

GAS SAFETY

Bulletin ISSUE 38

December 2024



Tips for Showers :

Prevent

Carbon Monoxide Poisoning

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Message from the Editor



Hello everyone! Winter has arrived. In this issue, we will introduce the safety tips against carbon monoxide poisoning, when using domestic gas water heaters. Moreover, in order to raise the safety awareness of the trade on gas installations and ventilation systems in restaurant kitchens, we will introduce recommendations on the control of flammable refrigerants in commercial refrigeration equipment.

What's more, some legal knowledge related to the Gas Safety (Gas Supply) Regulations will be included in this issue, including the regulation of the safety of onshore fuel gases and the requirement for timely submission of inspection records of notifiable gas installations. Last but not least, we will talk about the points to note for owners and drivers of LPG vehicles and the amendments to the code of practice for commercial gas dryers.



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Feature

Tips for Showers to Prevent Carbon Monoxide Poisoning

When enjoying hot showers in winter, members of the public should pay attention to gas safety and use gas water heaters bearing the “GU” mark to prevent carbon monoxide poisoning. In addition, citizens are recommended to visit the EMSD website to learn more about gas safety through the publications under “Know More about Gas Safety”.

The EMSD emphasises that the use of substandard gas water heaters imposes significant safety risks, particularly when flueless gas water heaters are used indoors. Without adequate ventilation, a large amount of carbon monoxide will be produced within a short period of time. For this reason and safety’s sake, the Gas Safety Ordinance stipulates that all flueless gas water heaters shall not be installed in Hong Kong for use in bathrooms.

Carbon monoxide is a colourless, odourless and tasteless gas, which is a by-product of incomplete combustion of carbon-containing fuels such as wood, natural gas and gasoline. In general, exposure to a low concentration of carbon monoxide may cause dizziness, headache, fatigue and nausea, while exposure to a high concentration of carbon monoxide may result in impaired vision, disturbed co-ordination, unconsciousness, brain damage and even death.

The EMSD reminds the public that bathrooms should be well ventilated when using gas water heaters, and they should seek immediate medical attention if there are symptoms of carbon monoxide poisoning.

Members of the public should also take heed of the following:

1. Occupants should purchase and use a gas water heater which has been approved by the EMSD and bears the “GU” mark;
2. Installation, replacement or repair of gas water heaters must be carried out by a registered gas installer employed by a registered gas contractor. Otherwise, it risks contravening the Gas Safety Ordinance and offenders will be prosecuted;
3. When using gas appliances indoor, including gas water heaters and gas cookers, exhaust fans should be switched on, and windows and doors should be opened to maintain ventilation; and
4. Occupants should arrange for a registered gas contractor to carry out safety inspection of their gas water heaters once every 18 months. If there is any damage or abnormal operation of the gas water heater, please stop using it immediately and notify the registered gas supply company for follow-up.





Features

Grease Removal in Kitchens

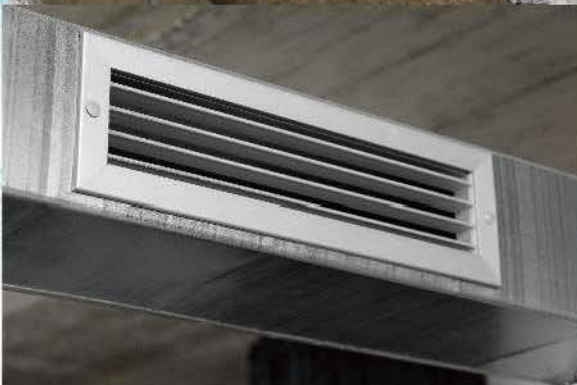
“I want to stay healthy and burn fat” . This is often heard and should not be unfamiliar to us. However, you certainly would not want to witness “fat burning” while working in the kitchen.

Serious accidents occur in kitchens of food premises from time to time. In 2016, a chef was injured by a flash fire when using a roasted goose furnace in a restaurant in Central, which was caused by grease blocking the air outlet of the furnace. In 2018, a large amount of thick smoke suddenly erupted from the kitchen of a restaurant in Kwai Chung, and firefighters were called to put out the fire, which was caused by burning of grease accumulated on the stove. In 2022, a chef was injured by boiling oil splashing from the stove in a cafe in North Point, and later it was found that the gas passage of the stove was blocked, and the air outlet of the combustion chamber was not wide enough. In all these cases, grease had sealed the stove components or exhaust systems and then ignited. Moreover, persons-in-charge of the food premises had not regularly inspected and maintained the stoves and exhaust systems, ultimately leading to these accidents.

