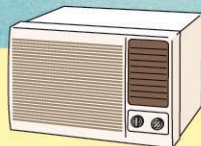


Avoid

Damaging

Gas Pipes Concealed Inside the Walls

**Regular Inspection and Maintenance
of Service Risers and Installation Pipes**



Safety Tips for

Electric Fans, Washing Machines, Air-conditioners

Take Care of the Elderly and Children

When Using Escalators

KERORO軍曹

© Mine Yoshizaki/Kadokawashoten, SUNRISE, TV TOKYO, NAS
Licensed by Mighty Delta Investments Limited

如欲索取本通訊的中文版，請致電1823與我們聯絡。



**Operation and Maintenance of
Fresh Water Cooling Towers**

機電工程署
EMSD



Editor's Note

This is the 7th issue of the E & M Safety Newsletter. Thank you very much for your continuous support. We are happy that the Energy Efficiency Office of the Electrical and Mechanical Services Department (EMSD) has joined us to enrich the content of this newsletter. From this issue on, the Energy Efficiency Office will provide us with information on energy efficiency to make readers aware of the effective ways to conserve energy in daily lives. Moreover, we are pleased to bring in the comic characters of "Keroro" to impart to us knowledge on E & M safety and energy efficiency. We hope you will enjoy reading this newsletter and note the safety messages it conveys.



Avoid Damaging Gas Pipes Concealed Inside the Walls



Mother says that she wants to install a hanging cabinet in the kitchen. I will drill four holes here to hang four hooks!



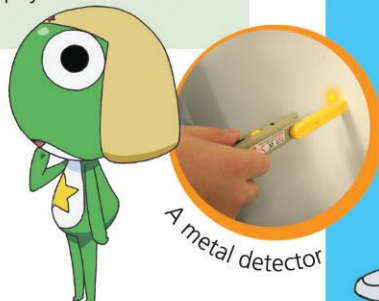
Never attempt to drill through the wall without careful planning! It is because many gas installation pipes are concealed inside the walls. If you are careless and damage the concealed gas pipes when you dig through the walls, it will cause gas leakage and threaten the safety of the public.

Then, what should I do?



You'd better find a works contractor to carry out the decoration work. You should also urge the contractor and the workers concerned to take reasonable steps to avoid damaging the gas pipes concealed inside the walls. If the decoration work involves gas installations, make sure that the contractor you employed is a registered gas contractor before carrying out the relevant works.

I see. But is there anything that the works contractor should pay attention to?



A metal detector

The decoration contractor must know the positions of the gas installations inside the flat in which decoration work is carried out, in particular the position of the gas emergency control valve, so as to stop the gas supply immediately during an emergency. Before drilling or digging through the floor slab, the ceiling or the wall, the decoration contractor may ask the gas supply company for the records of the layout of the pipes inside the walls, so as to locate the pipes and avoid drilling in positions where there are gas pipes.

If there are any uncertainties during the work, electric tools must be given up and manual tools should be used for digging instead. The decoration contractor can also use a metal detector to locate the exact positions of the pipes concealed inside the walls before carrying out the work, so as to reduce the chances of damaging the pipes inside the walls.

I see.
It will be safe
if we take these measures!



Regular Inspection and Maintenance of Service Risers and Installation Pipes

What is this pipe,
Saburo?



?!



And what is this pipe?



This is a **service riser**. It is the vertical sections of a service pipe used to supply gas to a building, including any horizontal sections of the service pipe connecting such vertical sections.



This is an **installation pipe**. It is used to supply gas to a particular consumer, including any gas fitting used in connection with the pipe.



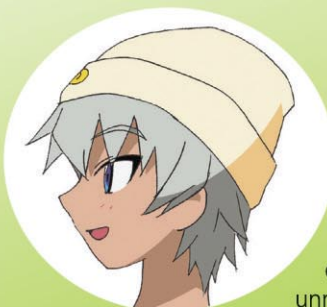
Oh, I see. But who has a duty to inspect and maintain the service riser and installation pipe?



The owner of a service riser and an installation pipe has a duty to carry out the maintenance and inspection. Generally speaking, most service risers belong to gas supply companies or owners of premises, while installation pipes belong to owners of individual premises. The actual ownership of the installation can be found in the deed of mutual covenant.



