

GAS SAFETY Bulletin

ISSUE 37

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機電工程署
EMSD





Message from the Editor

Hello, everyone! In this issue of Gas Safety Bulletin, we will introduce the latest measures launched by the Electrical and Mechanical Services Department (EMSD) for the gas trade, including how to verify the identity of Competent Persons (Class 6) responsible for the maintenance and repair of Liquefied Petroleum Gas (LPG) vehicles, and how the Gas Standards Office (GasSO) formulates effective contingency plans. We will also introduce the correct ways to install and use flexible LPG tubing. To enhance the public's knowledge about the correct use of gas cooking appliances, we have held household gas safety talks for foreign domestic helpers to explain the precautions of cleaning gas cooking appliances.

In addition, we will introduce the legislation for LPG road tankers, the safety requirements and terms of application for relevant permits, and the ways to protect gas pipes from damage during works. In order to improve the technical and safety awareness of technicians in handling mildly flammable refrigerants, we will also introduce the application details of the Voluntary Registration Scheme for Technicians Handling Mildly Flammable Refrigerant of Household Air-conditioners. Please stay tuned!



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Features

Maintenance and Repair of LPG Fuel Systems of LPG Vehicles — Competent Persons (Class 6)

Since 1999, the EMSD has compiled a list of Competent Persons (Class 6) (i.e. CP6) in accordance with the Gas Safety Ordinance, Cap. 51, the Laws of Hong Kong. Any work involving the maintenance and repair of LPG fuel systems of LPG vehicles must be carried out by or under the supervision of a CP6 approved by the EMSD. To ensure that CP6s are capable of doing the relevant work, applicants must complete the LPG Vehicle Servicing Programme provided by the Vocational Training Council and receive on-the-job training. They can be classified as CP6s only after their qualifications are evaluated and verified by the EMSD. There are currently about 660 CP6s in Hong Kong.



Sample of Gold Card



Sample of Silver Card

CP6s are qualified to maintain and repair the LPG fuel systems of LPG vehicles, including (i) replacement of the LPG fuel tank (but excluding processes involving the structure or accessories of the LPG fuel tank), or (ii) maintenance, repair or replacement of vaporiser, pipework, regulator, mixer and associated components.

Starting from May 2018, the EMSD has issued identification cards and certificates to all CP6s, which are classified into two types, namely “Gold” and “Silver”, so as to differentiate the CP6s’ eligibility to maintain the fuel systems of LPG vehicles equipped with an internal fuel pump. CP6s holding Gold cards are capable of maintaining the fuel systems of LPG vehicles with an internal fuel pump, while CP6s holding Silver cards are capable of maintaining the fuel systems of LPG vehicles without an internal fuel pump.

Besides, to cope with the issuance of Digital E&M Licences from June 2022, the EMSD now provides all CP6s with a one-off identification card replacement for free. The digital identification card bears a photo together with a dynamic QR code for anti-counterfeiting purpose. Members of the public can scan the QR code to verify the registration information of the CP6s.

For details of CP6s, please visit the EMSD website.


https://www.emsd.gov.hk/tc/gas_safety/lpg_vehicle_scheme/register/list_of_competent_persons_class_6/index.html





Features

Maintenance and Repair of LPG Fuel Systems of LPG Vehicles — Sample Certificate of Competent Persons (Class 6)



香港特別行政區政府
 氣體安全條例 (第 51 章)
 第六類勝任人士證書

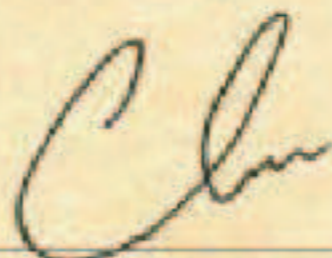
THE GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION
 GAS SAFETY ORDINANCE (CHAPTER 51)
 CERTIFICATE OF CLASS 6 COMPETENT PERSON

日期：2018 年 6 月 1 日
 Date: 1 Jun 2018

勝任人士編號
 Competent Person Number CP6-12345

茲證明 陳大文，為第六類勝任人士，該人士可以保養及維修石油氣車輛石油氣燃料系統（包括具內置燃料泵的系統），其工作包括(i)更換石油氣燃料缸，及(ii)為汽化器、管道、調壓器、混合器及相關配件進行保養、修理或更換。證書有效期由 2018 年 6 月 1 日 至 2021 年 5 月 31 日。

This is to certify that Chan Tai Man is a Class 6 Competent Person, who is qualified to maintain and repair the fuel system of LPG vehicles (including system equipped with internal fuel pump) for (i) replacement of LPG fuel tank, and (ii) maintenance, repair or replacement of vaporiser, pipework, regulator, mixer and associated components. The certificate is valid from 1 Jun 2018 until 31 May 2021.



