# A LIFT& 電梯快訊 ESCALATOR NEWSLETTER

#### Editor's Notes

Thanks to your continuous support, the Lift and Escalator Newsletter has come to its 4th issue with a rich variety of contents to offer. In the Feature Article section, we

focus on measures to enhance the safety of aged lifts, while News-in-Brief features the Lift Modernisation Subsidy Scheme; analysis of lift and escalator incidents; how to choose suitable registered lift and escalator contractors to provide maintenance services; preparatory work for lifts to cope with storms; review of "performance monitoring point system"; phasing out of the transitional arrangements in respect of qualification requirements for registered engineers and workers of lifts and escalators; requirements for subcontracting lift/escalator works; enhanced approval requirements for type approval for lifts; Code of Practice for Lift Works and Escalator Works (2018 Edition); as well as recent prosecution and disciplinary cases. We hope you will continue to support the Lift and Escalator Newsletter and offer your valuable opinions and suggestions, so that we can make improvements and provide for readers more useful and interesting information on lifts and escalators.



#### Measures to Enhance the Safety of Aged Lifts

A lift incident occurred at Block 2, Waterside Plaza, Tsuen Wan on 8 April 2018, in which a lift aged about 27 years ascended and stopped only after colliding with the ceiling of the lift shaft, causing injuries to two passengers. A lift incident of unintended car movement, which involved a lift aged about 26 years and caused the death of a passenger, occurred at Paris Court, Sheung Shui Town Centre on 11 May this year. These two incidents both involve aged lifts that have yet to undergo modernisation works, arousing public concern about the safety of such lifts.

The Electrical and Mechanical Services Department (EMSD)

Technical Investigation Report on
Lift Incident at Waterside Plaza,
Tauen Wan, New Territories

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has completed technical investigations into the lift incidents at Waterside Plaza in Tsuen Wan and Paris Court in Sheung Shui Town Centre. The reports were uploaded to the EMSD website on 14 July and 20 August this year respectively.

Technical investigation report on lift incident at Waterside Plaza, Tsuen Wan (Date of incident: 8 April 2018)

▲ Technical investigation report on lift incident at Waterside Plaza, Tsuen Wan (Date of incident: 8 April 2018)

https://www.emsd.gov.hk/filemanager/en/content\_794/Waterside%20Plaza%20Technical%20Investigation%20Report%20(English%20version).pdf



The investigation into the lift incident at Waterside Plaza in Tsuen Wan revealed that the wearing down of a component in the brake system of the concerned lift had generated a considerable amount of debris that rendered the mechanical parts of the brake unable to operate smoothly and perform its function at the time of the incident. The lift car did not stop when it reached the destination floor and was then pulled upwards by the heavier counterweight until it collided with the ceiling of the lift shaft. After the incident, the EMSD immediately requested the registered lift contractor concerned to conduct special inspections for lifts of the same brand as the one in the incident. No abnormality was identified.

Technical investigation report on lift incident at Paris Court, Sheung Shui Town Centre (Date of incident: 11 May 2018)

https://www.emsd.gov.hk/filemanager/en/content\_794/Report\_on\_Lift\_Incident\_at\_Paris\_Court\_(Eng).pdf



The investigation into the lift incident at Paris Court in Sheung Shui Town Centre revealed that as the braking force of the brake system of the incident lift was insufficient, the lift car failed to stop completely and continued to move upwards when it travelled from the ground floor to the destination floor and opened the doors for passenger entry, thereby leading to the incident. The main cause of the problem



Lift Incident at Paris Court, ing Shui Town Centre, New Territories 新界上水名都巴黎閣 技術調査報告 中文版 機需工程署 🚰 FMSD

◀ Technical investigation report on lift incident at Waterside Plaza, Tsuen Wan (Date of incident: 8 April 2018)

with the lift's brake system was that a component of the brake was found not lubricated for a long time and could not operate smoothly. As a result, the brake was continuously rubbed during the operation of the lift, leading to overheating and hence significant reduction in the braking force. After the incident, as a prudent measure, the EMSD

immediately requested the registered lift contractor concerned to conduct special inspections for lifts of the same brand as the one in the incident. The inspections were completed in two weeks after the incident and no abnormality was found. The EMSD further requested the registered lift contractor to conduct special inspections for all lifts under its maintenance, which were completed with no abnormality found. The EMSD has also stepped up the sampling inspections for these lifts.

