政府總部

發展局

工務科

香港花園道美利大廈

本局網址 Our Website: http://www.devb.gov.hk

本局檔號 Our Ref.: DEVB(CR)(W)1-55/119

來函檔號 Your Ref.: CB1/BC/7/10



Works Branch Development Bureau Government Secretariat

Murray Building, Garden Road, Hong Kong

電話 Tel No.: 2848 2704

傳真 Fax No.: 2536 9299

電郵 E-mail: jimmy pm chan@devb.gov.hk

By Fax (3529 2837) 4 October 2011

Clerk to the Bills Committee, LegCo Secretariat, Legislative Council Building 8 Jackson Road Central Hong Kong

(Attn: Ms Anita SIT)

Dear Ms SIT,

Bills Committee on Lifts and Escalators Bill Administration's Response to Follow-up Items

In response to Members' discussions at the meetings of the Bills Committee on Lifts and Escalators Bills held on 31 May and 21 June 2011, we provide herewith the following information.

Follow up Items on meeting held on 31 May 2011

1. Views of stakeholders

To gauge public views on the proposed legislative amendments, the Administration conducted a three-month public consultation from November 2009 to February 2010, the outcome of which was reported to the Legislative Council (LegCo) Panel on Development on 22 June 2010 with details given in LegCo Paper No. CB(1)2247/09-10(07). Members

supported in principle the proposed legislative amendments and urged the Administration to expedite introducing the Bill into LegCo to enhance lift and escalator safety.

To ensure that the views of stakeholders are fully reflected in the Bill, the Electrical and Mechanical Services Department (EMSD) established in August 2010 a Task Force for Legislative Amendments to the Lifts and Escalators (Safety) Ordinance (LESO) with industry stakeholders. The Task Force is underpinned by 3 sub-groups to respectively discuss (i) the registration system for contractors and engineers; (ii) the registration system for workers; and (iii) streamlining processes. The views expressed by the stakeholders at the meetings of the Task Force as well as the sub-groups together with the Administration's responses are at **Annex 1**.

To facilitate smooth implementation of the improvement measures set out in the Bill, the Administration will maintain close communication with the stakeholders through the Task Force to discuss various issues related to the Bill including the codes of practice to be issued under the proposed legislation, publicity and promotional activities etc.

2. Trade test for workers

The Bill provides a route for those who, without the requisite academic qualification, but have not less than 8 years' relevant work experience and have passed the approved trade test to apply for registration as registered lift workers or registered escalator workers. The trade test under preparation consists of two parts, namely technical knowledge and practical operation to fully assess the candidates' skills and knowledge of the trade. Relating to this, the Vocational Training Council agreed to organise the trade tests for lift and escalator workers, and invited the major industry stakeholders, including EMSD, trade associations and labour union to launch the preparatory work.

In view of the relatively small number of candidates¹ who may

Considering that the practicing workers including those without the requisite academic qualification may apply for registration as registered workers via the transitional arrangements set up in the Bill with details given in LegCo paper CB(1)2528/10-11(01), we and other major stakeholders are of the same view that there will not have much candidates applying to attend the trade test at the early stage when the proposed legislation should come into operation.

apply to attend the trade test, we consider that at the time being there is no need to establish any training course for the trade test.

3. Manpower engaged in lift and escalator works

At present, there are about 58 000 lifts and 8 000 escalators in Hong Kong. In the past three years, the numbers, on average, increased by about 780 (about 1.3%) and 170 (about 2.1%) respectively each year. There are also 277 registered engineers and 4 950 competent workers engaged in lift and escalator works.

Supply of registered engineers

The main duties of registered engineers are to examine and certify whether a lift or escalator is in safe working order. In terms of workload, they have to conduct periodic examination² for each lift and escalator and each year they will also conduct about 2 000 examinations for lifts or escalators that have completed installation or major alteration. Based on the existing numbers of lifts and escalators and their growth rates, we estimate that registered engineers need to complete about 76 000 and 80 500 examinations in 2011 and 2016 respectively. In the past year, there are 188 registered engineers (68% of the total number of registered engineers) conducted examinations and issued safety certificates for lifts or escalators. Upon considering the number of newly registered³ and retired⁴ engineers, we estimate that there will be about 210 registered engineers that can provide examination and certification service in 2016. Calculating on the basis of 250 working days a year, if registered engineers can complete on average examination of 3 lifts or escalators in 2 days in 2011 and 2016, the demand for examination and certification service can be met. As such, our preliminary estimate is that the number of registered engineers in the short-term should be adequate.

Supply of competent workers

As for competent workers, their main duties are to carry out

The Bill requires that a lift and an escalator shall be periodically examined at least once and twice a year respectively by a registered engineer.

In the past three years, there were 35 persons (11 person on average each year) registered as lift or escalator engineers.

Of the 188 registered engineers, 60 are aged 50 or above. Based on this data, we estimate there will be on average about 6 registered engineers retiring each year.

various kinds of lift and escalator works including installation, maintenance and repair according to the instructions of registered contractors. Under LESO or the Bill, periodic maintenance, at intervals of not exceeding one month, is required for each lift or escalator. If owners require two periodic maintenance a month for each lift or escalator, and based on the existing numbers of lifts and escalators and their growth rates, competent workers are required to complete about 1 584 000 and 1 674 500 periodic maintenance in 2011 and 2016 respectively. According to our conservative estimate, at present there are about 3 220 competent workers (or 65% of the total number of competent workers) engaged in periodic maintenance work. Upon considering the number of new⁵ and retired⁶ competent workers, we estimate that there will be about 3 360 competent workers (or registered workers under the proposed legislation) engaged in periodic maintenance work in 2016. Calculating on the basis of 250 working days a year and two pair-up workers in a team, the demand for maintenance can be met if each team can, on average, complete periodic maintenance for 4 lifts or escalators a day. As such, our preliminary estimate is that the number of competent workers in the short-term should be adequate.

Relevant measures on manpower resources

The Administration received views of practitioners that the industry may face some manpower resource problems such as the lack of newcomers joining the industry and ageing of existing workforce. To ensure the availability of adequate manpower for providing services and to avoid affecting the livelihood of existing lift and escalator practitioners, the Administration has provided transitional arrangements in the Bill. Furthermore, we will continue to observe the manpower situation of the industry with other major stakeholders and will enhance manpower training and publicity where necessary to address the manpower needs. As far as the construction industry as a whole is

According to the information provided by registered contractors, they are now employing over 690 general workers. When these workers have gained 4 years' relevant working experience, they may acquire the status of competent workers under LESO according to their qualification, or apply for registration as registered lift workers or registered escalator works under the proposed legislation.

According to the latest information provided by registered contractors, 938 out of 4 950 competent workers are aged 50 or above. Based on this data, we estimate there will be on average about 94 competent workers retiring each year.

Transitional arrangements were set out at Appendices E and F to LegCo Paper CB(1)2528/10-11(01) submitted to Bills Committee on 17 June 2011.

concerned, the Development Bureau launched in May 2011 a series of 'Build Up' publicity plans including "Announcements of Public Interest" broadcasts on television, newspaper and bus advertising, a dedicated web site and large-scale outdoor advertisements. We trust that these measures will uplift the image of the construction industry and help attract more new entrants to join the industry.