In kitchens, grease easily accumulates on the stove’s surface, air outlet and smoke vent. The grease will catch fire if it has accumulated to a certain extent and heater to its flash point. In the event of an accident, in addition to kitchen employees, diners and even passers-by may also be affected, and casualties and property losses will be resulted. In fact, similar accidents happen eat not only in commercial kitchens, but also in domestic kitchens.

Therefore, owners of gas installations and ventilation systems should arrange for registered gas contractors to regularly inspect and maintain their installations in industrial and commercial kitchens every twelve months and those in domestic kitchens every eighteen months. The grease accumulated in their kitchens (especially near fire and high temperature locations) should also be cleaned regularly.

Apart from burning fat for health, everyone must remove grease for gas safety.





Features

Proposed Control on Commercial Refrigeration Equipment using Flammable Refrigerants

To fulfill the requirements of the Kigali Amendment under the Montreal Protocol, Hong Kong must gradually phase down the production and consumption of 18 hydrofluorocarbons (HFCs) with high global warming potential (GWP). The Government is currently amending the Ozone Layer Protection Ordinance (OLPO) to impose new controls on HFCs so as to promote the use of low GWP refrigerants to help slow down global warming. Since some types of low GWP refrigerants are hazardous (higher toxicity or high operating pressure), the amendment of the OLPO also includes control measures for hazardous refrigerants.

Currently, commercial stand-alone refrigerators in Hong Kong commonly use R134a and R404A refrigerants. In response to the new eco-friendly trend, some have switched to lower GWP but flammable refrigerants, such as R290 and R600a refrigerants. These refrigerants are of high flammability with flammability class 3. Therefore, the owners of commercial refrigerators must pay attention to the safety of refrigerants when purchasing, installing, operating, maintaining and repairing, dismantling, recycling and disposing of commercial refrigerators using flammable refrigerants. When the amended OLPO comes into effect, owners must engage registered refrigerant handler to handle flammable refrigerants. If refrigerant handler is required to handle flammable refrigerant, they must register with the EMSD and hire at least one certified technician in order to handle flammable refrigerants. For more details of registered refrigerant handler or certified technicians, please contact us on 3912 0625.





Features

Proposed Control on Commercial Refrigeration Equipment using Flammable Refrigerants

Know more about the safety of **flammable refrigerant**



Commercial refrigerators

- 1** The body should bear a flame symbol and warning labels.



- 2** Ensure that the room area and environment of the place of installation meet the requirements prescribed by the manufac-



- 3** Never use sharp tools or means other than those recommended by the manufacturer to speed up the defrosting process.



- 4** If maintenance, repairs, dismantling, recycling or disposal of commercial refrigerators with flammable refrigerants is required, you should contact the agents, suppliers or contractors to arrange the work. Do not do it yourself.





Case Study

Regulatory Control of Fuel Gas Safety on Land

As the gas safety regulator in Hong Kong, the Director of Electrical and Mechanical Services is responsible for the enforcement of the Gas Safety Ordinance (Cap. 51) and regulating the safety of fuel gas on land. After the enactment of Gas Safety Ordinance in 1991, the responsibility for regulating fuel gas on land under Dangerous Goods Ordinance (Cap. 295) of Fire Services Department was transferred to the EMSD. Cap. 51 is to control, in the interests of safety, the importation, manufacture, storage, transport, supply and use of certain gases, which covers town gas, liquefied petroleum gas, natural gas or any mixtures of the above gases, whether in the form of a liquid or vapour.

Take the Hong Kong Offshore Liquefied Natural Gas (LNG) Terminal (the Terminal) as an example. Since the jetty of the Terminal at sea is constructed to the seabed with piles, the natural gas facilities on the jetty and the submarine gas pipelines connecting to gas receiving facilities on land are both considered as gas installations on land and are regulated under Cap. 51 .



