply comply with the applicable safety requirements stipulated in the Electrical Products (Safety) Regulation and that the electrical products have been issued with a certificate of safety compliance before they can be supplied in the market. Besides, according to the Energy Efficiency (Labelling of Products) Ordinance, household electric refrigerators supplied in Hong Kong must be affixed with energy labels to let consumers know their energy efficiency performance. As for the disposal and recycling of old household electric refrigerators, they must be handled by licensed recyclers as required under the Waste Disposal Ordinance. 



**Legal Knowledge**



## LPG Cylinder Distributor Safety Performance Recognition Scheme



### 瓶裝石油氣分銷商 安全表現評級計劃

LPG Cylinder Distributor  
Safety Performance Recognition Scheme

The results of this year's LPG Cylinder Distributor Safety Performance Recognition Scheme were announced on 27 March 2020. Of the 167 distributors, 54 were awarded the Gold rating, 19 the Silver rating and 94 the Bronze rating. Distributors will display the certificates showing their ratings in their shops for easy identification by the general public.

Members of the public can use the newly launched EMSD mobile application "E&M Connect" to check the safety performance ratings of distributors. Equipped with a function to search for nearby distributors, "E&M Connect" can provide information about shop locations and contact phone numbers of distributors to facilitate the public in selecting suitable distributors to provide services for them.

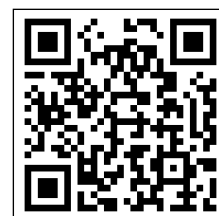
Under the Scheme, distributors' overall performance in various aspects, such as LPG cylinder delivery arrangements, safety inspections of gas appliances, record keeping of customer receipts, employee training and maintaining gas safety operation records, will be assessed and classified as Gold, Silver or Bronze ratings, with Gold being the highest level of safety performance. For details of the Scheme, please visit the EMSD website ([www.emsd.gov.hk/en/media/lpgcdsprs](http://www.emsd.gov.hk/en/media/lpgcdsprs)).



▲ Sample certificates of Gold, Silver and Bronze ratings presented to LPG cylinder distributors



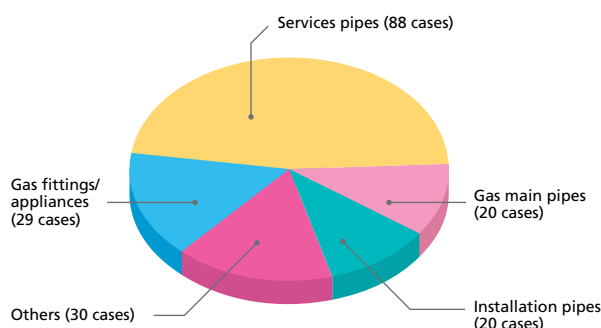
▲ Screen capture of LPG cylinder distributor searching function in EMSD mobile app "E&M Connect"



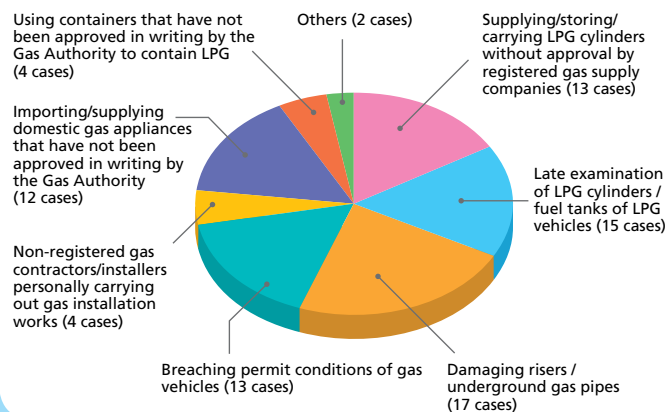
▲ QR code of "E&M Connect" website

### Gas-related Incident and Prosecution Statistics by Type

#### Gas-related Incidents by Type in 2019 (January to December)



#### Prosecutions by Type for Gas-related Cases in 2019 (January to December)



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