4. Analysis of the causes of lift incidents involving equipment fault

On 17 June 2011, we provided the Bills Committee with a paper (Annex C to LegCo paper CB(1)2528/10-11(01)) for analysing the causes of lift incidents involving equipment fault in recent years. In response to Members' discussions at the Bills Committee meeting held on 21 June 2011, we now provide further information on the 173 incidents between 2006 and 2010 (see Annex 2) including brands and ages of lifts, names of the installation contractors and maintenance contractors involved in the incidents, as well as the performance ratings of the maintenance contractors. We also carried out in-depth analysis on the relationships between these incidents in respect of (i) subcontracting of works; (ii) maintenance provided by non-original contractors; (iii) the practice of awarding tenders to the lowest bidder; (iv) the age of the lifts; and (v) the performance ratings of the maintenance contractors.

Subcontracting of works

Under LESO, no registered contractor shall, unless with the written permission of the Director of Electrical and Mechanical Services (DEMS), assign or subcontract the maintenance and periodic examination works to non-registered contractors. In the past three years, EMSD has not found any cases involving maintenance works carried out by non-registered contractors. Hence, there is no evidence to suggest any relationship between equipment fault and subcontracting of works.

Maintenance provided by non-original contractors

Generally speaking, "original contractor" means the contractor completing the installation of a lift or the agent of the brand of a lift. LESO does not require lift owners to engage original contractor to carry out maintenance work. Based on the records for the past five years (see **Annex 2**), more than 60% of the lift incidents involving faulty equipment were maintained by original contractors. In other words, there is no

evidence to suggest that maintenance by non-original contractors affects the safety standard of lifts.

Practice of awarding tenders for maintenance service to the lowest bidder

The Administration holds the view that the practice of awarding tenders for maintenance services is a private contractual issue and the concerned decision should rest with the lift owners. Therefore, there is no provision on this aspect under LESO. Given that the concerned tender assessment is a private contractual issue; we are unable to access the information for ascertaining whether maintenance undertaken by contractors offering the lowest bid. Consequently, we are not able to draw any conclusion on whether the equipment fault is related to the practice of awarding tenders to the lowest bidder. However, we notice that some lift owners are not familiar with the tendering process, especially tender assessment. To assist these owners, EMSD and relevant organisations such as Hong Kong Housing Society (HKHS) have respectively provided samples and general guidelines on the procurement of maintenance services. These include (i) sample tender document with general terms and conditions for maintenance of lifts and escalators provided by EMSD; (ii) "Lift Owners' Guidebook" issued by EMSD, which drawing owners' attention to, apart from tender prices, a number of issues in the selection of lift maintenance contractors such as manpower, performance, and relevant experience for the maintenance of relevant models of lifts/escalators etc.; and (iii) a Toolkit on building maintenance developed by HKHS on the general maintenance of buildings, which contains detailed guidelines on the selection process of contractors. Owners, if in doubt, may seek advice through EMSD enquiry hotline or the property management enquiry centre of HKHS.

Ages of lifts

In general, some parts of lift will be worn out due to long term of use. Our analysis of the records for the past five years on the age and equipment fault of lifts (see Table 1) reveals that the age of a lift is not directly related to the rate of the equipment fault. As the age of the lifts increases, there is greater chance for major maintenance and retrofitting of parts. However, this does not necessary mean that these lifts have a relatively higher chance of incidents.

Table 1

	Inciden	t rate of lift	incident inv (per 1 000 li	olving equipm ifts)	ent fault
Age of lift	2010	2009	2008	2007	2006
5 or below	0.70	0.22	0.54	0.31	0.54
6 to 10	0.37	0.60	0.61	0.48	0.77
11 to 15	0.28	0.58	0.30	0.65	1.13
16 to 20	1.04	1.33	1.43	1.11	0.71
21 to 25	1.98	1.88	1.71	0.37	0.56
26 to 30	0.54	0.91	0.54	0.56	0.19
31 to 35	0.45	0.25	0.00	0.28	0.29
36 to 40	0.00	0.99	0.39	0.47	2.97
41 to 45	0.00	0.43	0.37	0.00	0.37
46 to 50	0.75	0.53	0.79	2.32	0.00

Performance rating of the maintenance contractors

Since 2009, EMSD announced regularly through its website related information on lift incidents, including the names of the contractors involved and "Performance Rating for Registered Lift Contractors" for the reference of lift owners or their building management agents to facilitate their selection of suitable maintenance contractors. As for the "Performance Rating for Registered Lift Contractors", the data in **Table 2** below show that the lower the rating of the registered lift contractors does not necessarily mean the more equipment faults they are involved. This is mainly because the rating system reflects in simple figures the overall performance in maintenance and safety of registered lift contractors within a year and the rating does not merely based on the number of equipment fault related incidents.

Table 2

Performance rating between March 2010 and February 2011	Number of contractors (involved/not involved in equipment fault related incidents in 2010)	Number of equipment fault related incidents in 2010
96 – 100	10 (3/7)	7
91 – 95	6 (3/3)	13
86 – 90	5 (2/3)	4
81 – 85	5 (3/2)	5
76 – 80	3 (1/2)	2
71 – 75	3 (3/0)	4

66 - 70	3 (0/3)	0
61 - 65	0 (0/0)	0
56 – 60	3 (0/3)	0
51 – 55	1 (0/1)	0

5. Publicity and Public Education

Subject to the passage of the Bill in LegCo, we plan to launch a series of publicity and promotional activities to give the public and the responsible persons a better understanding of the requirements under proposed legislation and to raise their safety awareness on lifts and escalators. Our preliminary plan on publicity and educational measures include the issue of "Guidelines for Responsible Persons for Lifts and Escalators", promotion of the key requirements under the proposed legislation and public awareness on lift and escalator safety through the media and holding of briefing sessions for the public and industry stakeholders.

Follow up items on meeting held on 21 June 2011

6. Registered contractors' performance rating systems

In general, safety of lifts and escalators in Hong Kong is regulated by a three-tier mechanism. The first tier is the setting up of the broad legal framework, i.e. LESO or the proposed legislation. The second tier is the subsidiary legislation made prescribing the detailed procedural and technical requirements. The third tier includes the codes of practice issued by EMSD which provides practical guidelines on carrying out lift and escalator works. EMSD also issues general guidelines and public education materials to help the public, lift and escalator owners or property management companies understand the statutory requirements and safety aspect of lifts and escalators. implemented the "Registered Lift Contractors' Performance Rating" system and "Registered Escalator Contractors' Performance Rating" system ("Registered Contractors' Performance Rating" systems) in June 2009 and September 2011 respectively to provide reference for owners or their building management companies in selecting suitable contractors to maintain and repair the lifts and escalators of their property.

The "Registered Contractors' Performance Rating" systems target to the general public. They make use of a simple and easily

understood rating to reflect the overall performance of the contractors in the past year in maintenance and safety aspects. In short, they are point deduction systems. Based on the non-compliance identified during audit inspections, court judgment and disciplinary board order, EMSD will to deduct points of a contractor according to the established mechanism. Point- deductible issues can be divided into two categories; firstly whether there is any violation of the provisions under LESO by the contractors undertaking the maintenance of the lifts or escalators and secondly, the general quality of the service provided by the contractors (including the non-operation of the lights in a lift car). The operation mechanism and calculation methodologies of the "Registered Contractors' Performance Rating" systems are outlined in Annex 3.