Why do we need to arrange regular inspection and maintenance of a service riser and an installation pipe? How often should we carry out inspection and maintenance of a service riser and an installation pipe?



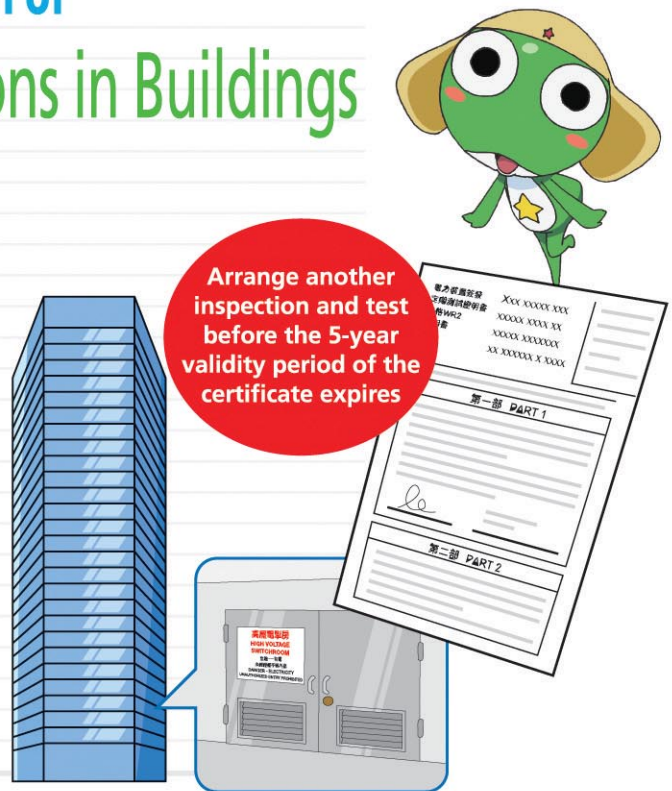
A property owner and an incorporation of owners have a duty to maintain the communal and corporation property in good working condition. An owner of a gas installation has a duty to make arrangement for a registered gas installer employed by a registered gas contractor to carry out regular inspection and maintenance of the gas installation to protect the public against unnecessary gas hazards.

Leakage from an installation pipe will increase your monthly household gas consumption, waste your money and affect the stable operation of your gas appliances. Serious leakage may cause gas fire or explosion, resulting in possible loss of life and property.

Generally speaking, a service riser and an installation pipe should be inspected and maintained **every 18 months** to ensure that the gas pipes are in good working condition.

Periodic Inspection, Test and Certification of Communal Electrical Installations in Buildings

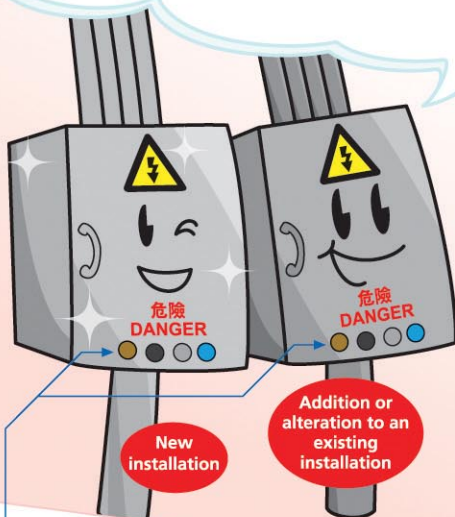
- ★ According to the Electricity Ordinance, owners of communal electrical installations (including property owners, tenants, occupiers, incorporated owners and property management agents of buildings) shall arrange for inspection, test and certification of their installations at least once every 5 years, and submit the certificates to the EMSD for endorsement.
- ★ Owners of the installations shall note the expiry date of the current certificate and arrange for periodic inspection and test before the certificate expires (i.e. within 5 years of the date of the certificate) so as to avoid committing an offence.
- ★ Owners of electrical installations are responsible for ensuring safety of their installations and arranging periodic maintenance for the installations. If damage or abnormality is identified (e.g. loose earth wires, damage or worn-out electric cables, etc.), repair or replacement work shall be arranged immediately.