In response to the causes of the two lift incidents, the EMSD issued letters to all registered lift contractors in July 2018, reminding them to strictly follow the requirements under the Lifts and Escalators Ordinance and the Code of Practice for Lift Works and Escalator Works (CoP) to ensure proper maintenance of lifts' brake systems.

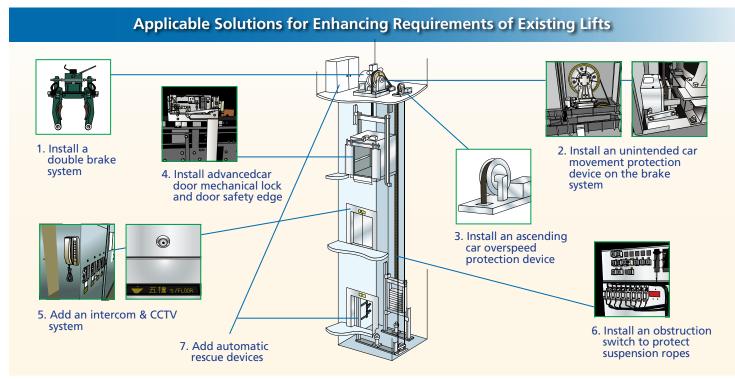


On the other hand, the Government indicated earlier that it was formulating short-term, medium-term and medium-to-longterm new measures to enhance the safety of aged lifts. Below are two of the relevant short-term measures which were implemented on 14 July this year:

- 1. Contractors shall conduct special maintenance works at least twice a year for the important protective components (including brakes, traction machines and landing doors) of aged lifts that have yet to undergo modernisation works (i.e. yet to be installed with double brake systems, unintended car movement protection devices or ascending car overspeed protection devices), and are required to submit to the EMSD such information as the scheduled date, time and inspection results of the special maintenance works via an online platform. The EMSD will also step up the corresponding spot checks;
- 2. Contractors shall record maintenance works in log books with an improved format to list the important protective components covered in each round of maintenance to facilitate more effective monitoring of the contractors' maintenance works by the EMSD and the responsible persons for lifts.

The above measures are detailed in the CoP (2018 Edition) which was gazetted and came into effect on 10 August this year. Lift contractors and responsible persons for lifts are required to fully implement the relevant measures before 1 February 2019.

With regard to medium-term measures, according to the Policy Address delivered by the Chief Executive in the Legislative Council on 10 October 2018, the Government plans to launch the Lift Modernisation Subsidy Scheme (LIMSS) with a provision of around \$2.5 billion by modelling on the on-going Operation Building Bright 2.0 Scheme and Fire Safety Improvement Works Subsidy Scheme. The LIMSS will target at residential or composite buildings whose rateable values do not exceed the prescribed level, with additional subsidy for elderly owner-occupiers of eligible buildings, for modernising aged lifts not meeting the latest technical standards. The Government will partner with the Urban Renewal Authority in implementing the LIMSS and hopes to launch it in the first



quarter of next year to assist the needy owners in expediting lift modernisation.

As for medium-to-long-term measures, the Government will study the feasibility of mandating lift modernisation works in phases. In this regard, it will make reference to the practices of other countries, and take into full account the impact on the community and the industry.