Upon careful deliberation, we do not consider it necessary or appropriate to include the "Registered Contractors' Performance Rating" systems in the Bill for the reason that EMSD will take appropriate enforcement action for non-compliance or disciplinary offence, irrespective of whether points are deducted. In addition, some point-deduction items, including the above-mentioned items reflecting the general quality of the service provided by the contractors and the disciplinary board orders, may not all involve contravention of the legislative requirements. On the other hand, by omitting some point-deductible items for the purpose of including "Registered Contractors' Performance Rating" systems in the Bill, we consider that it will defeat the original intention for the setting up of the rating system to reflect the overall performance of the contractors.

7. Penalty Level

As the penalties and disciplinary actions under the Bill are already on par with those offences of similar nature in other ordinances, the proposed penalty level should have adequate punitive and deterrent effects to foster compliance with statutory requirements and uplift the efficiency of the regulatory control, thereby further ensuring lift and escalator safety. **Annexes 5, 6** and 7 set out the penalties and disciplinary actions for offences under LESO and offences of similar nature under other ordinances.

8. Practical Guidelines on Manpower Arrangement

The codes of practice issued under LESO provide practical guidelines on how to carry out lift and escalator works. Registered

contractors in arranging for staff to carry out these works have to follow the guidelines on "support to the engineering staff" and "work to be carried out by two or more lift workers". The guidelines specifically point out that registered contractors have to provide adequate support to the engineering staff and the specified work items have to be carried out by two or more workers. Extracts of relevant guidelines are at **Annex 8.** In anticipation of the introduction of the Bill, EMSD and the industry are now reviewing the existing codes of practice, including the above guidelines on manpower arrangement.

9. Training required for registration renewal of registered engineers and registered workers

According to the Bill, every registered engineer and registered worker is required to renew his/her registration every five years irrespective of whether the registration status is acquired by meeting the transitional qualification requirements⁸. Applicants for renewal should meet continuous working and self-development requirements mandated for renewal. A registered engineer and a registered worker applying for renewal should have completed relevant training of not less than 90 hours and 30 hours respectively within the 5 years prior to the submission of application for renewal. The Task Force is now deliberating the content and form of training etc. The proposed acceptable content of training under consideration includes relevant technology and technical knowhow; general occupational health, and knowledge on safety and environmental protection and work management etc. The proposed form of training includes training arranged by registered lift and escalator contractors, courses organised by the Vocational Training Council, worker unions, professional bodies and government departments (e.g. the Labour Department or EMSD etc.), career talks and seminars etc. We will formulate guidelines on the acceptable content and form of training after having taken into consideration the views of the Task Force.

Furthermore, for persons who have acquired their registration status through meeting the transitional qualification requirement, there is

The transitional qualification requirements for applying registration as a registered engineer and a registered worker are respectively set out at Appendices E and F to LegCo Paper CB(1)2528/10-11(01) submitted to Bills Committee on 17 June 2011.

no provision in the Bill requiring them to meet the basic requirements⁹ for renewal.

Yours sincerely,

(Jimmy PM CHAN) for Secretary for Development

Encl.

c.c. w/encl.

Director of Electrical and Mechanical Services (Attn: Mr Alfred SIT)
Law Officer (Civil Law), Department of Justice (Attn: Ms Bonnie CHAU)
Law Draftsman, Department of Justice (Attn: Ms Frances HUI and Ms Angie LI)

Basic requirements for registered lift and escalator engineers are: they should be registered professional engineers of relevant disciplines, with at least two years' relevant working experience. Basic requirements for registered personnel engaged in lift and escalator works are: they should have (i) the academic qualification specified and not less than 4 years' relevant working experience; or (ii) not less than 8 years' relevant working experience and passed the accredited trade test.

Summary of the views of stakeholders given at the meetings of the Task Force or Sub-groups and the response of the Administration

This document outlines the views of stakeholders given at the meetings of the Task Force or Sub-groups and the response of the Administration. The views of stakeholders are mainly related to the following issues:

- 1. Overall contents of the Lifts and Escalators Bill (the Bill)
- 2. Duties of responsible persons for lifts and escalators (responsible persons)
- 3. Examination of lifts and escalators
- 4. Registration of certain persons involved in lift and escalator works
- 5. Composition of disciplinary board panel
- 6. General issue on publicity and public education

1. Overall contents of the Bill			
Stakeholder	Summary of views	Administration's response	
Representative of the Building Services Operation and Maintenance Executives Society (BSOMES)	BSOMES concurred with the inclusion of appropriate elements of offence into the provisions of the Bill which are relevant to responsible persons in order to prevent responsible persons from inadvertently contravening the relevant provisions.	BSOMES for the inclusion of appropriate elements of offence into the provision of the Bill.	
Representative of the Lift and Escalator Contractors Association (LECA) and the Registered Elevator and Escalator Contractors Association Ltd. (REECAL)	■ LECA and REECAL suggested that the Government should establish a registration system for lift and escalator owners.		
LECA	■ LECA supported the extension of the application of the legislation to cover lifts/escalators belonged to the Government.		

1. Overall contents of the Bill			
Stakeholder	Summary of views	Administration's response	
The Engineers / Contractors Registration Sub-group	■ The Engineers / Contractors Registration Sub-group discussed and agreed to maintain the current arrangement that in arranging registered engineers to carry out lift and escalator examinations, responsible persons are provided with the options to arrange through an independent checking body or the	■ The Administration noted the view of the Engineers / Contractors Registration Sub-group.	
	registered contractors undertaking the maintenance works.		

2. Duties of responsible persons [clauses 15, 20 to 23, 46 and 51 to 53 of the Bill]				
Stakeholder	Summary of views	Administration's response		
LECA	■ Whether the public could directly employ registered lift/escalator workers to carry out any lift/escalator works.	■ To properly and safely carry out lift and		

2.	2. Duties of responsible persons [clauses 15, 20 to 23, 46 and 51 to 53 of the Bill]		
	Stakeholder	Summary of views	Administration's response
Anna de la constanta de la con			persons to arrange registered engineers to carry out the periodic examinations of lifts and escalators as well as certain other specified examinations.

3. Examination of lifts and escalators [clauses 22 and 53 of the Bill]				
Stakeholder	Summary of views	Administration's response		
The Hong Kong General Union of Lift and Escalator Employees (HKGULEE)	HKGULEE supported that lift and escalator owners would be allowed to cause registered engineers to carry out periodic examination within two months before the expiry of the use permit. The advancement of the periodic examination to the preceding two months would not shorten the validity of the use permit.	HKGULEE for the proposed improvement in regulatory process. Reference can be made to clause 22, clause 53 and schedule 5 of the Bill		
LECA	■ LECA suggested that the Electrical and Mechanical Services Department (EMSD) should waive the fees for use permits rendering the workflow more smoothly.	charged by the Government should in general be		

3. Examination of lift	s and escalators [clauses 22 and 53 of the Bill]
Stakeholder	Summary of views Administration's response
	fees to the Legislative Council.

