

# GAS SAFETY Bulletin



## Message from the Editor

Hello again, dear readers! This issue of Gas Safety Bulletin features an introduction to the safety management of industrial and commercial gas installations and the draft Guidance Note GU 20: Approval of Semi-flexible Gas Tubing for Low Pressure Applications. Also included in this issue are legal tips on gas safety, case sharing and information on regular safety checks and replacement of unsafe gas water heaters. The gas incident and prosecution statistics by type for the year 2011 are also provided for your reference.

## Safety Management of Industrial and Commercial Gas Installations –

Code of Practice GU 21: Requirements for Town Gas Installations for

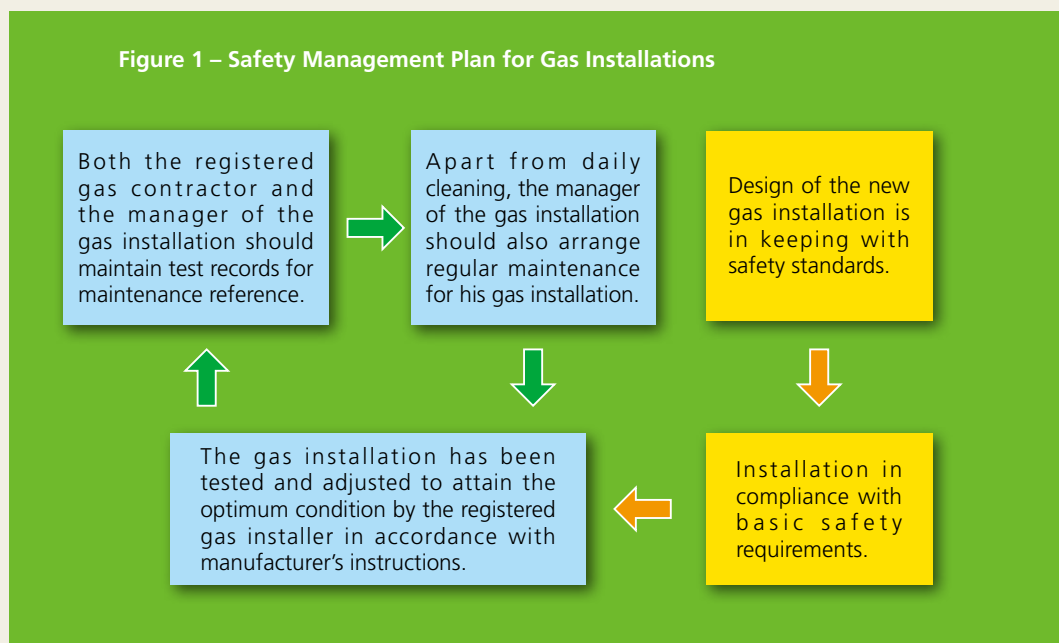
## Catering Purposes in Restaurants and Food Preparation Establishments

In Issue Nos. 10 and 12 of the Gas Safety Bulletin, we highlighted the importance of maintenance for industrial and commercial town gas installations and the ventilation system in kitchens. Certainly, the full cooperation of stakeholders is crucial in the successful implementation of a good safety management plan for gas installations (see Figure 1).

### Code of Practice for Town Gas Installations

In order for stakeholders to understand and implement the safety management plan, we have collated the views of trade members and compiled a new code of practice for town gas installations in restaurants for reference by the trade. The new code, namely the Code of Practice GU 21: Requirements for Town Gas Installations for Catering Purposes in Restaurants and Food Preparation Establishments, provides a set of guidelines on the installation, testing, commissioning, as well as the daily maintenance of town gas installations for catering purposes in commercial buildings (e.g. restaurants and food preparation establishments) for compliance by managers of gas installations in restaurants, suppliers engaging in the gas business, and works contractors and workers.

Figure 1 – Safety Management Plan for Gas Installations



### General Requirements

The new code sets out the legislation, standards and guidelines related to gas safety, with the inclusion of definitions of common terms for easy reference. With regard to the requirements on persons carrying out the gas works, the new code specifies in accordance with the Gas Safety (Registration of Gas Installers and Gas Contractors) Regulations (Cap. 51D) that the manager of a gas installation shall only employ a registered gas contractor to carry out gas installation work, and only registered gas installers shall personally carry out such type of work. For design and construction of gas installations, it is

a requirement under the new code that the gas installation must not pose any safety hazard to persons or structures under any circumstances. The new code also provides relevant safety guidelines on the design of gas pipes, gas meters, various safety control valves, installation of gas appliances and their final connection, etc. for compliance by the trade.