Modern lifts are equipped with more comprehensive safety devices than the aged ones and there is thus room for improvement and enhancement. In view of this, the EMSD promulgated the Guidelines for Modernising Existing Lifts in 2011, recommending responsible persons for lifts to install safety devices (including the unintended car movement protection device, the ascending car overspeed protection device, etc.) for lifts to enable safer, more reliable and comfortable lift operation. The EMSD appeals to all the responsible persons for aged lifts again to carry out modernisation

works for or complete replacement of lifts as soon as possible. For details about lift modernisation works, please refer to the EMSD website (https:// www.emsd.gov.hk/en/lifts\_and\_escalators\_safety/ responsible\_persons\_corner/lift\_modernisation\_ resource corner/index.html).



There are signs before the occurrence of many incidents. Passengers should notify the responsible persons for lifts (including the Building Management Office, Owners' Corporation and Owners' Committee) immediately for follow-up if they notice any abnormality of lifts, for instance, the lift starts to move when the doors are yet to be completely closed. The responsible persons for lifts should suspend the operation of the lift before confirming its safety, and contact the registered lift contractor as soon as possible for inspection and follow-up. The contractor also has the responsibility to handle fault reports seriously to ensure the safe operation of lifts.



#### **Brief** News

#### **Lift Modernisation Subsidy Scheme**

At the meeting of the Legislative Council Panel on Development on 29 May this year, the Government indicated that it was formulating short-term, mediumterm and medium-to-long-term new measures to enhance the safety of aged lifts, thereby further protecting public safety; the launch of the Lift Modernisation Subsidy Scheme (LIMSS) is the medium-term measure to improve the safety of aged lifts. The Chief Executive proposed in her Policy Address delivered this October that the Government planned to launch the LIMSS, in which around \$2.5 billion would be invested to provide subsidy and appropriate professional support to needy building owners, thus encouraging them to expedite their lift modernisation works. The LIMSS will model on the on-going Operation Building Bright 2.0 Scheme and Fire Safety Improvement Works Subsidy Scheme, i.e. the average rateable values of domestic units in a participating building should not exceed \$162,000 per annum in urban areas (including Sha Tin, Kwai Tsing and Tsuen Wan districts) and \$124,000 per annum in the New Territories (excluding Sha Tin, Kwai Tsing and Tsuen

Wan districts). The Government will implement the LIMSS in collaboration with the Urban Renewal Authority, with a view to carrying out modernisation works for about 5 000



aged lifts in the coming six years by providing financial incentives to building owners. To ensure that public resources would be allocated to the most needy, the maximum amount of subsidy per lift is proposed to be 60% of the cost of the modernisation works, subject to a cap of \$500,000. Owners may opt to install certain protection devices or for complete replacement of the lifts. In addition, elderly owner-occupiers aged 60 or above may be subsidised the full cost of the modernisation works, subject to a cap of \$50,000 per unit. The LIMSS is expected to be launched in the first guarter of 2019, and relevant details will be announced in due course. 

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## **Analysis of Lift and Escalator Incidents**

According to the requirements of the Lifts and Escalators Ordinance, the responsible person for a lift or escalator shall report to the EMSD in writing if an incident involves the injury or death of a person, or a failure of the main drive system/component, brake or major safety equipment occurs to the lift or escalator. Records show that there were 461 and 1 643 incidents involving lifts and escalators respectively in 2017, of which only eight lift and two escalator incidents involved equipment fault, accounting for less than 0.5% of the total number of incidents, while the causes of the rest of the incidents were either related to passengers' behaviour when using lifts or escalators (about 97.5%) or affected by external factors (about 2%). In other words, most of the incidents were caused by passengers' careless use of lifts or escalators. If passengers pay extra attention to their surroundings when entering and exiting the lift, they can avoid falling due to loss of balance or getting injured as a result of being struck or pinched by the lift doors. When taking the escalator, passengers should keep their feet away from the skirtings or yellow stripes at the edges of it, stand firm and hold the handrail tightly; mind the steps and step out carefully when they near the exit of the escalator, then they can avoid falling or getting pinched on their hands and feet, particularly those wearing sandals and overly long clothes. The safety of passengers can be greatly enhanced if they can stop concentrating on their mobile phones for a while when taking the lift or escalator. The responsible persons for lifts or escalators should also give more reminders and call on passengers to take extra care so as to minimise the chance of incidents occurred to lifts or escalators under their management. 🕦