4. Registration of certain persons involved in lift and escalator works [clauses 74 to 94 the Bill]			
Stakeholder	Summary of views	Administration's response	
A. Registration and r	renewal of registration of contractors [clauses 74	to 77, clauses 86 to 89 of the Bill]	
Engineers/ Contractors Registration Sub-group	The Engineers/Contractors Registration Sub-group supported the provisions under the Bill for registrations and renewal of registrations as registered contractors.		
B. Registration and r	registration renewal of engineers [clauses 78 to 81	and clauses 90 to 93 of the Bill]	
Engineers/Contractors Registration Sub-group	The Engineers / Contractors Registration Sub-group opined that the registration systems for lift engineers and escalator engineers should continue to be separated. Guidelines should be established for strict verification of the relevant working experience of registered professional engineers.	Engineers/Contractors Registration Sub-group. Under the proposed legislation, there will have separate registration for lift engineers and escalator engineers. Reference can be made to	
		Task Force and then provide relevant guidelines and "How to Apply" for reference of the trade and the applicants.	

4. Registration of certain persons involved in lift and escalator works [clauses 74 to 94 the Bill]			
Stakeholder	Summary of views	Administration's response	
Engineers/Contractors Registration Sub-group	■ With respect to the recognized disciplines of RPE, the Engineers / Contractors Registration Sub-group suggested in addition to the five disciplines, i.e. Mechanical, Marine and Navel Architecture, Electrical, Electronic and Building Services, the inclusion of other disciplines, such as Control, Automation and Instrumentation (CAI).		
Engineers/Contractors Registration Sub-group Engineers/Contractors Registration Sub-group	 The Engineers/Contractors Registration Sub-group supported that registered engineers should have attained not less than 90 hours of continuing professional development in the preceding 5 years. The Engineers/Contractors Registration Sub-group discussed and agreed that continuing professional development courses should include lift and escalator related courses. The Sub-group considered that the percentage of in-house training courses or courses offered by registered contractors should not be set. The definition of continuing professional development should be similar to relevant definition of HKIE. 	for the relevant registration renewal requirements.	
Engineers/Contractors	■ The Engineers / Contractors Registration	■ The Administration noted the support of the	

4. Registration of cer	4. Registration of certain persons involved in lift and escalator works [clauses 74 to 94 the Bill]				
Stakeholder	Summary of views	Administration's response			
Registration Sub-group	Sub-group agreed that registered contractors should actively consider setting up recognized professional training programmes for engineering graduates in order to attract high calibre graduates to join the lift and escalator industry.	recognized professional training programmes for engineering graduates. Many contractors had expressed their interests in the training plan and would actively liaise and organize the works with HKIE.			
Engineers/Contractors Registration Sub-group	The Engineers/Contractors Registration Sub-group discussed and agreed that a gentle reminder issued by EMSD to registered engineers before expiration of their registrations, so as to allow sufficient time for them to submit their registration renewal applications through different means (such as by mail or email).	 The Administration noted the view of the Engineers/Contractors Registration Sub-group. EMSD will issue gentle reminders well before the registration expiry dates to registered engineers to let them have sufficient time for lodging their applications for renewal of registrations. 			
Engineers/Contractors Registration Sub-group	The Engineers/Contractors Registration Sub-group agreed that holders of a higher diploma, higher certificate or degree had to pass stringent assessment similar to that for applications made currently.	■ EMSD will ensure that registrations are granted to engineers with the required qualification, experience and competency.			
Engineers/Contractors Registration Sub-group	If registered engineers fail to apply for registration renewal by the expiry date, the renewal applications have to be made in accordance with the registration requirements of the proposed legislation. Some members	■ EMSD will issue gentle reminders well before the registration expiry dates to registered engineers to let them have sufficient time for lodging their applications for renewal of registrations.			

4. Registration of certain persons involved in lift and escalator works [clauses 74 to 94 the Bill]							
Stakeholder	Summary of views	Administration's response					
	of the Engineers/Contractors Registration Sub-group hoped that the renewal applications of the engineers made after the expiry dates should be processed based on the original renewal requirements.						
C. Registration and r	enewal of registration of workers [clauses 82 to						
Vocational Training Council	The Vocational Training Council asked whether the sub-contractor's workers could seek registrations.	■ Under the proposed workers registration system, sub-contractors' workers can apply for registration as registered workers if they have completed recognized practical training courses and possessed relevant working experience.					
Workers Registration Sub-groups	The Workers Registration Sub-groups supported the registration requirements for workers under the Bill, and agreed that as transitional arrangement there should be three kinds of registrations (installation and demolition; maintenance; and examination).	■ The Administration noted the support and views of the Workers Registration Sub-groups. EMSD will take into account the views of the Task Force and then provide relevant guidelines and "How to Apply" for reference of the trade and the applicants.					
Workers Registration Sub-groups	The Workers Registration Sub-group agreed that training should at the same time cover five areas, viz. occupational health and safety; lift/escalator work safety; requirements of the legislation and codes of practice; technological advancement in lifts and escalators; and the concerned engineering skills.	The Administration noted the views of the Workers Registration Sub-groups. EMSD will take into account the views of the Task Force and then provide relevant guidelines and "How to Apply" for reference of the trade and the applicants.					
Workers Registration		■ The Administration noted the support of the					

4. Registration of cer	rtain persons involved in lift and escalator works	[clauses 74 to 94 the Bill]
Stakeholder	Summary of views	Administration's response
Sub-groups	the registration renewal requirements of not less than one year's relevant working experience within five years and at least 30 hours of relevant training.	Workers Registration Sub-groups on the requirements of registration renewal for workers.
Workers Registration Sub-groups	■ The Workers Registration Sub-group agreed to the setting up of trade test to allow workers, without the required academic qualifications,	■ The Administration noted the support of the Workers Registration Sub-groups.
	to seek registrations via the trade test route.	■ The Vocational Training Council agreed to organize the trade tests for lift and escalator workers, and invited major industry stakeholders, including EMSD, trade associations and labour union to launch the preparatory work.
Workers Registration Sub-groups	In respect of the requirement of the applicant to have not less than 4 years working experience, the Workers Registration Sub-group considered that the experience should cover all aspects of works, including installation and demolition, maintenance, and examination, and with at least 6 months in each aspect.	The Administration noted the comments of the Workers Registration Sub-groups. EMSD will take into account the views of the Task Force and then provide relevant guidelines and "How to Apply" for reference of the trade and the applicants.
Workers Registration Sub-groups	■ The Workers Registration Sub-group agreed that applicants should provide certification or endorsement of their working experience by registered lift/escalator contractors.	The Administration noted the comments of the Workers Registration Sub-groups. EMSD will take into account the views of the Task Force and then provide relevant guidelines and "How to Apply" for reference of the trade and the

4. Registration of cer	tain persons involved in lift and escalator works	[clauses 74 to 94 the Bill]
Stakeholder	Summary of views	Administration's response
		applicants.
The Workers Registration Sub-groups	■ To meet the "relevant training" registration requirements, the Workers Registration Sub-group proposed that the applicant shall complete (i) at least 60 hours of training if the application is for registration of all kinds of works; and (ii) at least 30 hours of training if the application is for registration of merely one kind of works.	Workers Registration Sub-groups. EMSD will take into account the views of the Task Force and then provide relevant guidelines and "How to Apply" for reference of the trade and the applicants.
Workers Registration Sub-groups	Following discussion, the Workers Registration Sub-group agreed to adopt the proposed content of the continuing development course, which includes relevant engineering skills and also knowledge on technology, general occupational health, safety and environmental protection and work management, etc.	The Administration noted the views of the Workers Registration Sub-groups. EMSD will take into account the views of the Task Force and then provide relevant guidelines and "How to Apply" for reference of the trade and the applicants.
·	Following discussion, the Workers Registration Sub-group agreed to adopt the proposed relevant draft guidelines on continuing development course and the template of training record proposed by EMSD. The Workers Registration Sub-group agreed to	