Adoption of New Colour Cables

for Fixed Electrical Installations

From 1 July 2009 onwards, only the new colour cables should be used.



New cable colour

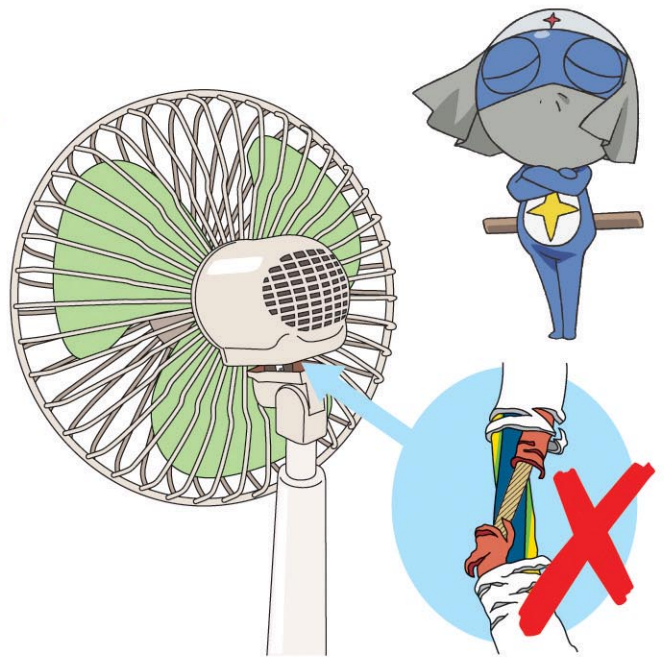
At present, the cable colour for fixed electrical installations in Hong Kong is red/yellow/blue (phase conductor), black (neutral conductor) and green-and-yellow (protective conductor). With effect from 1 July 2007, all new fixed electrical installations, including addition and alteration to existing ones, may adopt the new colour cables, i.e. cables in brown/black/grey (phase conductor), blue (neutral conductor) and green-and-yellow (protective conductor). From 1 July 2009 onwards, all new fixed electrical installations, as well as additions and alterations to existing ones, shall adopt new colour cables.

Please note the followings in relation to the cable colour change:

- The change only applies to new fixed electrical installations as well as additions and alterations to existing ones. Cables for existing electrical installations and electrical products are not affected. Therefore, it is not necessary to replace cables of existing colours in response to this change.
- Adoption of new cable colours will not impose additional cost to the works.
- All electrical works (including newly installed, addition, alteration, commissioning, inspection, test, maintenance, issuance of related certificates) shall be carried out by registered electrical contractors or by registered electrical workers of appropriate grades who are employed by owners of the electrical installations on a full-time basis. Upon completion, the works shall be certified by the said contractors and workers to confirm that the completed electrical installations have complied with the legal requirements.

Safety Tips for **Electric Fans**

- ✦ Check if the flexible cord connecting the moving parts of a fan has been worn out by prolonged use. A damaged cord may cause short-circuit or exposure of live wires.
- ✦ Under normal operation, a fan should not have excessive noise or vibration, or have signs of overheating (e.g. deformation, discolouration, charring, etc.) or loosening.
- ✦ Allow sufficient space for free movement and heat dissipation of a fan.
- ✦ Check if the fan guard can be easily loosened, dismantled by children, or inserted by fingers.
- ✦ Clean a fan regularly according to the user manual. Unplug a fan before cleaning and prevent water from splashing into it.
- ✦ Prevent objects (e.g. paper and clothes, etc.) from being sucked into a fan.
- ✦ For your safety, switch off a fan before leaving home.
- ✦ Arrange for regular maintenance by an experienced technician.
- ✦ Stop using a fan when in doubt and arrange for inspection by the supplier or an experienced technician.