氣體安全監督 (朱汝聲 代行)
 (CHU Yu Sing, Frank)
 for the Gas Authority

備註 Notes

- 任何人，除非是第一類勝任人士或在第一類勝任人士的監督下，不可進行涉及石油氣燃料缸結構或缸內配件(包括更換缸內燃料泵及為氣缸進行五年覆檢測試)的工作。
 Any person, unless who is a Class 1 Competent Person or under the supervision of Class 1 Competent Person, is **not allowed** to carry out works involving the structure or internal components of an LPG fuel tank (including replacement of fuel pump inside the tank and 5-yearly revalidation of fuel tank).
- 第六類勝任人士應將證書正本展示於正在工作的車輛維修工場的當眼位置。
 A Class 6 Competent Person should exhibit the **original of this certificate** in a **conspicuous position** at the vehicle workshop that he/she is working.
- 如閣下的姓名、通訊地址或身份證明文件有所更改，閣下須於更改後的 14 天內，以書面通知氣體安全監督並提供相關證明。如有任何查詢，請致電 2808 3683 聯絡氣體標準事務處。
 If there is a change in your **name, correspondence address or identity document**, you must, **within 14 days** of the change, notify the Gas Authority in writing with the proof of change. If there is any enquiry to the above, please contact the Gas Standards Office at 2808 3683.



Features

Have you made the contingency plan?

As a member of the gas trade, you must be aware of the dangers of gas fuel. Improper handling or lack of proper maintenance of related equipment has repeatedly led to incidents endangering lives and property. Therefore, gas safety has always received much attention from the trade and the public.

As stipulated by Section 9(1), Part IV of the Gas Safety (Registration of Gas Supply Companies) Regulations, Cap. 51E, 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.

In order to fulfil the above duty, gas supply companies will not only provide general work instructions and related materials, but also refer to the procedural guidelines of Module 7 of the Code of Practice for Hong Kong LPG Industry to formulate and implement contingency plans, so as to quickly and effectively deal with incidents such as LPG leakage, fire or explosion occurring in LPG compounds or cylinder stores.

In short, an effective contingency plan must cover the following:

**1**

Organisation and resources: Clearly outline the manpower required to formulate and execute the plan, as well as the equipment and information needed

**2**

Communication arrangements: Set up a round-the-clock incident reporting centre and notify relevant personnel of its telephone number and related arrangements

**3**

Incident reports: Stipulate the responsibilities and procedures for writing reports, and record details of the incidents

**4**

Contingency actions: List the requirements and procedures for implementing response actions

**5**

Administrative measures: Impose clear requirements to ensure that plans are feasible and effective. The requirements include training of relevant personnel, distribution and update of plans, arrangements for testing and drills, etc.



Features

Have you made the contingency plan?

Although gas incidents rarely occur, accidents always happen unexpectedly. Sufficient preparation and constant vigilance will definitely come in handy in times of crisis to reduce casualties and losses!