4. Registration of cer	tain persons involved in lift and escalator works	[clauses 74 to 94 the Bill]
Stakeholder	Summary of views	Administration's response
	include environmental related continuing development courses.	
Workers Registration Sub-groups	 Some members of the Workers Registration Sub-groups requested the Government to cut part of the registration fees by subsidizing lift/escalator workers practicing in the trade, making reference to arrangement under other legislation, e.g. registration as a registered minor works contractor (individual) within the purview of the Buildings Department. HKGULEE's representatives requested the Government to consider waiving the registration fees of workers as the existing registered contractors and registered engineers would be deemed to be registered under the 	 It is an established Government policy that fees charged by the Government should in general be set at levels adequate to recover the full cost of providing the goods or services. The Administration will carefully consider all relevant factors, including fairness principle as well as the need and the views of practitioners. Following enactment of the Bill, the existing registered engineers are not required to pay registration fees since these people have already been registered under the existing legislation and EMSD does not need to make another assessment.
	proposed legislation when it comes into effect and no payment of registration fees would be required.	

4. Registration of cer	tain persons involved in lift and escalator works [clauses 74 to 94 the Bill]
Stakeholder	Summary of views Administration's response
	for workers and engineers.

5. Composition of disciplinary board panel [Clause 108 and Schedule 11 of the Bill]								
Stakeho	lder	Summary of views Administration's response						
Streamlining	Processes	■ The Streamlining Processes Sub-group ■ The Administration noted the comments of the						
Sub-group		concurred with the inclusion of the two Streamlining Processes Sub-group. The						
		registered professional engineer disciplines of arrangement for the formation of the disciplinary						
		(i) Marine and Naval Architectural, and (ii) board panel can be observed from Schedule 11 of						
		Control, Automation and Instrumentation the Bill.						
		respectively into the Mechanical and Building						
		Services, and Electrical and Electronics						
		categories of the disciplinary board panel.						

6. General issue on	6. General issue on publicity and public education									
Stakeholder	Summary of views	Administration's response								
Consumer Council	■ The Consumer Council suggested that EMSD should launch a series of promotional activities to let the public have a better understanding of the responsible persons' duties.	Subject to the passage of the Bill in Legislative Council, the Administration plans to launch a								

6. General issue on publi	6. General issue on publicity and public education							
Stakeholder	Summary of views	Administration's response						
		also through media to promote the key						
	legislative issues and important safety matte							
		the public, as well as holding briefing sessions to the public and the trade.						

Annex II
Information of lift equipment failure incident reported to EMSD in 2010 (total: 35 cases)

Item	Incident date	Incident location	Incident nature	Name of maintenance contractor (*original contractor ¹)	Name of installation contractor	Lift brand	Lift age (year)	Performance index for maintenance contractors (from March 2010 to February 2011)
1.	07/05/10	,	Passenger's loss of balance due to defective leveling device	* Schindler Lifts (Hong Kong) Ltd	Schindler Lifts (Hong Kong) Ltd	Schindler	24	91
2.	20/05/10	Office Block, Queensway	Passenger entrapment due to defective travel pulse transmitter		Schindler Lifts (Hong Kong) Ltd	Schindler	20	91
3.	14/07/10	Hong Cheung Street,	device	(Hong Kong) Ltd	Schindler Lifts (Hong Kong) Ltd		48	91
4.	30/08/10	Jordon	Passenger's loss of balance due to defective leveling device	* Schindler Lifts (Hong Kong) Ltd	Schindler Lifts (Hong Kong) Ltd	Schindler	13	91
5.	31/08/10	Taikoo Shing Cityplaza Two, Taikoo Shing	Passenger's loss of balance due to defective leveling device	* Schindler Lifts (Hong Kong) Ltd	Schindler Lifts (Hong Kong) Ltd	Schindler	23	91
6.	07/10/10	Asia Orient Tower Place, 33 Lockhart Road, Wan Chai	Passenger entrapment due to defective level sensor	* Schindler Lifts (Hong Kong) Ltd	Schindler Lifts (Hong Kong) Ltd	Schindler	17	91
7.	19/12/09	,	Passenger entrapment due to defective guide shoe	1	KONE Elevator (HK) Ltd.	KONE	24	92
8.	25/03/10			* KONE Elevator (HK) Ltd.	KONE Elevator (HK) Ltd.	KONE	22	. 92

¹ Generally speaking, "original contractor" means the contractor who installed the lift or was the agent of the brand of the lift.

Item	Incident date	Incident location		Name of maintenance contractor (*original contractor')	Name of installation contractor	Lift brand	Lift age (year)	Performance index for maintenance contractors (from March 2010 to February 2011)
9.	16/04/10	SKH Tsang Shiu Tin Secondary School, Shatin	device Passenger's loss of balance due to defective leveling device	* KONE Elevator (HK) Ltd.	KONE Elevator (HK) Ltd.	KONE	5	92
10.	26/05/10	Pok Hong Estate, Shatin	Passenger's loss of balance due to broken guide shoe		KONE Elevator (HK) Ltd.	Falconi	25	92
11.			Passenger entrapment due to worn out bearing of the governor pulley	Ltd.	KONE Elevator (HK) Ltd.	KONE	18	. 92
12.	31/10/10	Fu Shin Estate Commercial Complex, Tai Po	Passenger entrapment due to defective slow down switch	* KONE Elevator (HK) Ltd.	KONE Elevator (HK) Ltd.	KONE	24	92
13.	16/12/09	49 Village Road, Happy Valley	Vehicle damaged due to malfunction of the hydraulic component	* Chevalier (HK) Limited	Chevalier (HK) Limited	Semag	9	96
14.	26/12/09	Shatin Galleria, Shatin	Fire due to defective electrical component	Chevalier (HK) Limited	Holake Hong Kong Lifts Ltd.	Dong Yang	20	96
15.		Dock Street, Hung Hom	Fire due to defective electrical component	* Chevalier (HK) Limited	Chevalier (HK) Limited	Toshiba	20	96
16.	To control and the control and	Shatin	service due to damage of the selector		Chevalier (HK) Limited	Toshiba	25	96
17.		Winfield Building, 1-14 Ventris, Happy Valley	defective leveling device	* Fujitec (HK) Co. Ltd.	Fujitec (HK) Co. Ltd.	Fujitec	26	89
18.			Passenger's loss of balance due to slippery braking component		Fujitec (HK) Co. Ltd.	Fujitec	12	89
19.	28/09/10	,	Passenger entrapment due to defective position detector	* Fujitec (HK) Co. Ltd.	Fujitec (HK) Co. Ltd.	Fujitec	24	89