Washing Machines

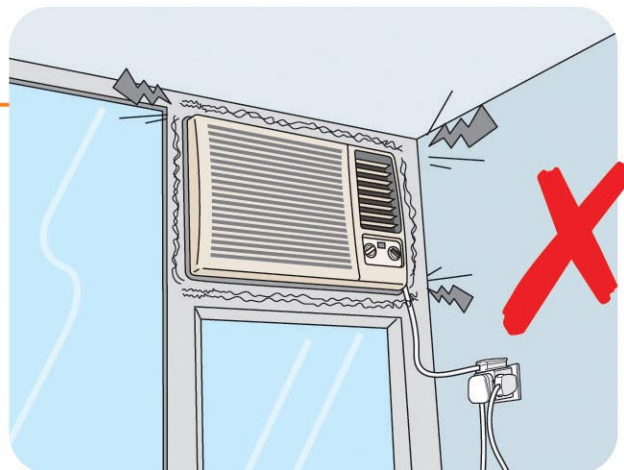
Safety Tips for

- ⦿ Do not place a washing machine in a humid place or an area where water may accumulate (e.g. bathroom or outdoor area such as balcony) to prevent inner components of the machine from getting wet, causing leakage of electricity and fire.
- ⦿ Remove all articles (e.g. coins) from pockets before washing and clear the drainage filter regularly to prevent overheating of the water pump motor due to accumulation of foreign objects.
- ⦿ Adhere to the user manual. Do not exceed the loading capacity specified in the user manual to avoid overheating of the appliances caused by overloading or prolonged washing.
- ⦿ Avoid leaving an operating washing machine unattended.
- ⦿ Do not spray combustible chemicals (e.g. the pesticides) near an operating washing machine to avoid explosion.



Safety Tips for **Air-conditioners**

- 📌 Ensure that the air intake and outlet grilles are not obstructed, or else the compressor may be overloaded, causing overheating or damage to the appliances.
- 📌 Do not connect other electrical appliances to the same socket outlet supplying power to an air-conditioner to avoid overloading of the circuit.
- 📌 To prevent damaging an air-conditioner, do not switch it on within 3 minutes after switching it off.
- 📌 Stop using an air-conditioner if abnormal conditions occur (e.g. having excessive noise or vibration, or peculiar smell). Arrange for maintenance immediately.





Take Care of the Elderly and Children When Using Escalators



Grandma: Siu Ming, you are so nice. Once you are free, you'll invite your grandma to have tea with you.

Siu Ming: Of course, grandma, I always love you so much!

Siu Ming: Wait a minute. I have to answer a call. Hello, hey, Brazil won! Germany performed excellently! Their goalkeeper ...



Just now, Siu Ming kept talking on the phone and forgot to look after his grandma. She nearly tripped and fell! In fact, Siu Ming should remind his grandma to be careful and hold the handrail when arriving at the landing area of an escalator.

But Siu Ming also has to pay attention to his own safety. He should hold the handrail and do not stand too close to the step edges. By doing so, it'll be much safer travelling on an escalator.



Safety Tips on Using Escalators

When riding an escalator, passengers should take care of the elderly and children. The elderly and children may not be able to cope with the change in speed in positions near the entrance and exit of the escalator. They may lose their balance and fall down and get hurt, so they must be attended to in these positions. When not accompanied by relatives and friends, the elderly and children are advised to use the lift to avoid accidents. Moreover, those who are not feeling well because of illness or those who have difficulty getting about should not travel on an escalator on their own.





Operation and Maintenance of Fresh Water Cooling Towers



Many air-conditioning systems of new and existing commercial buildings have adopted fresh water cooling towers for heat rejection in recent years. Fresh water cooling tower users, while enjoying substantial electricity cost savings, should also operate and maintain their towers properly. Following are the key points for operation and maintenance:

- ★ Cooling towers should be cleaned, desludged and disinfected regularly. The frequency of cleaning a tower depends on how dirty the tower is and the condition of the environment. In general, cleaning should be carried out at least once every six months.
- ★ During normal operation of a cooling tower, the cooling water in the tower evaporates leading to an increase in total dissolved solids hence promoting the growth of bacteria. To reduce the concentration of total dissolved solids, it is therefore necessary to bleed off small amounts of cooling water and replace them with make-up water from time to time.
- ★ A comprehensive water treatment programme should be formulated: (1) dose two different treatment chemicals alternately at periodic intervals (2) dose mixtures of two compatible chemicals to provide effective control against different micro-organisms (3) occasionally dose large quantities of high-concentration biocides, (4) install off-line or in-line water filtration systems and (5) install physical sludge removal equipment to remove large solids.
- ★ Regular monitoring of specific water quality parameters can provide early warning signals of abnormal conditions. It is suggested that Heterotrophic colony count and Legionella bacteria count be carried out at least once every month and once every three months respectively. If the count of either type of bacteria exceeds its respective limit, control procedures will need to be activated.