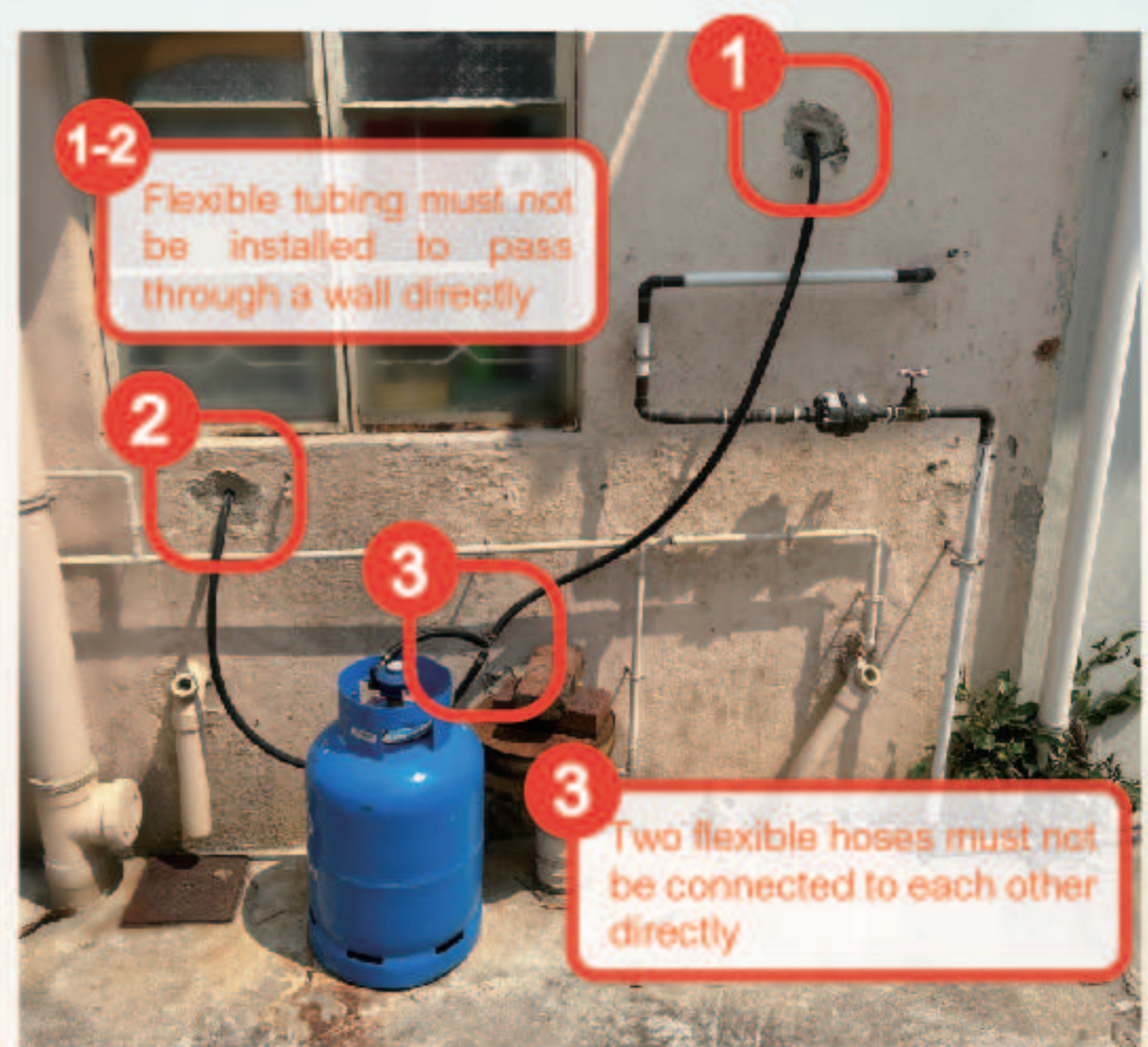


Features

Proper Installation and Use of Flexible LPG Tubing

For gas installations using cylinder LPG, flexible gas tubing is typically used to connect LPG cylinders to metallic pipes for supplying gas to the appliances. To ensure that the flexible gas tubing is suitable for connecting gas installations and meets the specified standards, all low-pressure flexible gas tubing to be imported or manufactured locally for use in Hong Kong shall obtain approval from the Gas Authority (GA) of the EMSD.

At present, most of the flexible gas tubing for use in low-pressure LPG installations is made of rubber, which is susceptible to the effects of external environment and ageing. For this reason, manufacturers set an expiry date, which is generally three years from the date of manufacture, for flexible gas tubing according to applicable standards. No person should use any expired flexible gas tubing to avoid danger. Approved flexible gas tubing will be imprinted with the words “機電工程署批准” / “EMSD APPROVAL”, the unique number for the approved model and the expiry date for public identification and reference.



During regular safety inspections, registered gas installers (RGIs) should not only conduct a static pressure test for gastightness, but also check the flexible LPG tubing for any signs of cracking and hardening. Even if the gastightness test does not show a pressure drop in the LPG installation, the material of the flexible LPG tubing may still be affected by the external environment that accelerates its ageing, causing sudden rupture of the tubing and resulting in gas leak. Therefore, if RGIs find that the flexible LPG tubing used by customers is in abnormal condition, is about to expire, or has already expired, they should inform their customers at once and request immediate replacement of the flexible gas tubing concerned. If RGIs determine that the flexible LPG tubing can neither be used safely anymore nor be replaced immediately, they should issue a dangerous gas installation notice and shut off the gas supply to that tubing.