Item	Incident date	Incident location	Incident nature	Name of maintenance contractor (*original contractor¹)	Name of installation contractor	Lift brand	Lift age (year)	Performance index for maintenance contractors (from March 2010 to February 2011)
20.		Kam Dat House, Kam Ying Court, Ma On Shan	Motor equipment damaged	* Sigma Elevator (HK) Ltd.	Sigma Elevator (HK) Ltd.	LG	8	78
21.		Tsui Lai Garden, Sheung Shui	Stoppage of lift service due to failure of the counterweight	* Sigma Elevator (HK) Ltd.	Sigma Elevator (HK) Ltd.	Goldstar	21	78
22.		Enterprise Square 5, Kowloon Bay	Passenger's loss of balance due to defective leveling device		Hitachi Elevator Engineering Co. (HK) Ltd.	Hitachi	4	96
23.		World Finance Centre, South Tower, Tsim Sha Tsui	Passenger's loss of balance due to defective leveling device	* Hitachi Elevator Engineering Co. (HK) Ltd.	Hitachi Elevator Engineering Co. (HK) Ltd.	Hitachi	27	96
24.		Heng Yuet House, Heng On Estate, Ma On Shan	Stoppage of lift due to defective wiring connection	Otis Elevator Company (HK) Limited	Shan On Engineering Company Limited	Sabiem	24	73
25.	22/07/10	Shum Shui Po MTR Station	Stoppage of stairlift due to defective stabilizer bracket screw	Otis Elevator Company (HK) Limited	KONE Elevator (HK) Ltd.	Garaventa	3	73
26.		233 Fa Yuen Street, Mong Kok	Passenger injury due to defective electrical component	Holake Hong Kong Lifts Ltd.	Analogue Elevator Company Limited	Dong Yang	21	83
27.		Regal Riverside Hotel, Tai Chung Kiu Road, Shatin	Stoppage of lift due to defective counterweight roller-guide	*Holake Hong Kong Lifts Ltd.	Schindler Lifts (Hong Kong) Ltd	Schindler	24	83

Item	Incident date	Incident location	Incident nature	Name of maintenance contractor (*original contractor')	Name of installation contractor	Lift brand	Lift age (year)	Performance index for maintenance contractors (from March 2010 to February 2011)
28.	13/08/10	Block A, 608 Castle Peak Road, Sham Shui Po	Fire due to defective motor equipment	Chun Ming Elevator Co. Ltd.	Mitsubishi Elevator Hong Kong Company Limited	Mitsubishi	27	85
29.	09/09/10		Fire due to breakage of suspension rope	Chun Ming Elevator Co. Ltd.	Holake Hong Kong Lifts Ltd.	Dong Yang	20	85
30.	07/06/10		Stoppage of lift service due to broken suspension ropes	* Mitsubishi Elevator Hong Kong Company Limited	Mitsubishi Elevator Hong Kong Company Limited	Mitsubishi	20	81
31.	10/08/10	Centre, Kowloon Bay	Passenger's loss of balance due to defective leveling sensor	Anlev Elex Elevator Ltd.	Holake Hong Kong Lifts Ltd.	Dong Yang	21	89
32.	25/04/10	Foo Ming Street,	Passenger entrapment due to defective car door component	The Express Lift Company Limited	Schindler Lifts (Hong Kong) Ltd	Schindler	46	96
33.	10/04/10	43 Dundas Street, Mong Kok	Motor equipment damaged	Antofield Engineering Co. Ltd	Otis Elevator Company (HK) Limited	Guangri	32	7.4
34.	17/07/10		Fire due to defective electrical component	*ThyssenKrupp Elevator (HK) Limited	ThyssenKrupp Elevator (HK) Limited	ThyssenKrupp	9	91
35.			Fire due to defective electrical component	Shineford Engineering Limited	Chevalier (HK) Limited	Toshiba	34	72

Item	Incident	Incident	location	Incident nature	Name of	Name of installation	Lift brand	Lift	Performance
	date				maintenance	contractor		age	index for
					contractor			(year)	maintenance
					(*original				contractors
					contractor')		100		(from March 2010
									to February 2011)
					A total of 25 cases				
					(71% of the total				
					number) were				
					'maintained by				
					original				
					contractors.'	ļ [*] .			

Information of lift equipment failure incident reported to EMSD in 2009 (total: 42 cases)

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	date	Incident location		contractor (*original contractor)	Name of installation contractor	brand	age (year)	Performance index for maintenance contractor
1.	21/12/08	Tai Tung House, Tung Tau (II) Estate, Wong Tai Sin	Passenger's loss of balance due instability of leveling control device		KONE Elevator (HK) Ltd.	KONE	24	N/A
2.			Passenger's loss of balance due instability of leveling control device		KONE Elevator (HK) Ltd.	KONE	8	N/A
3.	13/01/09	Lung Cheung House, Lung Poon Court, Wong Tai Sin	Passenger entrapment due to defective compensation ropes	* KONE Elevator (HK) Ltd.	KONE Elevator (HK) Ltd.	KONE	8	N/A
4.	09/04/09	II, Lam Hing Street,	Passenger entrapment due to instability of control equipment		KONE Elevator (HK) Ltd.	KONE	18	N/A
5.		Rail Line	balance due to defective control equipment	Ltd.	, ,	Garaventa	29	A\N
6.		Moreton Terrace, Causeway Bay	ceiling decoration	Ltd.		KONE	17	N/A
7.		Nga Court, Nga Tau Kok	Activated safety system due to defective control device	* KONE Elevator (HK) Ltd.	KONE Elevator (HK) Ltd.	KONE	8	N/A
8.		Lai Court, Kwun Tong	balance due instability of leveling control device		KONE Elevator (HK) Ltd.	KONE	2	N/A
9.	26/10/09		Passenger's loss of balance due instability of leveling control device		KONE Elevator (HK) Ltd.	KONE	17	N/A
10.			Passenger entrapment due to defective motor	*Otis Elevator Company (HK) Limited	Otis Elevator Company (HK) Limited	Falconi	23	N/A

Item	Incident date	Incident location		Name of maintenance contractor (*original contractor)	Name of installation contractor	Lift brand	Lift age (year)	Performance index for maintenance contractor
11.			equipment Passenger entrapment due to broken suspension ropes	*Otis Elevator Company (HK) Limited	Otis Elevator Company (HK) Limited	Otis	23	N/A
12.	25/02/09	Heng Sing House, Heng On Estate, Ma On Shan	Poor contact of lift car position and call registration devices	Otis Elevator Company (HK) Limited	Shan On Engineering Company Limited	Sabiem	23	N/A
13.		Hing On House, Sui Wo Court, Fo Tan	due to defective control equipment	* Otis Elevator Company (HK) Limited		Otis	8	N/A
14.		Concordia Plaza, Science Museum Road, Tsim Sha Tsui	Passenger's loss of balance due defective leveling control device			Express	14	N/A
15.		Tung Yat House, Lei Tung Estate, Apleichau	Passenger's loss of balance due defective leveling control device	Company (HK) Limited	Otis Elevator Company (HK) Limited	Otis	22	N/A
16.		Sun Hung Kai Centre, 30 Harbour Road, Wanchai	Passenger injury due to defective electrical component	* Otis Elevator Company (HK) Limited	Otis Elevator Company (HK) Limited	Otis	29	N/A
17.		Lai Sun Commercial Centre, Cheung Sha Wan Road	Passenger entrapment due to defective control equipment	* Sigma Elevator (HK) Ltd.	Sigma Elevator (HK) Ltd.	Goldstar	22	N/A
18.		38 Hau Wo Street, Kennedy Town	Passenger entrapment due to defective car door component	* Sigma Elevator (HK) Ltd.	Sigma Elevator (HK) Ltd.	Goldstar	14	N/A
19.		Block 4, Jubilee Garden, Fo Tan	1	Sigma Elevator (HK) Ltd.	Chevalier (HK) Limited	Toshiba	23	N/A
20.		Block 2 Lok Hin Terrace, Chai Wan	Passenger entrapment due to malfunction of the position detectors	* Sigma Elevator (HK) Ltd.	Sigma Elevator (HK) Ltd.	Goldstar	14	N/A
21.		Jubilee Garden, Fo Tan, Shatin	Stoppage of lift service due to instability of control equipment		Chevalier (HK) Limited	Toshiba	23	N/A
22.	21/11/09	Shing Yin House, Tin Shing Court, Tin Shui Wai	Passenger entrapment due to activation of the governor pulley switch	* Sigma Elevator (HK) Ltd.	Sigma Elevator (HK) Ltd.	LG	6	N/A

