

LCQ16: Safety, repair and maintenance of lifts

Following is a question by Dr Hon Elizabeth Quat and a written reply by the Secretary for Development, Mr Michael Wong, in the Legislative Council today (June 6):

Question:

Recently, incidents of lift failures causing casualties have occurred frequently, arousing grave public concern about issues such as the safety, maintenance, repair and replacement of lifts. In this connection, will the Government inform this Council:

(1) of the number of written notifications, received by the Director of Electrical and Mechanical Services from the responsible persons for lifts in each of the past five years, in respect of the lift incidents specified in Schedule 7 to the Lifts and Escalators Ordinance (Cap 618) (with a breakdown by (i) District Council district and (ii) whether the notification was made within the deadline of 24 hours after the incident came to the person's knowledge), as well as the number of such incidents made public by the Electrical and Mechanical Services Department (EMSD); the penalties imposed on the persons convicted for failing to give notifications within the deadline;

(2) whether EMSD will make public more information about registered lift contractors (contractors), including the company scale, the number of workers/engineers, the qualifications held by the workers/engineers and the records of non-compliance; if so, of the details and timetable; if not, the reasons for that;

(3) whether EMSD will publish reference costs for repair and maintenance of lifts for reference by members of the public; if so, of the details; if not, the reasons for that;

(4) of the current total number of lifts throughout the territory and, among them, the respective numbers and percentages of those which are over 20 and over 25 years old;

(5) given that the Code of Practice for Lift Works and Escalator Works (the Code) issued by EMSD has no legal effect and does not contain provisions on penalties, whether the Government will consider (i) increasing the penalties for contractors whose aggregate points under the current performance monitoring points system have reached a certain level (e.g. prohibiting them from bidding for the Government's lift works contracts for a certain period of time), and (ii) implementing a performance monitoring points system for registered workers/engineers; if so, of the details; if not, the reasons for that;

(6) whether the Government will consider incorporating into Cap 618 those clauses in the Code which are particularly important to the protection of users' safety; if so, of the details; if not, the reasons for that;

(7) of the current number of lifts inspected by EMSD each year on average, as well as the mechanism, workflow and criteria for selection of targets for inspection; whether it will consider giving priority to the inspection of lifts which are 20 years old or above; whether it will step up the monitoring of contractors and registered lift engineers, including stepping up the review of their work and surprise inspection; if so, of the details; if not, the reasons for that;

(8) whether the Government will draw up an action plan for enhancing the safety of lifts throughout the territory and give priority to enhancing the safety of those lifts which were installed before 1993, including requiring lifts to have/be retrofitted with (i) a double brake system, (ii) an unintended car movement protection device, (iii) an ascending car overspeed protection device, (iv) advanced car door mechanical lock and door safety edge, (v) an intercom and CCTV system, (vi) an obstruction switch to protect suspension ropes, and (vii) automatic rescue devices; if so, of the details; if not, the reasons for that;

(9) whether the Government will expeditiously establish a dedicated subsidy scheme for enhancing lift safety, with a view to subsidising safety enhancement works for lifts 20 years old or above; if so, of the details and timetable; if not, the reasons for that;

(10) whether it has assessed if the existing manpower establishment of EMSD is adequate for dovetailing with the implementation of various measures to enhance lift safety; if it has assessed and the outcome is in the negative, of the number of staff members needed to be recruited;

(11) whether it knows the annual average (i) number of graduates from lift repair and maintenance courses and (ii) number of persons joining the industry, in the past five years; whether the Government will take measures to improve the remuneration packages of lift and escalator repair works practitioners so as to attract new blood to join the industry; and

(12) as some contractors who are not the original manufacturers of the lifts concerned are unable to obtain the lift plans from the original manufacturers, which has undermined the quality of their repair work, whether the Government will enact legislation for mandatory provision of lift plans by the original manufactures to their counterparts, so as to ensure the quality of repair works; if so, of the details; if not, the reasons for that?

Reply:

President,

The operation of lifts in Hong Kong is regulated by the Lifts and

Escalators Ordinance (Cap 618) (the Ordinance), which was put into operation on December 17, 2012, to replace the repealed Lifts and Escalators (Safety) Ordinance (Cap 327). The Ordinance introduces a series of new and enhanced regulatory measures including stipulating clearly the responsibilities of the Responsible Person (i.e. owner of the lift/escalator and any person who has the management or control of the lift/escalator), the Registered Contractor, the Registered Engineer and the Registered Worker. Since the Ordinance came into operation, the number of incidents (Note) that must be reported to the Electrical and Mechanical Services Department (EMSD) involving failure of lift and escalator equipment has been remarkably reduced as compared with that before the Ordinance was put in effect, with a reduction of 72 per cent from an average of 28 cases per year from 2010 to 2012 to an average of 7.8 cases per year from 2013 to 2017. The EMSD will continue to strictly enforce the Ordinance and is committed to introducing various measures to enhance the safety of aged lifts, so as to ensure that the public can enjoy safe lift services.