Features

Proper Installation and Use of Flexible LPG Tubing



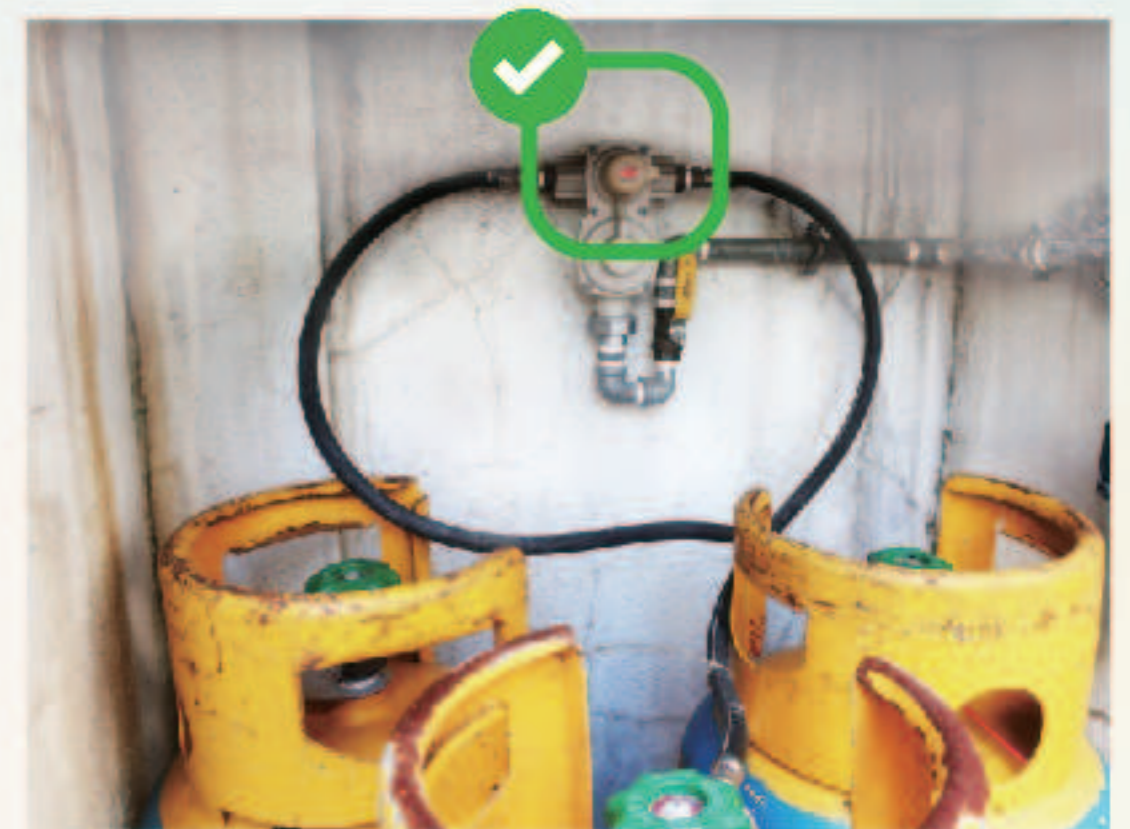
In addition to confirming that approved flexible LPG tubing is used, RGIs should pay attention to whether or not the following situations exist:

- The flexible tubing directly passes through a wall;
- The length of the flexible tubing exceeds two metres;
- The flexible tubing is only connected to the LPG cylinder and/or the LPG appliance.

If any of the above is observed, RGIs should recommend the customers to make improvements.

Where flexible LPG tubing passed through an external wall, the part that passes through the wall is highly likely to be chafed or even torn when connecting the LPG cylinder. Thus, a metallic gas pipe should be used to pass through the external wall instead. The Gas Safety (Installation and Use) Regulations stipulate that a pipe passing through a wall must be protected against corrosion and enclosed in a sleeve or wrapped.

The Gas Safety (Installation and Use) Regulations also stipulate that no person shall install in any premises a non-metallic gas pipe which is more than two metres in length unless it is connected to a readily movable gas appliance without a flue, or a portable LPG cylinder. In the design and installation of LPG installations, pipes made of metal should be used for the fixed pipe sections, while flexible LPG tubing should only be used for the movable sections, such as the section connecting the metallic pipe to the LPG cylinder or a tabletop cooking appliance, and the length of the flexible tubing sections should be kept as short as possible to reduce the risk.