Item	date	Incident location	Incident nature	contractor (*original contractor)	Name of installation contractor	Lift brand		contractor
23.	15/01/09		Passenger entrapment due to fault tripping signal	* Chevalier (HK) Limited	Chevalier (HK) Limited	Toshiba	12	N/A
24.	17/02/09	Block 7, Braemar Hill Mansions, North Point	Passenger entrapment due to defective floor selection device		Chevalier (HK) Limited	Toshiba	32	N/A
25.	18/02/09	Sung Kee Factory Building, Kwai Chung	Passenger entrapment due to damaged car door sill		Chevalier (HK) Limited	Toshiba	38	N/A
26.	28/04/09	Block E, Amoy Gardens, Ngau Tau Kok	Passenger entrapment due to defective floor selector		Chevalier (HK) Limited	Toshiba	24	N/A
27.	31/10/09	Block B1, Kornhill, Quarry Bay	Passenger's loss of balance due to instability of car door component	Limited	Chevalier (HK) Limited	Toshiba	23	N/A
28.	26/01/09	Block 1, Heng Fa Chuen, Chai Wan	Passenger's loss of balance due instability of leveling control device	*Fujitec (HK) Co. Ltd.	Fujitec (HK) Co. Ltd.	Fujitec	22	N/A
29.	06/06/09	Lung Fung Garden Car Park, Sheung Shui	Fire due to defective electrical component	*Fujitec (HK) Co. Ltd.	Fujitec (HK) Co. Ltd.	Fujitec	18	N/A
30.	31/08/09	Houston Centre, 63 Mody Road, Tsimshatsui East	Fire due to defective electrical component	*Fujitec (HK) Co. Ltd.	Fujitec (HK) Co. Ltd.	Fujitec	28	N/A
31.	17/11/09	Block 1, Tai Ping Industrial Centre, Tai Po	Wear and tear of the governor rope	*Fujitec (HK) Co. Ltd.	Fujitec (HK) Co. Ltd.	Fujitec	27	N/A
32.	18/02/09	World Commercial Centre, Harbour City,	Fire due to defective electrical component		Hitachi Elevator Engineering Co. (HK)	Hitachi	36	N/A

Item	Incident date	Incident location	Incident nature	Name of maintenance contractor (*original	Name of installation contractor	Lift brand	Lift age (year)	Performance index for maintenance
		Tsim Sha Tsui		contractor) Ltd.	Ltd.			contractor
33.	03/03/09	Pearl City Mansion, Peterson Street, Causeway Bay	Passenger's loss of balance due instability of leveling control device	*Hitachi Elevator Engineering Co. (HK) Ltd.	Hitachi Elevator Engineering Co. (HK) Ltd.	Hitachi	39	N/A
34.	12/03/09	Westlands Centre, 20 Westlands Road, Quarry Bay	Suspension rope pulled out of the socket termination	* Schindler Lifts (Hong Kong) Ltd	Schindler Lifts (Hong Kong) Ltd	Schindler	20	N/A
35.	11/04/09	Luk Yeung Galleria (Shopping Centre), Tsuen Wan	Passenger entrapment due to defective car door component	* Schindler Lifts (Hong Kong) Ltd	Schindler Lifts (Hong Kong) Ltd	Schindler	26	N/A
36.	30/03/09	Capital Commercial Building, Shanghai Street, Mong Kok	Passenger entrapment due to dislocation of leveling sensor	*Elevator Parts Engineering Company Limited	Elevator Parts Engineering Company Limited	Helco	19	N/A
37.	09/03/09	Granville Building, 14 Granville Road, Tsim Sha Tsui	Passenger's loss of balance due instability of leveling control device	Holake Hong Kong Lifts Ltd.	Otis Elevator Company (HK) Limited	Otis	44	N/A
38.	20/06/09	Shui On Court, 1-3 Tai Yuen Street, Wanchai	Passenger entrapment	Chun Ming Engineering Co. Ltd.	Hang Fung Lift Limited	Diebold	17	N/A
39.	13/08/09			Nikkin Lifts & Escalators Limited	Shan On Engineering Company Limited	Sabiem	48	N/A
40.	19/02/09	Hong Sang House, Kin Sang Estate, Tuen Mun	Passenger entrapment due to defective car door component	The Express Lift Company Limited	Hitachi Elevator Engineering Co. (HK) Ltd.	Hitachi	20	N/A
41.	20/04/09	Yue Hwa Godown Building, 57-61 Wo Yi Hop Road, Kwai Chung	electrical component	Antonfield Engineering Co., Ltd.	Schindler Lifts (Hong Kong) Ltd	Schindler	24	N/A

Item	Incident	Incident location	Incident nature	Name of maintenance Name of installation			Lift	Performance
	date			contractor (*original contractor)	contractor	brand	age (year)	index for maintenance contractor
42.		Block 4, Phase 1, Tai Hing Garden, Tuen Mur	Passenger entrapment due to defective controlling device	Lighthouse Elevator Engineering Limited	Schindler Lifts (Hong Kong) Ltd	Schindler	20	N/A
				A total of 33 cases				

A total of 33 cases (79% of the total number) were 'maintained by original contractors.'

Information of lift equipment failure incident reported to EMSD in 2008 (total: 36 cases)

Table 1	I	I	<u> </u>	- · · ·				1
	date	Incident location		contractor (original contractor)	Name of installation contractor	brand		Performance index for maintenance contractor
1.		Ngau Tau Kok	balance due to defective brake contact		Schindler Lifts (Hong Kong) Ltd	Schindler	23	N/A
		Court, Tuen Mun	Passenger entrapment due to defective generator component	* Schindler Lifts (Hong Kong) Ltd	Schindler Lifts (Hong Kong) Ltd	Schindler	14	N/A
3.		5, 418 Kwun Tong Road, Kwun Tong	Passenger entrapment due to broken tension spring	* Schindler Lifts (Hong Kong) Ltd	Schindler Lifts (Hong Kong) Ltd	Schindler	5	N/A
		Ka Yee House, Ka Wai Chuen, Hung Hom	balance due to defective motor component	* Schindler Lifts (Hong Kong) Ltd	Schindler Lifts (Hong Kong) Ltd	Schindler	18	N/A
5.	28/07/08	Great Eagle Centre, 23 Harbour Road, Wan Chai	Passenger entrapment due to defective electrical component	* Schindler Lifts (Hong Kong) Ltd	Schindler Lifts (Hong Kong) Ltd	Schindler	20	N/A
6.			Passenger hit by lift door due to malfunction of door opening device		Schindler Lifts (Hong Kong) Ltd	Schindler	19	N/A
	,,	Quarry Bay	Passenger entrapment due to fault tripping signal		Schindler Lifts (Hong Kong) Ltd	Schindler	0	N/A
8.		Court, Tseung Kwan O	Passenger entrapment due to fault tripping signal	(Hong Kong) Ltd	Schindler Lifts (Hong Kong) Ltd	Schindler	9	N/A
		Leung King Estate Shopping Centre, Tuen Mun	electrical component	Company (HK) Limited		Otis	20	N/A
10.	04/07/08	Bank of China, Central	contact	Company (HK) Limited		Otis	47	N/A
		Tsui Court, Siu Sai Wan	balance due to instability of leveling control device	Company (HK) Limited		Otis	6	N/A
12.		Siu Hang House, Siu Hong Court, Tuen Mun		* Otis Elevator Company (HK) Limited	Otis Elevator Company (HK) Limited	Falconi	24	N/A