#### Causes of lift and escalator incidents 2017



<b>Equipment Fault</b>	Passengers Behaviour	External Factors
0.5%	97.5%	2%

97.5%



**How to Choose Suitable Registered Lift and Escalator Contractors to Provide** 

**Maintenance Services** 

As stipulated in the Lifts and Escalators Ordinance, responsible persons for lifts and escalators shall arrange for a registered lift/escalator contractor to carry out maintenance works for their lifts/escalators. The register of registered contractors has been uploaded to the EMSD website: https://www.emsd.gov.hk/en/lifts\_

and\_escalators\_safety/registers/registered\_ lift\_and\_escalator\_contractors/index.html.

In selecting a suitable registered contractor, the responsible persons for lifts and escalators should, apart from considering the price factor, take note of the following important matters:

- 1. background of the registered contractor:
- 2. whether it possesses sufficient skills;
- 3. whether it can provide spare parts;
- 4. duration of the maintenance work;
- 5. ability to respond to emergencies;
- 6. performance rating of the registered contractor.



The responsible persons for lifts and escalators may refer to the related leaflet produced by the EMSD at the following website for more details:

https://www.emsd.gov.hk/filemanager/ en/content\_826/How\_to\_Select\_Suitable\_ Registered\_Lift\_and\_Escalator\_Contractor\_ for\_Maintenance\_Works.pdf.



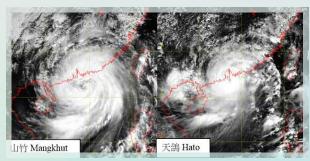




## **Preparatory Work for Lifts to Cope with Storms**

Super Typhoon "Mangkhut" brought unprecedented threats and widespread damage to Hong Kong when it smashed the city this September. Many lifts suffered damages to different extents, which led to suspension of service. Besides, a number of lift failures occurred in various districts of Hong Kong, some of which even involved passengers being trapped.

To reduce the risk of damage to lifts caused by typhoons, the responsible persons for lifts may discuss with maintenance contractors to examine possible improvement works, such as installing obstruction guards at the ventilation opening of the lift machine room to prevent rainwater from entering the room and resulting in flooding, so as to guard against the impact on lift operation caused by typhoons. Meanwhile, relevant plans for preparatory work can be developed as well for implementation during a typhoon attack, such as moving the lift car upwards from the ground floor and stopping its operation prior to the arrival of the typhoon in order to prevent sudden surge of rainwater from flowing into the lift shaft and damaging the lift car. We hereby appeal to members of the public to protect their own safety during the strike of a typhoon and avoid using lifts as far as possible for the time being to avoid being trapped in the lift due to unstable power supply. 🚯



▲ Hong Kong Observatory Blog







# **Review of "Performance Monitoring Point System**"

The EMSD conducted a review of the "performance" monitoring (PM) point system" under the Contractors' Performance Rating System in 2017. Upon completion of the review and consultation with the Registered Elevator and Escalator Contractors Association and the Lift and Escalator Contractors Association, the revised version of the "PM point system" was implemented in February 2018. The revisions were mainly amendments to the list of noncompliance items, including (1) clarifying existing provisions, e.g., only the highest points will be counted against a contractor if multiple safety devices of a lift/escalator are ineffective for the same cause; (2) incorporating PM point items on newly required safety devices, e.g., the landing floor plate safety device is not installed in or is ineffective for escalators tendered on or after 1 January 2012; (3)

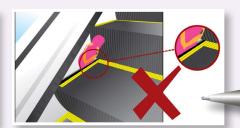
incorporating PM point items on the maintenance and service quality of contractors/engineers, e.g., occurrence of lift passenger entrapment for four times within a period of 30 days due to improper maintenance by the contractor, incorrect information or unreasonable measurement recorded by an engineer in the examination report, etc.