✓ Using appropriate installations to connect two flexible hoses



✓ Using a metallic gas pipe to pass through an external wall





Case Study

Gas Safety Alert — Using “Energy-Saving Rings” can Lead to Carbon Monoxide Poisoning

Safety Alert for Gas Users:

Since last year, Hong Kong has recorded a total of three incidents in which members of the public suffered from carbon monoxide poisoning while cooking at home. As members of the public was misled to believe in the claimed energy-saving effects of “energy-saving rings”, they installed such ring on gas cookers. Unexpectedly, cooking with the use of the “energy saving rings” resulted in the victims and the victims’ family members suffering from carbon monoxide poisoning and requiring hospitalisation.

Upon investigation, the EMSD discovered that when using gas cookers installed with non-original accessories such as “energy-saving rings”, the emission of carbon monoxide increased significantly, far exceeding the permissible limit of the safety standard specified in the Basic Safety Assessment for Domestic Gas Appliances, and the “energy-saving rings” had no energy-saving effect as claimed. The EMSD urged the public not to install “energy-saving rings” on gas cookers to avoid carbon monoxide poisoning.

Carbon monoxide is a colourless, odourless and tasteless gas. Exposure to a low concentration of carbon monoxide may lead to symptoms such as dizziness, headache, fatigue and nausea; whereas exposure to a high concentration of carbon monoxide may even lead to visual impairment, disturbed coordination, unconsciousness, brain damage, and even death.

When purchasing and using domestic gas cookers, members of the public should pay attention to the following:

Do not install on gas cookers “energy-saving rings” or other accessories not supplied by the original appliance manufacturers;

Occupants should arrange for a registered gas contractor to conduct safety inspection of gas appliances once every 18 months.

Ensure the gas cooker being used has been approved by the EMSD and bears the “GU” mark;

When using gas cookers, keep the windows and exhaust fans in the kitchen open to ensure good ventilation;



Safety inspection of gas appliances once every 18 months.



DO NOT use non-original accessories such as “energy-saving rings”. Otherwise, it may lead to carbon monoxide poisoning.





Case Study

Holding Household Gas Safety Talk for Foreign Domestic Helper Groups to Enhance Safety Awareness of Using Gas Appliances

Household Gas Safety Talk

The EMSD was invited by the Mission For Migrant Workers to hold a talk on household gas safety on 10 March 2024 (Sunday) and share with participants safety information on domestic gas appliances, which included the importance of the "GU" mark, points to note when purchasing and using gas cooking appliances, points to note for regular safety inspection and cleaning of domestic gas installations, not using any "energy-saving rings" that are not supplied by the original manufacturers, and sharing of relevant cases. The event received an overwhelming response, with foreign domestic helpers from the Philippines, Indonesia, India, and Thailand participating and actively asking questions. We believe that it could raise the participants' awareness of gas safety.



安心啲 安全啲
認住 GU 標誌

For information on gas safety, please visit the EMSD website:



The EMSD and Customs have called upon the public to stop using "energy-saving rings" on gas cooking appliances. For details, please visit the EMSD website:





Legal Knowledge

LPG Road Tankers



An LPG road tanker (“tanker”) refers to a vehicle that carries LPG in bulk. It must comply with the safety regulations stipulated in the laws of Hong Kong, particularly the Gas Safety Ordinance (Cap. 51) on matters of gas safety.

According to the Gas Safety (Gas Supply) Regulations (Cap. 51B) under the Gas Safety Ordinance, tankers are not allowed to carry LPG unless they are granted with a valid permit issued by the GA. The Regulations specify the conditions under which the tanker would be granted with a permit, and the permit issued may be subject to such reasonable conditions as the GA thinks fit and as are specified in the permit. The tanker owner must display the label issued together with that permit on the left-hand side of the tanker’ s windscreen.

The owner of a tanker granted with a permit shall, if he ceases to be the owner, or when the tanker is abandoned or destroyed, within 7 days thereafter inform the GA of such a fact, and at the same time return the permit to the GA. A tanker owner can apply for the permit personally or by authorising a representative in writing. The GasSO of the EMSD, acting on behalf of the GA, is responsible for the handling of permit applications. The permit is valid for a year. A tanker owner or the representative authorised by the tanker owner in writing shall apply for renewal of the permit before it expires.