Our reply to the question raised by Dr Hon Quat is as follows:

1. The number of written notifications, received by the Director of Electrical and Mechanical Services from the Responsible Persons for lifts in each of the past five years, in respect of the lift incidents stipulated in Schedule 7 to the Ordinance is 330 in 2013, 446 in 2014, 439 in 2015, 427 in 2016 and 461 in 2017. Their distribution (by District Council district) is as follows*:

District	2013	2014	2015	2016	2017
Central & Western	8.2%	6.6%	7.5%	5.9%	7.8%
Eastern	10.1%	11.1%	9.6%	10.3%	7.5%
Southern	3.7%	2.9%	3.9%	3.3%	4.0%
Wan Chai	5.0%	7.7%	8.1%	7.3%	8.7%
Kowloon City	4.2%	5.3%	7.3%	6.8%	5.4%
Kwun Tong	8.0%	9.0%	5.5%	6.8%	8.0%
Sham Shui Po	5.0%	7.7%	6.0%	4.9%	2.8%
Yau Tsim Mong	2.7%	4.5%	11.7%	11.2%	11.6%
Wong Tai Sin	3.2%	3.4%	4.4%	3.5%	5.4%
Islands	2.4%	2.6%	3.1%	5.9%	4.0%
Kwai Tsing	10.3%	7.7%	7.0%	4.7%	7.3%
North	5.0%	4.0%	2.6%	2.6%	3.8%
Sai Kung	6.9%	6.3%	2.6%	5.9%	3.8%
Sha Tin	6.6%	3.4%	3.1%	5.4%	3.1%
Tai Po	3.4%	2.1%	4.4%	4.0%	3.8%
Tsuen Wan	6.6%	6.9%	6.2%	4.2%	4.7%
Tuen Mun	4.8%	5.0%	5.2%	5.2%	4.7%
Yuen Long	3.7%	3.7%	1.8%	2.3%	3.5%

* The figures have been shown by rounding up or down and they may not be equal to 100 per cent when summing up.

The EMSD will publish quarterly the statistics of the reportable incidents together with the announcement of "Registered Contractors' Performance Rating" on the department's website.

According to records, the main reason that the Responsible Persons did not notify the EMSD within 24 hours after the incident was that they did not immediately know that or could not clearly distinguish whether the case was a reportable incident. At present, the EMSD does not keep statistics of such cases by categories. The EMSD will take into account the seriousness of the case (such as whether the Responsible Person has been repeatedly in breach of the requirements) and whether they have reasonable excuse, to decide if enforcement actions should be taken, which may include issuing of advisory or warning letters or carrying out of prosecution. In the past five years, the EMSD has issued a total of 16 advisory letters to relevant Responsible Persons for their failure to notify the EMSD of the incident within 24 hours after the incident came to their knowledge.

(2) and (3) Registered lift contractors are required to arrange and supervise qualified persons to carry out lift works. Registered lift contractors are also required to provide sufficient workforce and provide adequate training and instructions to their workers so as to ensure the lift works can be carried out safely and properly. The EMSD will conduct regular audits on registered lift contractors to check whether there are sufficient workforce, skills, staff training, etc.

In order to assist Responsible Persons for lifts in selecting a suitable registered lift contractor, the EMSD provides the following information for reference by the Responsible Persons:

* The maintenance price figures and related information for lifts at private residential and commercial premises are released on a half-yearly basis to increase the transparency of the market prices;

* The "Registered Contractors' Performance Rating" is announced on a quarterly basis to indicate the performance of each contractor in terms of safety and services quality. When the contractor is involved in a serious incident under investigation, the EMSD will add remarks to the contractor concerned in the webpage announcing the performance rating; and

* In order to facilitate the Responsible Persons to invite tenders for the maintenance or modernisation works for their lifts, the EMSD has prepared the "Sample Contract for Procurement of Comprehensive Lift/Escalator Maintenance Service" and "Sample Specifications for Engagement of Registered Lift Contractor for Carrying out Lift Modernisation Works" for reference by the Responsible Persons during tendering.

The EMSD will continue to listen to the views of various stakeholders and provide appropriate technical support for the Responsible Persons.