The latest English version of the "PM point system" has been issued to the trade via EMSD Circular No. 2/2018. It can also be downloaded from the following EMSD website: https://www. emsd.gov.hk/filemanager/en/content\_806/ Circular%20No.%202\_2018.pdf. 🕦













## **Phasing out of the Transitional Arrangements** in respect of Qualification Requirements for Registered Engineers and Workers of Lifts and Escalators

In order to strengthen the registration requirements for engineers and workers so as to enhance the safety of lifts and escalators, the following transitional arrangements have been repealed since 1 May 2018 as per the gazette published on 2 February 2018. The

related circular (https://www.emsd.gov.hk/ filemanager/en/content\_806/Circular%20 No.%203\_2018%20(Eng).pdf) was issued on 15 March this year.

1. Application for registration as a registered lift/escalator engineer with the qualification of a higher diploma or higher certificate and five years of relevant experience; and

2. Application for registration as a registered lift/escalator worker with proof of sufficient relevant experience and training from a registered lift/escalator contractor.

Moreover, the phasing out of the arrangement on the registration for one or more, but not all, kinds of works by a registered worker was also gazetted on 2 February this year, and will be repealed with effect from 1 May 2023. Thereafter, applicants are required to have sufficient working experience in and knowledge of the three existing classes of registration (i.e. "installation/ demolition", "maintenance" and "examination") to apply for "all classes" registration.



# **Requirements for Subcontracting Lift/Escalator Works**

According to the requirements under sections 38 and 68 of the Lifts and Escalators Ordinance, except with the written approval of the Director of Electrical and Mechanical Services, no lift works or escalator works shall be subcontracted to any person other than a registered lift/escalator contractor (registered contractor), except for works concerning the installation or demolition of a lift or an escalator.

Besides, section 4.8.2 of the Code of Practice for Lift Works and Escalator Works stipulates that a registered contractor, as a proprietor, has a non-transferable duty to supervise its employees in carrying out lift or escalator works. Where the installation or demolition of a lift or an escalator is subcontracted, the registered contractor is obliged to arrange for qualified persons it employs to provide proper supervision of the subcontracted lift or escalator works. A qualified person is a registered lift/ escalator worker/engineer who is qualified to carry out the works concerned, and is employed by a registered contractor under a service contract for undertaking its lift/escalator works. Even if the installation or demolition works are carried out by the subcontractor's workers (including registered lift/escalator workers), the registered contractor is still obliged to arrange for its qualified persons to provide direct supervision of the subcontracted works. The subcontractor's workers, regardless of whether they are registered lift/escalator workers, are not allowed to install or demolish a lift or an escalator by themselves.

A person must not personally carry out any lift or escalator works unless the person is a qualified person or

is under the direct supervision of a qualified person. No person shall wilfully arrange for or permit a non-qualified person to carry out any lift/escalator works without the direct supervision of a qualified person. Anyone who contravenes the requirement commits an offence and is liable on conviction to a fine of HK\$100,000 and imprisonment for 12 months. The related circular was issued on 27 March 2018 and uploaded

to the EMSD website (https://www.emsd. gov.hk/filemanager/en/content\_806/ Circular%20No.%204\_2018.pdf).





# **Enhanced Approval Requirements** for Type Approval for Lifts

Under the Lifts and Escalators Ordinance, if the works are works concerning the installation of a lift, the works are not to be carried out unless the lift and all the safety components for the lift are respectively of a type in respect of which the contractor has obtained approval from the Director of Electrical and Mechanical Services. The latest international safety standards for lifts, EN81-20:2014 and EN81-50:2014 (EN81-20 and -50), have been published and implemented. The new standards aim to improve the safety of lift passengers and technicians. In addition to introducing EN81-20 and -50 to gradually replace the old safety standards EN81-1:1998+A3:2009 and EN81-2:1998+A3:2009, the EMSD has also issued a circular which specifies the respective effective dates from which lifts and safety components shall meet the requirements of the new safety standards EN81-20 and -50. The requirements of standards on which type examination certificates submitted by registered contractors are based when they apply for type approval for electric lifts

and hydraulic lifts will be changed in phases, firstly the type examination certificate of new safety components, followed by that of entire new lifts. Registered contractors should file type approval applications for their lift and safety component models according to different effective dates.