For details of the application for a permit, please refer to the Code of Practice for Hong Kong LPG Industry, Module 3 — Handling and Transport of LPG in Bulk by Road published by the GasSO.





Did You Know

Avoid Damage to Concealed Gas Pipes

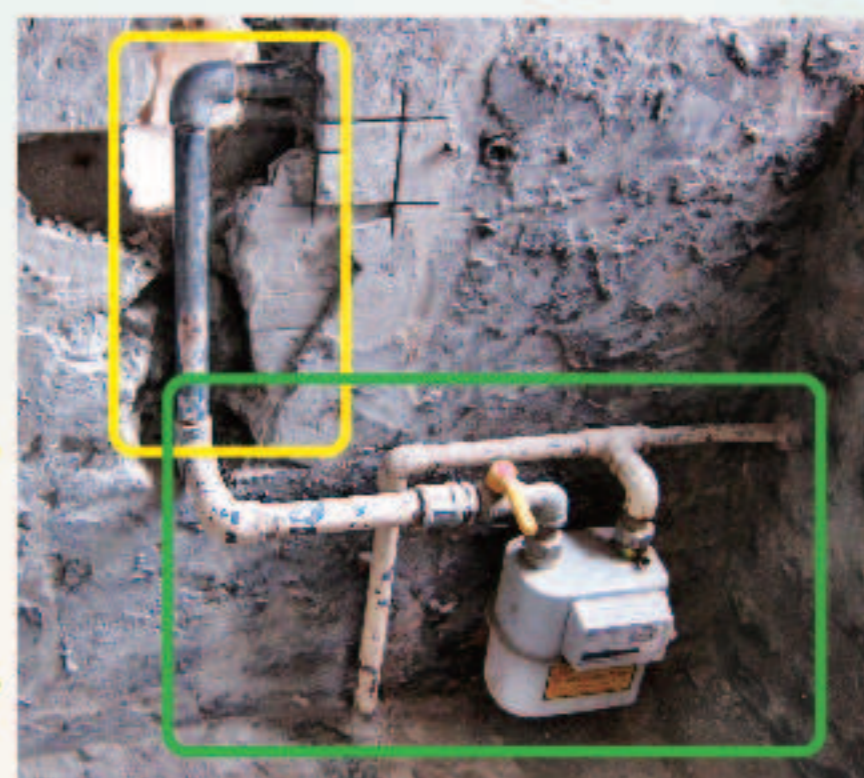
Before commencing any minor works (including demolition or interior / exterior renovation), renovation contractors shall ensure that workers have taken all reasonable steps and measures to avoid damage to gas installations, and paid heed to the following:



1. Ascertain the locations of exposed / concealed gas installations including gas pipes (on ceilings / walls / floor slabs) within or in the vicinity of the works area as well as their gas supply condition.

Concealed gas pipes inside walls

Exposed gas pipes and gas meters



2. Check the labelling of live gas pipes to avoid mistaking them as abandoned pipes. Always assume the gas pipe to be active even though the gas supply has been terminated in the premises.
3. Inquire about the locations of internal and external gas pipes (including concealed gas pipes) from the registered gas supply companies or the management office, and obtain layout plans (if any) and relevant information.

4. Use metal detectors to identify the exact locations of concealed gas pipes.
5. Mark the locations of gas pipes clearly to ensure that the persons who carry out the works are aware of the locations of the gas pipes and clearly understand the reasonable safety protective measures to be taken.
6. Renovation contractors must employ registered gas contractors to carry out gas installation works (if necessary).



In the course of works, all reasonable measures must be taken to protect the gas pipes from damage, including:

- ✓ Maintain adequate safety clearance from the gas pipes when carrying out chiselling works with hand tools.
- ✓ Use isolation plates to protect the gas pipes from damage when carrying out cutting works in the vicinity.
- ✓ Contact your registered gas supply company to suspend gas supply temporarily, if necessary.
- ✓ Double-check the locations of the gas control valves for immediately cutting off the gas supply in case of emergency.



Did You Know

Voluntary Registration Scheme for Technicians Handling Mildly Flammable Refrigerant of Household Air-conditioners

The use of mildly flammable refrigerant (i.e. R32) in household air-conditioners is becoming common in the Hong Kong market. With a view to enhancing the technicians' expertise in and safety awareness of handling mildly flammable refrigerant, the EMSD introduced the Voluntary Registration Scheme for Technicians Handling Mildly Flammable Refrigerant of Household Air-conditioners in May 2023. The scheme encourages technicians to receive relevant professional training and attend continuing professional development training courses, in order to enhance their professional standards.