(4) As of the end of 2017, there were about 66 200 lifts in Hong Kong, of

which about 35 200 (about 53 per cent of the total) and about 27 900 (about 42 per cent of the total) were more than 20 and 25 years old (years that the lift has been put into service) respectively.

(5) and (6) The Code of Practice for Lift Works and Escalator Works (the Code) is issued by the EMSD under the provisions of the Ordinance. The Code provides practical guidance for reference by the registered persons and states that they must comply with the procedures stipulated under the Ordinance when carrying out lift or escalator works.

During the daily surveillance checks and incident investigations, if the EMSD discovers that a contractor and/or Registered Worker/Engineer has performed unsatisfactorily or even contravened the Ordinance, the EMSD will take appropriate action according to the seriousness of the case. For serious cases, prosecution will be taken in accordance with the Ordinance and/or the cases will be submitted to the Disciplinary Board Panel for hearing, and the contractor and/or Registered Worker/Engineer concerned may eventually be subject to cancellation or suspension of registration. As the relevant procedures will take time, the EMSD has introduced the "Registered Lift and Escalator Contractors' Performance Rating System", as an administrative measure other than enforcement under the Ordinance. This will enable the EMSD to deduct the score of a contractor immediately according to the seriousness of the incident. The scores will be uploaded to the department's website so that the public can know the performance of each contractor in a timely manner, thus enabling them to choose a suitable contractor to provide maintenance services for their lifts. The EMSD will also make remarks in the said website promptly when a contractor is involved in a serious incident under investigation, so that the public can make a holistic assessment when choosing their lift contractors.

The EMSD will review and revise the "Registered Lift and Escalator Contractors' Performance Rating System" from time to time. As the EMSD has received suggestions from many stakeholders recently, it will initiate a new round of review with a view to further improving the system.

(7) The EMSD adopts a risk-based approach and strengthens inspections for lifts with higher risk factors, such as those with longer in-service years, frequent complaints/failures, so as to monitor the maintenance works and check for contraventions of the Ordinance. The EMSD conducted about 11 200 inspections of lifts and escalators in 2017.

The EMSD will make greater efforts to inspect the maintenance and examination of lifts, in particular those components which will affect the safe operation of lifts. It is expected that the number of inspections this year will increase to about 14 000, i.e. an increase of 25 per cent.

The EMSD will also review to step up the monitoring and regulation of Registered Contractors and Registered Engineers.

(8) and (9) Lifts must have proper regular periodic examinations and maintenance to ensure their safe use. However, as the lifts aged, the

maintenance problems encountered will increase in terms of number and complexity. Owing to rapid technological advancement in recent years, modern lifts are equipped with more comprehensive safety devices than the aged ones. There are thus rooms for improving and enhancing aged lifts from the lift safety perspective. In view of this, the EMSD promulgated the "Guidelines for Modernising Existing Lifts" in 2011, which aims at recommending the Responsible Persons to install safety devices (including the unintended car movement protection device) for their aged lifts to make the lifts safer, more reliable and comfortable.

As of the end of 2017, there were about 66 200 lifts in Hong Kong, of which about 80 per cent were not equipped with safety devices of the latest standard. Owing to the fact that the lift modernisation is carried out on a voluntary basis, modernisation works of different level have been carried out to about 5 200 lifts since 2011. The progress is not remarkable.

In view of the above, the Development Bureau and the EMSD are actively formulating new measures in short term, medium term and medium to long term to enhance the safety of aged lifts, thereby further protecting public safety.

(10) The EMSD attaches great importance to lift and escalator safety, and has set up a dedicated team responsible for regulating lift and escalator safety throughout the territory. In 2018/19, the EMSD has increased the manpower of the dedicated team to 43 staff members, in order to strengthen the inspections of aged lifts. Regarding the new series of measures that will be implemented in the future, the EMSD will further examine the manpower requirements to cope with the additional workload.

(11) As of the end of 2017, there were about 66 200 lifts and about 9 300 escalators in Hong Kong. From 2012 to 2017, the total number of lifts and escalators increased from about 69 000 to about 75 600, i.e. an increase of about 10 per cent, while the number of Registered Workers increased from about 4 900 to about 5 700, i.e. an increase of about 16 per cent. In recent years, Registered Contractors have also been actively recruiting general workers in addition to Registered Workers and there was an increase in general workers from about 700 in 2012 to about 1 850 in 2017. After these general workers have received relevant training and accumulated sufficient experience, they can apply to become Registered Workers. Therefore, the total number of workers increased from about 5 600 in 2012 to about 7 570 in 2017, i.e. an increase of about 35 per cent, which was higher than the increase in number of lifts and escalators in the same period. This shows that the industry's manpower situation is gradually improving.