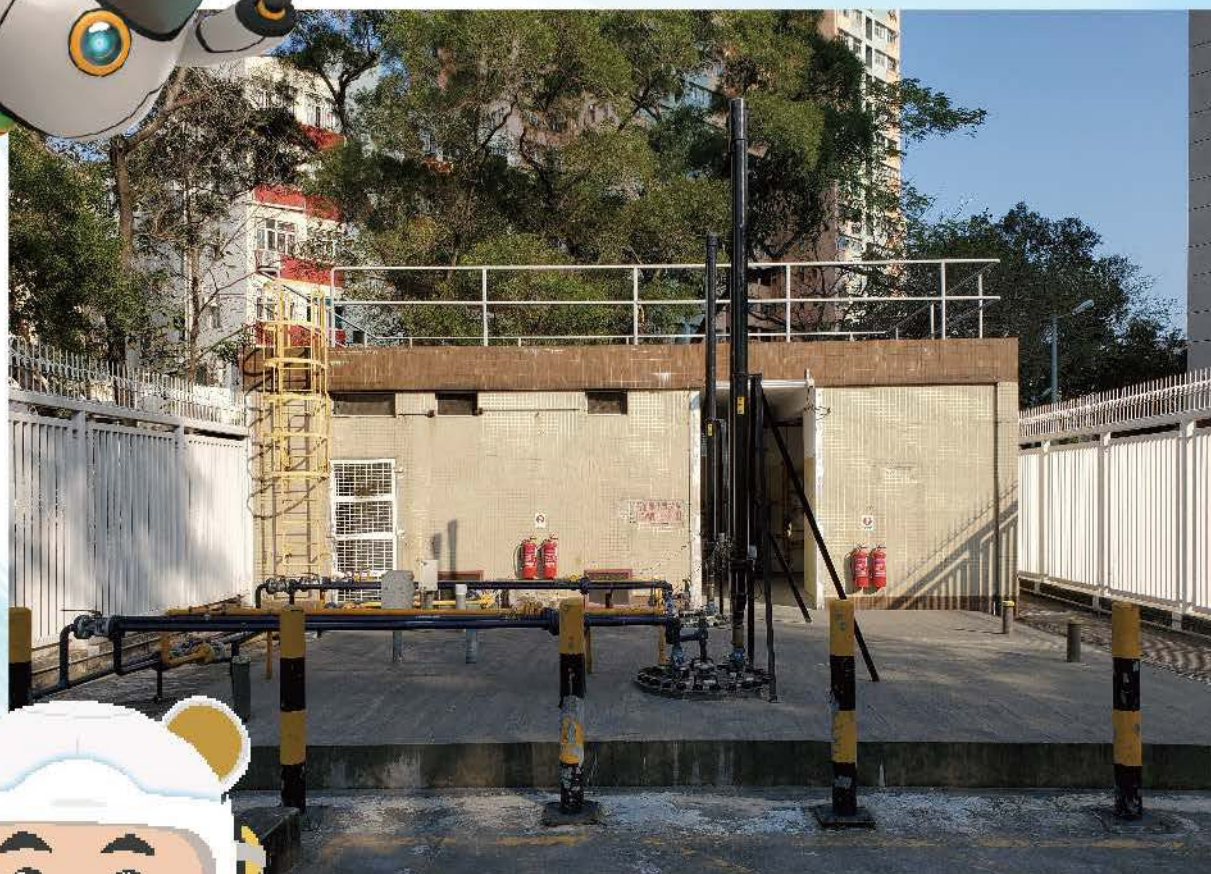
⚡ Natural Gas Facilities on the Terminal Jetty ⚡



Legal Knowledge

Timely Submission of Inspection Records of Notifiable Gas Installations

According to Section 6C of the Gas Safety (Gas Supply) Regulations (Cap. 51B), the owner of a notifiable gas installation (such as LPG storage installation) shall ensure that the installation is inspected by a competent person at intervals not less than once every year to ascertain that the installation has been maintained and operated in accordance with regulation 6B. The owner shall also keep a statutory inspection report of the installation within its period of use and submit a copy of the report to the Gas Authority within 4 weeks after each inspection. Failure to timely submit a copy of the report is an offence and liable on conviction to a fine of \$5,000.



Notifiable Gas Installations (LPG Compounds)



Did you know

DOs and DON'Ts for Owners and Drivers of LPG Vehicles

Since the launch of the LPG Vehicle Scheme, the EMSD has been promoting the proper use of LPG vehicles to the public and the trade. We have organised various conferences and forums, and distributed promotional leaflets to explain the key points to note on the use and maintenance of LPG vehicles.