There are 2 registration classes, namely Class A and Class B. Technicians registered under Class A are qualified to install window type air-conditioners using mildly flammable refrigerant, but cannot carry out work processes involving handling mildly flammable refrigerant. Technicians registered under Class B are qualified to install different types of household air-conditioners using mildly flammable refrigerant and carry out work processes involving handling mildly flammable refrigerant (e.g. repairing refrigerant pipework).

The application process is very simple and free of charge. An applicant shall possess the relevant qualifications and work experience, and then submit the completed application form together with supporting documents.



The application form can be downloaded from the following website:

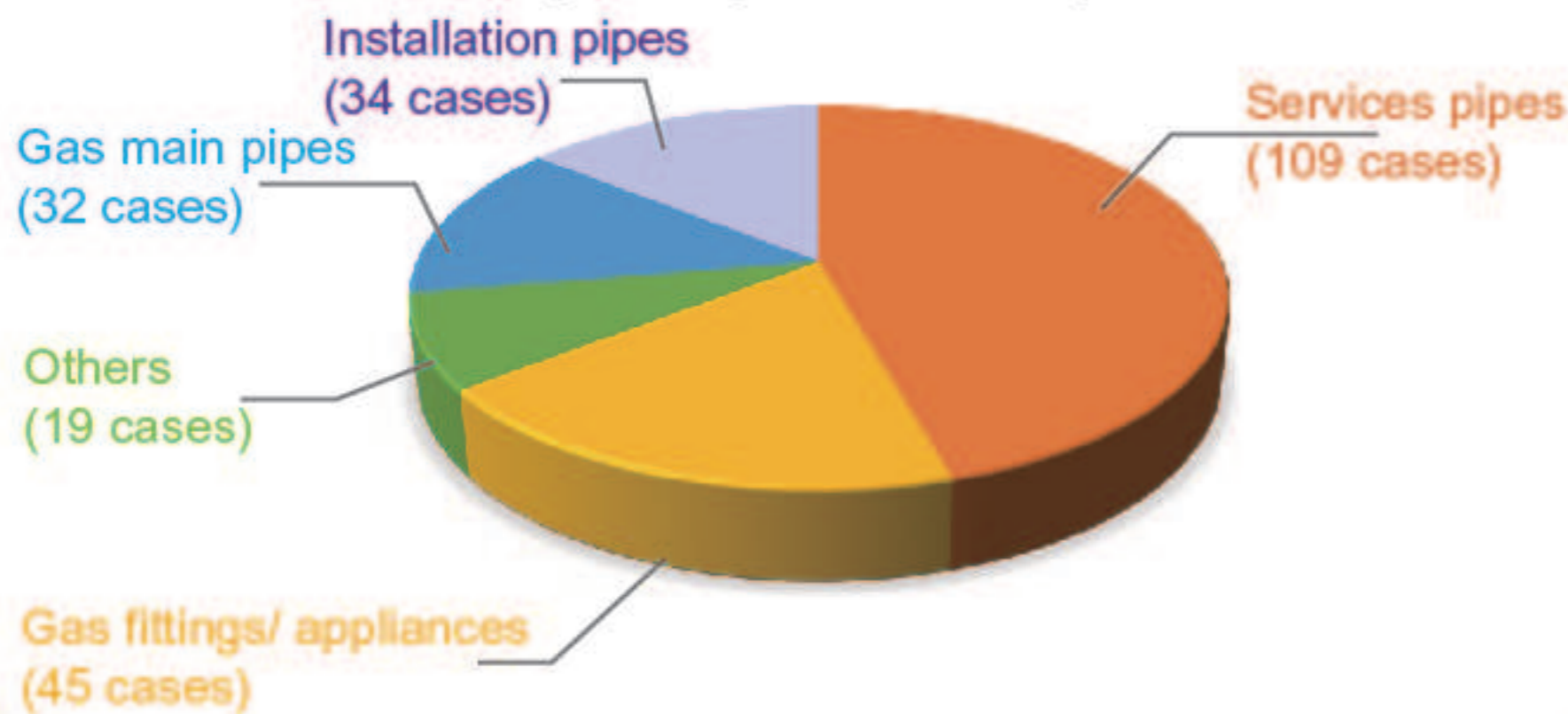
https://www.emsd.gov.hk/tc/other_regulatory_services/flammmable_refrigerant_safety/vrs_thmfr_hac/vrs_for_thmfr_of_hac/dtld_infrmt_n_aplctn_mthd/index.html