In the past five years, the average annual number of intakes and graduates of relevant lift courses, and the change in manpower of Registered Workers and general workers are as follows:

Academic Year	Number of intakes of apprentice course	Number of graduates of apprentice course**
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2013/14	95	27
2014/15	102	31
2015/16	205	32
2016/17	251	53
2017/18	255	This academic year has not yet finished

**The number of graduates is the number of students who completed the course and were graduated in the respective academic year. In general, the apprenticeship course is a four-year course and therefore the graduates of the respective year are normally students who enrolled the course four years ago or before.

Year	Increase in number of new Registered Workers as compared with a year before	Increase in number of new general workers as compared with a year before***
2013	43	22
2014	219	380
2015	89	411
2016	114	273
2017	299	125

*** The number of new general workers is compiled based on the regular survey of Registered Contractors' manpower situation.

Although the manpower situation has gradually improved, the current supply of manpower is still relatively tight. In order to attract more new blood to join the lift and escalator industry, we have implemented the following series of measures in recent years:

- * The Vocational Training Council (VTC) and the Construction Industry Council (CIC) jointly introduced "Earn & Learn" Scheme in 2014. The number of new apprentices enrolled each year has increased remarkably, from about 70 in the past to more than 200 in 2015 and 250 in both 2016 and 2017;
- * In 2016, the VTC and the University of Hong Kong School of Professional and Continuing Education launched two different courses related to lift and escalator for the practicing workers to acquire the required academic qualifications to meet the registration requirements of Registered Workers;
- * The CIC has implemented the "Contractor Cooperative Training Scheme" for Electrical and Mechanical (E&M) trades (including lift and escalator mechanics) to provide financial support to those who wish to join the lift and escalator industry;
- * Since 2016, the EMSD has started to invest more than \$600 million in recruiting over 1 000 technician trainees in five years to provide new bloods for the entire E&M industry (including lift and escalator trade) to cope with future challenges; and
- * In early 2018, the EMSD collaborated with the industry to produce a

promotional video to attract newcomers to the industry. Production of the video has been completed, which has been uploaded onto the department's website for public viewing.

In light of the fact that more new blood have joined the industry in the past three years and most of them are still undergoing apprenticeship training, we expect that these apprentices will graduate in the next two to three years and join the industry. By that time, the manpower in the industry will increase further, and will be able to take up more lift modernisation and maintenance works in the future.

(12) According to the Code, documents such as manuals and drawings, equipment, spare parts, and tools of the lift or the escalator being held by the outgoing Registered Contractor should be returned to the Responsible Person for safe custody. Registered Contractors undertaking installation of a lift or an escalator should also consolidate instructions provided by the manufacturer of the lift or the escalator and other relevant information, such as type examination certificates, layout drawings, calculations, circuit diagrams, power supply drawings, testing and commissioning results for preparation of an Operation and Maintenance (O&M) manual for the lift or the escalator system. Such O&M manual should be provided to the Responsible Person upon completion of the installation works. When changing lift/escalator maintenance contractors, the smooth handover of maintenance work is extremely important for continuous safe and proper operation of the lifts/escalators. Therefore, the EMSD requires contractors who hand over or take over maintenance work shall complete and sign the "Checklist for Handover and Takeover of Lift/Escalator Maintenance" (including maintenance manuals and drawings). Registered Contractors shall provide full support to the Responsible Persons in accordance with the checklist and the latest requirements of the Code during the process of handover or takeover. Registered Contractors should also keep a copy of the completed and signed checklist. In order to make the Registered Contractors strictly follow the relevant requirements, the EMSD listed such requirements as a point-deduction item in the last review of the "Registered Lift and Escalator Contractors' Performance Rating System", which came into effect in February 2018.

Note: In accordance with the Ordinance, the Responsible Person for a lift must notify the Director of Electrical and Mechanical Services of the following lift incidents:

- (i) A person dies or is injured and the death or injury involves a lift or any associated equipment or machinery of a lift;
- (ii) A failure of the main drive system of a lift;
- (iii) A breakage of any suspension rope of a lift;
- (iv) A failure of any brake, overload device, safety component or safety equipment of a lift; or
- (v) A failure of any interlocking device for any door of the lift-way of a lift.

Upon receiving notification of the above lift incidents, the EMSD will arrange on-duty staff for an investigation as far as practicable.