DOs

1. Perform the repairs and maintenance of LPG vehicle fuel systems at LPG vehicle fuel system maintenance workshops with identification signage.
2. Arrange regular inspections and maintenance of LPG vehicles according to the manufacturers' recommendations (Table 1). For example, LPG fuel inlet hoses must be replaced every five years.
3. Keep an eye on whether the idle speed revolutions are stable (five-seater taxis: automatic transmission 600-700 rpm, manual transmission 450-550 rpm; four-seater taxis: 700-800 rpm; hybrid taxis: 950-1 050 rpm; minibuses: 650-750 rpm).
4. If any abnormality is detected in the operation of vehicles, such as engine stalling, not running smoothly, shuddering or making noises; significantly inadequate power output; or liquid leakages at the bottom of vehicles (it is normal to have water dripping after using air-conditioners), the vehicles should be sent to vehicle maintenance workshops for inspection as soon as possible.
5. LPG vehicle fuel tanks should be tested and examined at least once every 5 years. For more information on how to check the latest inspection date and expiry date for revalidation of fuel tanks, please refer to the following website:





Did you know

DOs and DON'Ts for Owners and Drivers of LPG Vehicles

DON'Ts

1. Work involving the structures or internal components of LPG fuel tanks (including the replacement of fuel pumps) must not be carried out at places other than the LPG fuel tank workshops approved by the EMSD. For more information on the approved LPG fuel tank workshops, please refer to the following website:

https://www.emsd.gov.hk/filemanager/en/content_392/LPG_Vehicle_Fuel_Tank_5-Yearly_Revalidation_Leaflet.pdf



https://www.emsd.gov.hk/tc/gas_safety/lpg_vehicle_scheme/information_for_the_trade/expiry_date_of_lpg_vehicle_fuel_tank/index.html



2. Do not install/remove any LPG supply pipes or parts by yourself.

https://www.emsd.gov.hk/tc/gas_safety/lpg_vehicle_scheme/publications/general/list_of_the_notifiable_gas_installation_sites/index.html



3. Do not adjust the idle speed air-fuel mix ratios by yourself.
4. Do not discharge tar with anything else than the original tar discharge valves.
5. Do not use non-compliant parts or parts from unknown sources





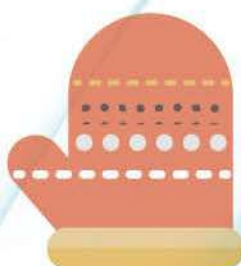
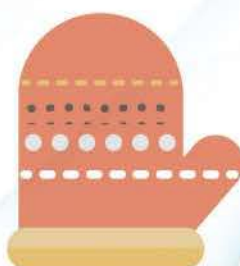
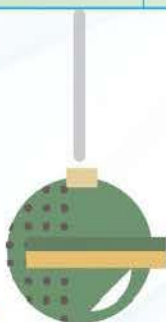
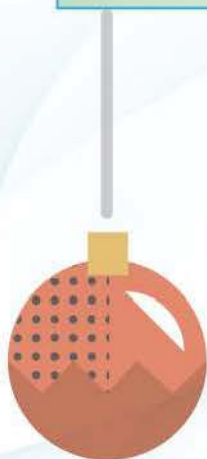
Did you know

DOs and DON'Ts for Owners and Drivers of LPG Vehicles

Maintenance Schedule of LPG Vehicles (Table 1)



Interval	Inspection/Cleaning	Replacement
Daily	Engine oil Tank water Automatic transmission oil	—
Every three months	Discharge tar inside vaporisers	—
Every 2500 km	LPG fuel hoses	—
Every 10000 km	Idle speed air-fuel mix ratios Cells Air filters	Engine oil Engine oil filters
Every 20 000 km	Fan belts	—
Every 40 000 km	—	Automatic transmission oil
Every 100 000 km	Water tank protection nets Gas control valves LPG Nozzles Mixers	Engine coolants Spark plugs Air filters Catalytic converters Idle speed fuel filters of vaporisers
Every five years	—	LPG fuel inlet hoses