Furthermore, every cooling tower should maintain a formal detailed record including the dates, procedures and results of visual inspections, cleaning, desludging, disinfection, chemical treatments, repairs etc.

For enquiries, please call the 1823 Citizen's Easy Link or write to the Electrical and Mechanical Services Department (EMSD) (3 Kai Shing Street, Kowloon). You may also visit the EMSD's website www.emsd.gov.hk to obtain more information on cooling towers and the "Code of Practice for Water-cooled Air Conditioning Systems".

E&M Safety Quiz

Please fill in the reply slip below with **the most appropriate answers** and send it by post or by fax to the Editor, E & M Safety Newsletter (please see the bottom of this page for contact information). A souvenir will be given to the first 500 participants^[1] who submit correct answers to all questions.

- 1 What measures should decoration contractors take before carrying out interior decoration work to ensure gas safety?**

 - No measures are required to be taken
 - Close gas emergency control valves
 - Notify the building management offices
 - Check the positions of gas pipes inside the walls with the gas supply companies and use metal detectors to confirm their positions before carrying out works.
- 2 How often should service risers and installation pipes be inspected and maintained?**

 - Once every 6 months
 - Once every 12 months
 - Once every 18 months
 - Once every 24 months
- 3 How often shall owners of communal electrical installations of a building have their installations inspected and tested, and obtain a certificate endorsed by the EMSD?**

 - 2 years
 - 5 years
 - 6 years
 - 10 years
- 4 Which of the following messages is the correct way of installing/using a washing machine?**

 - Spray pesticides near an operating washing machine
 - Leave an operating washing machine unattended
 - Remove articles from pockets before washing
 - Place a washing machine in a humid place or an area where water may accumulate
- 5 Which of the following groups is not suitable for riding escalators on their own?**

 - Professionals
 - Civil servants
 - Senior citizens, children and people who don't feel well
 - All of the above
- 6 Which of the following measures can reduce the electricity consumption of air-conditioning equipment?**

 - Use ventilation equipment or fans as far as possible, especially in cooler seasons.
 - Adjust the summer room temperature to 25.5 °C
 - If the number of people in a room increases, you can select higher fan speed instead of lowering the temperature.
 - All of the above

REPLY SLIP ^[2]					
Name:			Tel.:		
Hong Kong Address:					
Answers:					
Q1	Q2	Q3	Q4	Q5	Q6
Where did you get this <i>E&M Safety Newsletter</i> ?					
Residential estate	School	District Office	New immigrant centre		
Others (please specify):					

[1] Only the first 500 participants sending in the Reply Slip with all correct answers will be notified.

[2] The personal data provided in the Reply Slip will only be used for the E & M Safety Quiz purpose. It will be kept confidential and will not be disclosed to any third party. You have the right to request in writing to check whether the EMSD is keeping your personal data, to access or correct it, and to enquire about our policy and procedures in the use of such data as well as the types of personal data we are keeping. The above terms do not affect your rights as set out in the Personal Data (Privacy) Ordinance.

Answers to last issue: 1D, 2D, 3B, 4C, 5A, 6D

Feedback

Your comments and suggestions, whether on editorial style or contents, are most welcome. Tell us how we can improve and make the E & M Safety Newsletter a truly informative and interesting publication for you. Both the English and Chinese versions of the E & M Safety Newsletter are available on our website at <http://www.emsd.gov.hk>. Please contact us should you need a printed copy.

The Editor, E&M Safety Newsletter
Electrical and Mechanical Services Department
3 Kai Shing Street, Kowloon Bay

Tel. 電話 : 1823 (Hotline 熱線)
Fax 傳真 : 2894 9379
Email 電郵 : info@emsd.gov.hk

歡迎讀者提出寶貴意見及建議，使我們能作出改善。如欲提出意見、查詢或索取《機電與我》，請與我們聯絡。《機電與我》中文及英文版均可於我們的網頁(www.emsd.gov.hk)內瀏覽。

機電工程署《機電與我》編輯
九龍灣啟成街3號