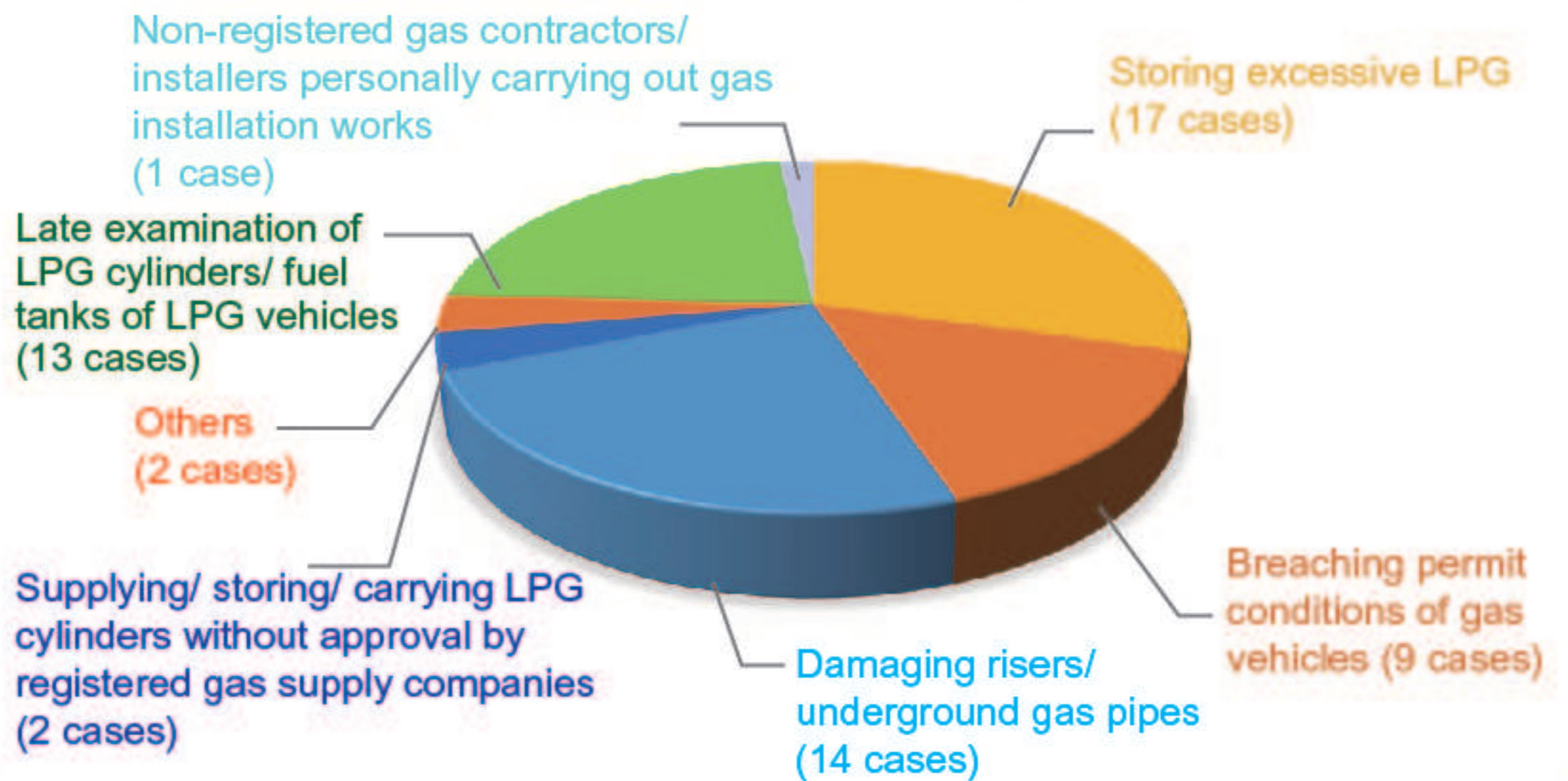
Statistics

Gas-related Incident and Prosecution Statistics by Type (Jan-Dec 2023)

Gas-related Incidents by Type in 2023 (January to December)



Prosecutions by Type for Gas-related Cases in 2023 (January to December)



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