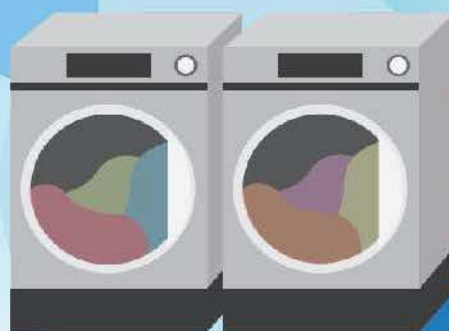




Did you know

Code of Practice GU13 - Commercial Gas Dryer (Issue 3)

Many laundries in Hong Kong use town gas or LPG as fuel for commercial gas dryers. In order to reflect the latest standards and requirements for the gas trade, after consultation with the industry, the EMSD had revised the Code of Practice GU13 - Commercial Gas Dryer (Issue 3) (COP) which was released in July 2024 for compliance by the owners/operators of commercial gas dryers and the industry.



The major revisions of the COP include:

1. Combining the two modules (town gas and LPG) of the previous issue.
2. Updating the Laundry Customer Safety Check Record. The owners/operators of gas dryers shall arrange regular safety inspections of gas installations (including exhaust systems) by registered gas supply companies/registered gas contractors
3. The owners/operators of gas dryers shall inspect flexible gas rubber tubing regularly for any cracks or abnormal condition, and arrange for RGCs to replace faulty or expired gas tubing.



煤氣
Towngas



The COP can be downloaded from the website of the EMSD:
https://www.emsd.gov.hk/tc/gas_safety/publications/codes_of_practice/index.html





Did you know

Code of Practice GU13 - Commercial Gas Dryer (Issue 3)

Registered Gas Contractor Telephone No.:		Registered Gas Contractor Number and Company Seal			
Laundry Customer Safety Check Record					
Customer's A/C No.:		Customer's Name:		Customer's Telephone No.:	
Installation Address:					
(A) Gas Supply System	1.	LPG Cylinder (if applicable) _____ kg _____ nos _____ kg _____ nos	Normal	Improvement required	N/A
	2.	Regulator (if applicable) Manufacture Date _____ Model _____ (Shall be replaced in accordance with the manufacturer's guidance)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	3.	Flexible gas tubing Expiry Date _____ Model _____ (Shall be replaced in accordance with the manufacturer's guidance)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	4.	Gas tubing clip	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	5.	Location of the LPG Cylinder(s) (if applicable)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	6.	Gas Soundness Test	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(B) Gas Dryer	Brand _____ Model _____ (Recommended to be installed in accordance with the manufacturer's guidance*)				
	1.	Vent openings are not blocked.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	2.	Kept away from miscellaneous objects and combustibles. *Delete where not applicable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Suggestion:				
(C) Exhaust System	1.	Exhaust to open space directly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	2.	Exhaust pipes are made of galvanised sheet metal (except other materials recommended by the manufacturer).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	3.	Inner wall of exhaust pipes is clean, smooth and without blockage.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	4.	Ductwork inside air-conditioned area or close to combustible material / human access is suitably insulated.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	5.	Inspection doors are installed at the beginning and ending of air ductwork.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	6.	Screens, louvers, caps or wire mesh is not installed at the ductwork.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	7.	The flue terminal of the exhaust duct is not directly point to the air inlet or outlet of other utilities or appliances.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	8.	Individual ducts enter the bottom or side of the main exhaust duct at an angle not more than 45 degree in the direction of airflow (except other maximum allowable angle as specified by the manufacturer).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	9.	Exhaust/booster fans is installed closed to the outlet of the exhaust ductwork (only applicable to mechanical exhaust system). Interlock device is installed and running normally (only applicable to mechanical exhaust system or exhaust ductwork equipped with fire damper(s)).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Suggestion: The owner/operator (shall / is not required*) to arrange a specialist ventilation subcontractor to conduct rectification work as soon as possible and arrange RGC to conduct follow-up safety inspections afterwards. *Delete where not applicable				
(D) Other Suggestion	1.	The regulator should be turned off after use every time. If the appliance is not use for a prolonged time, the regulator should be disconnected and the LPG cylinder should be removed (if applicable).			
	2.	LPG cylinders should be kept in an upright position with good ventilation, far away from heat and fire source (if applicable).			
	3.	Instruction notice for replacement of LPG cylinders and valve on/off warning labels should be displayed at prominent places (if applicable).			
	4.	The shop owner should keep this record for two years and submit a copy to the LPG distributor.			
	5.	The shop owner should purchase LPG cylinders from distributors approved by the registered gas supply companies (if applicable).			
	6.	The shop should be equipped with appropriate firefighting facilities.			
Overall system Safe <input type="checkbox"/> Unsafe <input type="checkbox"/> Improvement required <input type="checkbox"/>					
I understand the content of the above recommendations and certify that the safety check has been completed.		RGI signature _____ RGI No. _____ Class _____ Date of check _____			
Customer's signature _____					