For the effective dates and detailed arrangements of the new standards, please refer to the following website: https://www.emsd. gov.hk/filemanager/en/content\_806/ Circular%20No%2012\_2017.pdf.



EN81-20:2014 & EN81-50:2014



# **Code of Practice for Lift Works and Escalator Works (2018 Edition)**

The latest Code of Practice for Lift Works and Escalator Works (CoP) (2018 Edition) was gazetted on 10 August 2018 and is scheduled for full implementation on 1 February 2019.

Major revisions of the CoP (2018 Edition) include:

- 1. enhancing the safety requirements of lifts/escalators;
- 2. improving the clarity of the CoP;
- 3. incorporating relevant requirements as stated in the circulars issued;
- 4. updating outdated references/ definitions;
- 5. removing specified forms in the annexes;
- 6. other updates, such as correcting translations and typos, etc.

Besides, the EMSD has added to the latest CoP (2018 Edition) special maintenance requirements for and details of enhancing the safety of aged lifts.

The new edition of the CoP has also incorporated the latest requirements on log books to complement their improved format, so that maintenance contractors can document the information of the works being carried out more easily and clearly. The latest format of log books for lifts, too, will be fully implemented on 1 February next year. Registered contractors and responsible persons shall replace the log books concerned in due course.

To facilitate a better understanding of the revised CoP by readers, Appendix XXIV - Amendment Summary

has been added to the last section of the CoP (2018 Edition) to highlight the items and scope of amendment from the 2012 Edition to the 2018 Edition.

For details of the CoP (2018 Edition) and the gazette, please refer to the following website: https:// www.emsd.gov.hk/en/

lifts and escalators safety/ publications/code\_of\_ practice/index.html.



EMSD 🔯







#### **Recent Prosecution and Disciplinary Cases**

In the past year, the EMSD initiated prosecution against a total of nine persons/companies suspected of contravening the Lifts and Escalators Ordinance, including registered persons and responsible persons for lifts/escalators, whose instances of non-compliance involve failures to ensure the lift/escalator works are carried out properly and safely, to take adequate safety precautions to prevent injury or damage to property while the works are being carried out, to ensure sufficient manpower for conducting the works, and to prevent passengers from using lifts without a valid use permit, etc. Below are some of the cases:

#### Case 2

#### Case 1

In January 2017, while taking passengers upwards, an escalator in a large shopping mall in Mong Kok reversed downwards as the main drive chain was broken, causing injuries to many. The EMSD instigated prosecution against the registered escalator contractor, registered escalator engineer and registered escalator worker involved in the incident for failure to carry out proper maintenance work. The contractor and worker concerned admitted violating the Lifts and Escalators Ordinance. They were convicted of four charges and one charge respectively, and fined HK\$320,000 and HK\$6,000.

In November 2017, an industrial accident occurred durina maintenance of a lift in a housing estate, causing the death of a registered The EMSD brought a lift worker. prosecution against the registered lift contractor involved in the incident for failure to take adequate safety precautions. Pleaded guilty to a breach of the Lifts and Escalators Ordinance, the contractor was convicted of one charge and fined HK\$7,500.



#### Case 3

During 2017 to 2018. responsible person for a lift in a residential building was prosecuted by the EMSD for failure to prevent passengers from using the lift, which is without a valid use permit. The responsible person admitted contravening the Lifts and Escalators Ordinance, and was convicted of one charge with a fine of HK\$30,000.





(Pictures of this article are simulated for illustration purpose)



#### **Feedback**

Your comments and suggestions, whether on editorial style or contents, are most welcome. Tell us how we can improve and make the Lift and Escalator Newsletter a truly informative and interesting publication for you. The Lift and Escalator Newsletter is available on our website at http://www.emsd.gov.hk.

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