### Comparison with the Existing Code of Practice for LPG installations

The code of practice for town gas installations is broadly similar to the existing Gas Utilisation Code of Practice 06: Minimum Requirements for Installation of Liquefied Petroleum Gas (LPG Vapour) for Catering Purposes in Restaurants and Food Preparation Establishments, except for the deletion of the requirements specific to LPG installations. In addition to the inclusion of new standards, the new code also provides guidelines on such matters as the pressure of town gas supply for installation pipes, points to note in the design of exhaust air vent location, notices for the mechanical exhaust system and direct purging of town gas pipes, etc.

### Performance Tests of Gas Installation and Ventilation System

The new testing requirements on "Burning Performance of Gas Installation" and "Combustion Products Removal Performance of Kitchen (Workplace) Ventilation System" constitute the most important part of the new code. As maintenance, testing and commissioning of gas installations form part of the gas installation work, the code requires the registered gas contractor to maintain all test records in accordance with regulation 23 of Gas Safety (Registration of Gas Installers and Gas Contractors) Regulations (Cap. 51D). To enable the trade to have a more systematic approach to conducting relevant works and keeping test and inspection records, the code has made available templates of two inspection checklists, viz. the "Inspection Checklist for Testing and Commissioning of New Commercial and Industrial Gas Appliances (blue form)" (see Figure 2) and the "Inspection Checklist for Maintenance of Commercial and Industrial Gas Appliances (yellow form)" (see Figure 3) for reference and use by the trade. After completing the relevant tests, trade members should submit a copy of the record to the manager of the gas installation for retention. On the other hand, the manager of the gas installation may also consider using the above forms in drawing up an appropriate installation and maintenance schedule with the service provider for the gas installation in his business establishment.

### Responsibilities of Stakeholders

The final part of the code sets out the responsibilities of stakeholders, which are summarised below:

The registered gas supply company must not supply gas to a gas installation unless it has caused the testing, examination and adjustment of the gas installation as specified in the relevant regulation. It is also the duty of the registered gas supply company to take all steps to remove any gas hazard if it knows or reasonably suspects the presence of unsafe gas appliances or any gas leak from gas fittings in the premises.

Figure 2 Inspection Checklist for Testing and Commissioning of New Commercial and Industrial Gas Appliances (blue form)


Figure 3 Inspection Checklist for Maintenance of Commercial and Industrial Gas Appliances (yellow form)

The registered gas installer must install the gas appliance in a safe manner and carry out the specified testing, examination and adjustment in accordance with the relevant regulation. Apart from employing the correct methods for handling unsafe gas fittings, the registered gas installer should, after completion of works, submit a work record bearing his name and registration number to the manager of the gas installation and the registered gas contractor who hires him.

The registered gas contractor, apart from meeting the operating requirements of the business, is also responsible for maintaining all work records. Furthermore, he should give to the manager of the gas installation the manufacturer's operating and maintenance instructions.

The manager of the gas installation must not use unsafe gas appliances. He must employ qualified persons to conduct regular maintenance for the gas installation under his charge, and take appropriate and safe action should a gas leak occur. He should also keep the maintenance and inspection records, provide training to his staff on the use of the gas installation, and be mindful of the air quality of the kitchen (workplace) and relevant requirements.

### Application of the Code

The above code has been uploaded to the EMSD web page at [http://www.emsd.gov.hk/emsd/eng/pps/gas\\_pub\\_cp.shtml](http://www.emsd.gov.hk/emsd/eng/pps/gas_pub_cp.shtml) for browsing and downloading. The code will be gazetted after a 12-month trial implementation period which has already started on 15 March 2012. Members of the trade are welcome to submit to us, through fax (fax no.: 2576 5945) or email (email address: [gasso@emsd.gov.hk](mailto:gasso@emsd.gov.hk)), their valuable views on the implementation of the code before 1 October 2012. 