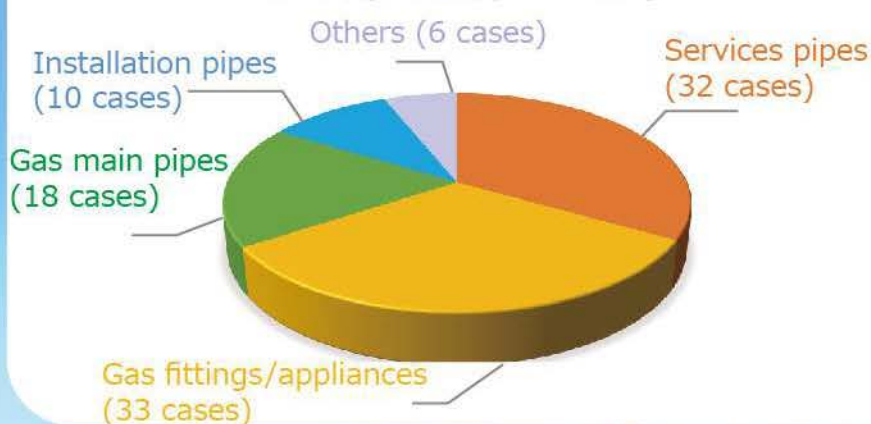
The Laundry Customer Safety Check Record is attached in Appendix 5 of the COP.



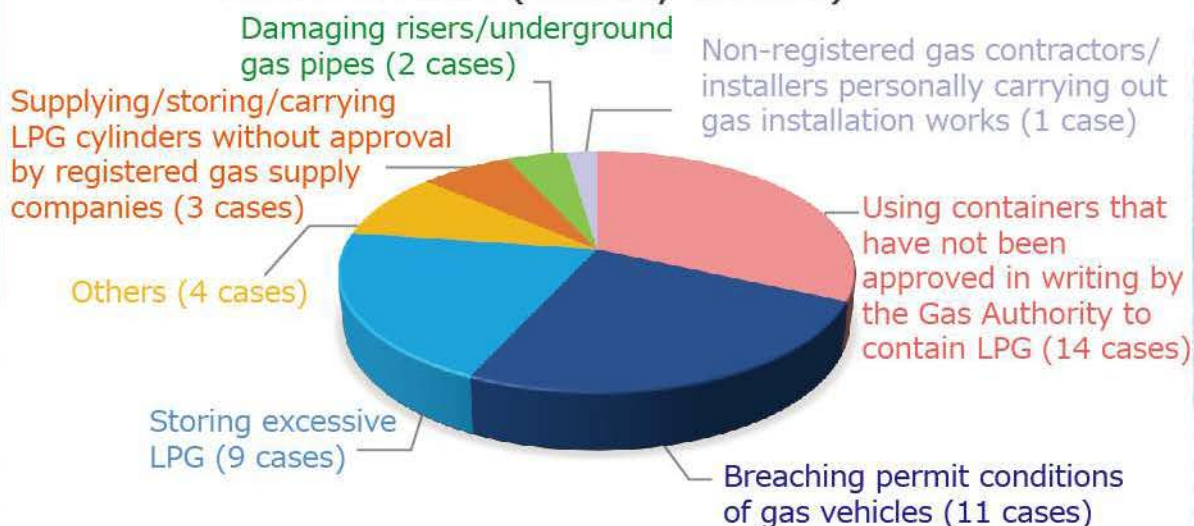
Statistics

Gas-related Incident and Prosecution Statistics by Type in 2024 (January to June)

Gas-related Incidents by Type in 2024 (January to June)



Prosecutions by Type for Gas-related Cases in 2024 (January to June)



Non-registered gas contractors/installers personally carrying out gas installation works (1 case)



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機電工程署網頁