## Draft Guidance Note GU 20: Approval of Semi-Flexible Gas Tubing for Low Pressure Applications

In accordance with regulation 3 of the Gas Safety (Miscellaneous) Regulations, EMSD has put in place an approval scheme that covers the following three types of flexible gas tubing:

1. Tubing made of rubber;
2. Tubing made of rubber with stainless steel braiding or amouring;
3. Tubing made of stainless steel.


The above three types of gas tubing are highly flexible, all of them suitable for connecting to movable gas appliances. A type of semi-flexible metal tubing has been in use by the gas industry in recent years to keep pace with development. Unlike the tubing covered by the existing approval scheme, the flexibility of this type

of metal tubing is not as high, and is not suitable for repeated flexing. Such tubing is therefore only suitable for connecting to gas appliances that are not moved frequently, e.g. gas water heaters and built-in hobs. As this type of semi-flexible metal tubing is used for connecting a gas appliance directly to gas supply, EMSD is thinking of establishing a control regime to ensure gas safety.

EMSD introduced the draft Guidance Note at the 2012 Gas Safety Briefing on 27 February this year, and issued letters to members of the gas trade for consultation. The consultation period ended on 30 April 2012. EMSD is now collating the views of the trade and will announce the new arrangement to the trade in due course. 

## Promoting the Use of Safe Gas Water Heater




In order to remind the public to use a safe gas water heater and not to breach the law, e.g., by bringing in or importing non-approved domestic gas appliance for use in Hong Kong, arrangements were made by the Gas Standards Office to broadcast the TV announcement "Use a Safe Gas Water Heater" on trains of the East Rail Line, West Rail Line, Ma On Shan Rail Line and some other MTR lines early this year. Relevant promotional materials were also displayed at around the same time on large illuminated advertisement boxes at Lo Wu and Lok Ma Chau border stations. 

## 2012 Gas Safety Briefing

We organised a gas safety briefing for the trade in the morning of 27 February this year at the theatre of the Ngau Chi Wan Civic Centre to cover these topics:

- Code of Practice GU 21: Requirements for Town Gas Installations for Catering Purposes in Restaurants and Food Preparation Establishments;
- Guidance Note GU 20: Approval of Semi-Flexible Gas Tubing for Low Pressure Applications
- Common errors found in the installation of domestic gas appliances;

- Regular safety inspections of gas installations;
- Responsibilities of gas installers and gas contractors.

The briefing was well attended with enthusiastic response from participants. During the briefing, EMSD colleagues were on hand to provide detailed presentations on gas safety matters. Issues were raised eagerly by the floor and discussed in a lively and positive interchange during the Q & A session at the end of the seminar. To learn more about the seminar, please click on the following link: [http://www.emsd.gov.hk/emsd/eng/ppls/gas\\_igt.shtml](http://www.emsd.gov.hk/emsd/eng/ppls/gas_igt.shtml) 



## A non-registered gas installer personally carried out gas installation work


As you are aware, gas installation works must be carried out by a registered gas installer employed by a registered gas contractor.

We would like to share with you three reported incidents/accidents handled recently. All three cases involved non-registered gas installers personally carrying out gas installation work.

- (1) Case 1: a non-registered gas installer was found to have personally carried out the installation of a gas water heater.
- (2) Case 2: a non-registered gas installer was found to have personally carried out the installation of a gas meter.
- (3) Case 3: a worker, who was a non-registered gas installer employed by a registered gas contractor, was found to have

personally carried out gas installation work including purging and testing for gas pipes.

Pursuant to regulation 3 (1) of the Gas Safety (Registration of Gas Installers and Gas Contractors) Regulations, no person other than a registered gas installer who is a registered gas contractor or the employee of a registered gas contractor shall personally carry out any gas installation work. Any person who contravenes the Regulations commits an offence and is liable on conviction to a maximum fine of \$25,000 and imprisonment for 6 months.

The persons involved in the above three cases were prosecuted and convicted of contravening the above Regulations. They were fined \$2,500, \$4,000 and \$2,500 respectively. 

## Installation of Service Pipes

Regulation 17(6) of the Gas Safety (Gas Supply) Regulations requires that:

- “No person shall install a service pipe-
- of internal diameter of 50 millimetres or more in any premises;
  - in any premises where the nature of the premises or any activity carried on therein is such that there is a special risk of personal injury, fire, explosion or other danger arising from the supply of gas to such premises; or
  - in any premises where such pipe supplies gas to more than one primary meter, unless he also fixes a valve in the pipe in a readily accessible position outside of, but as near as practicable to, the boundaries of the premises concerned and in such a manner that, so far as is

reasonably practicable, there is not a risk of wilful or accidental misuse of the valve.”

It is therefore important that, when fixing a valve in the service pipe, the registered gas contractor and registered gas installer should discuss with the registered gas supply company, the property management company and the owner of the pipe so as to ensure that the valve is fixed in a readily accessible position which can also forestall its wilful or accidental misuse.

Any person who contravenes regulation 17 (6) (a), (b) or (c) commits an offence and is liable on conviction to a maximum fine of \$5,000. For installation requirements for gas pipes, please visit the EMSD website at [www.emsd.gov.hk](http://www.emsd.gov.hk)



**Legal Knowledge**



## Regular Safety Inspection: Replacement of Unsafe Gas Water Heaters

A gas incident occurred in Hong Kong shortly after the Lunar New Year holidays in 2012. A man was found lying unconscious in the bathroom after taking a shower. He was sent to hospital and then certified dead. The man was using a non-EMSD approved instantaneous open-flued (natural draught) gas water heater in his bathroom, and the gas water heater was not connected to a flue with access to the outside air. The bathroom window was closed and the exhaust fan was not turned on at the time of the incident.

Registered gas contractors and registered gas installers must conduct regular safety inspections for domestic gas installations every 18 months so as to ensure that they are in good condition. The scope of inspection should include gas appliances, gas fittings, indoor and outdoor gas pipes, flexible gas tubings, structure of gas cylinders and regulators. If a gas installation is found not to be in a normal or safe working condition, follow-up actions should be taken as soon as possible. Some gas appliances and fittings may need repair or replacement to reduce the risk of potential failures and gas incidents.

The use of non-compliant gas water heaters involves a high risk. For instance, when a flueless or instantaneous open-flued (natural draught) gas water heater is used in a room with inadequate ventilation, a large amount of carbon monoxide may

build up within a short time. Colourless and odourless, carbon monoxide can cause coma, even death, instantly and unnoticeably.

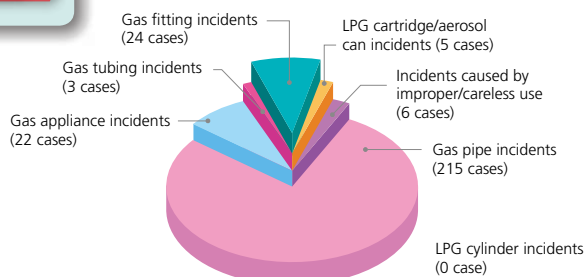
If a flueless or instantaneous open-flued (natural draught) gas water heater is still found to be in use in the gas user's bathroom, the registered gas contractor and registered gas installer must explain to the user the potential danger of using the unsafe water heater, advise the user to stop using it immediately and replace it with an EMSD-approved water heater as soon as possible. If the gas user insists on taking showers using the flueless or instantaneous open-flued (natural draught) gas water heater, the registered gas contractor and registered gas installer must:

- Immediately disconnect the gas supply to the water heater and display a “Dangerous Gas Installation Notice” on the water heater;
- Record in detail the information about the gas water heater (including the brand and model, origin of the appliance, installer, gas supplier, etc.); and
- Immediately inform the Gas Authority.

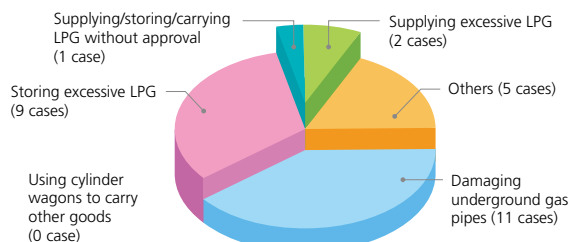
Furthermore, the cylinder LPG distributors should furnish the information about these gas water heaters to their LPG supply companies as soon as possible in order to facilitate its collection and compilation of such information for timely submission to EMSD.

### Gas Statistics

#### Gas Incidents by Type in 2011



#### Prosecutions by Type in 2011



Gas Authority  EMSD

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