Item	Incident	Incident location	Incident nature	Name of maintenance	Name of installation	Lift	Lift	Performance
	date			contractor (original contractor)	contractor	brand	age (year)	index for maintenance contractor
			instability of leveling control device					
13.	24/11/08	Beneville Block 3, Tuen Mun	Passenger's loss of balance due to poor governor switch contact	Company (HK) Limited		Otis	5	N/A
14.		Block 14, Tai Po Centre, 3 On Pong Road, Tai Po	Passenger entrapment due to defective power switch contact	1	Fujitec (HK) Co. Ltd.	Fujitec	21	N/A
15.	27/02/08	Block 8, Heng Fa Chuen, Chai Wan	Passenger's loss of balance due to instability of leveling control device	Ltd.	Fujitec (HK) Co. Ltd.	Fujitec	21	N/A
16.	27/07/08		Passenger entrapment due to instability of control device	Ltd.	Fujitec (HK) Co. Ltd.	Fujitec	22	N/A
17.			Passenger entrapment due to broken suspension ropes		Fujitec (HK) Co. Ltd.	Fujitec	17	N/A
		Yau Tai House, Tin Yau Court, Tin Shiu Wai	balance due to instability of leveling control device	Ltd.	KONE Elevator (HK) Ltd.	KONE	16	N/A
		Nga Tsui House, Lok Nga Court, Ngau Tau Kok	balance due to instability of leveling control device	Ltd.	KONE Elevator (HK) Ltd.	KONE	7	N/A
20.		Choi Mui House, Block F, Choi Ming Court, Tseung Kwan O	balance due to instability of leveling control device	Ltd.	KONE Elevator (HK) Ltd.	KONE	6	N/A
21.	12/11/08	Central MTR Station, Central		KONE Elevator (HK) Ltd.	Otis Elevator Company (HK) Limited	Otis	10	N/A
22.	25/10/08	Shin Nga House, Fu Shin Estate, Tai Po	failure	Elevator (HK) Limited		KONE	23	N/A
23.	10/11/08		Passenger entrapment due to activation of the	ThyssenKrupp Elevator (HK) Limited	Fujitec (HK) Co. Ltd.	Fujitec	23	N/A

Item	Incident	Incident location	Incident nature	Name of maintenance	Name of installation	Lift	Lift	Performance
	date			contractor (original contractor)	contractor	brand	age (year)	index for maintenance contractor
			compensation rope limited switch					
24.	27/11/08	Shin Chui House, Fu Shin Estate, Tai Po	Passenger entrapment due to due to failure of the governor suspension rope		KONE Elevator (HK) Ltd.	KONE	23	N/A
25.	27/12/08	Come On Building, Castle Peak Road, Tuen Mun	Fire due to poor power transformer insulation		Chevalier (HK) Limited	Toshiba	27	N/A
26.	29/10/08	Belvedere Garden Phase 2, Tsuen Wan	Fire due to defective electrical component	Ben Fung Machineries & Engineering Ltd	Analogue Elevator Company Limited	Dong Yang	19	N/A
27.	10/11/08	Pacific Building, 65-67 Kimberly Road, Tsim Sha Tsui	Fire due to defective electrical component	Ben Fung Machineries & Engineering Ltd	Schindler Lifts (Hong Kong) Ltd	Schindler	20	N/A
28.	23/08/08		Fire due to defective electrical component	Nikkin Lifts & Escalators Limited	Schindler Lifts (Hong Kong) Ltd	Schindler	23	N/A
29.	25/09/08		Fire due to defective electrical component	Nikkin Lifts & Escalators Limited	Schindler Lifts (Hong Kong) Ltd	Schindler	23	N/A
30.	14/10/08	27-29 Poplar Street, Sham Shui Po	Passenger entrapment due to broken suspension ropes	Chun Ming Elevator Co. Ltd.	Ryoden Electric Engineering Co. Ltd.	Mitsubishi	29	N/A
31.		114 How Ming Street, Kwun Tong	_	Co. Ltd.	Ben Fung Machineries & Engineering Ltd	Daldoss	28	N/A
		Greenfield Garden, 1 Fung Shu Wo Road, Tsing Yi	balance due to instability of leveling control device		Ltd.		18	N/A
33.	29/07/08	Wing Fai Centre, F.S.S.T.L. 125, Fanling	Passenger's loss of balance due to instability of leveling control device	Holake Hong Kong Lifts Ltd.	Hang Fung Lift Limited	Diebold	13	N/A
34.	16/12/08	Tam Kung Mansion, 45-63 Tam Kung Road, To Kwa Wan	Passenger entrapment due to fault tripping signal	Toki Elevator Engineering Ltd.	Mitsubishi Elevator Hong Kong Company Limited	Mitsubishi	45	N/A
35.	26/05/08	Fuk Chiu Factory	Passenger's loss of	*Mitsubishi Elevator	Mitsubishi Elevator	Mitsubishi	37	N/A

Item	Incident date	Incident location			Name of installation contractor	Lift brand	Lift age (year)	Performance index for maintenance contractor
		Building, 20 Bute Street, Mongkok	balance due to instability of leveling control device		Hong Kong Company Limited			
36.	28/07/08	Kwun Tong Harbour Plaza, 182 Wai Yip Street, Kwun Tong	1	* Anlev Elex Elevator Ltd.	Analogue Elevator Company Limited	Dong Yang	20	N/A
				A total of 23 cases (64% of the total number) were 'maintained by original contractors.'				

Information of lift equipment failure incident reported to EMSD in 2007 (total: 27 cases)

	date	Incident location		contractor (*original contractor)	Name of installation contractor	brand	age	Performance index for maintenance contractor
1.	02/04/07	Tuen Mun	balance due to defective leveling control device	Ltd.	Schindler Lifts (Hong Kong) Ltd		17	N/A
2.	01/05/07	1-17 Sai Lau Kok Road, Tsuen Wan	Stoppage of lift service due to defective leveling control device	Ltd.	KONE Elevator (HK) Ltd.	KONE	10	N/A
3.	24/06/07	Tuen Mun	balance due to defective leveling control device	Ltd.	Schindler Lifts (Hong Kong) Ltd	Schindler	17	N/A
	01/08/07	Park Vale Tower, 1060 Quarry Bay	Passenger's loss of balance due to defective leveling control device	Ltd.	KONE Elevator (HK) Ltd.	KONE	18	N/A
	08/09/07		Passenger's loss of balance due to defective leveling control device	Ltd.	KONE Elevator (HK) Ltd.	KONE	4	N/A
	09/10/07	Kwan O	due to defective car door lock	Ltd.	KONE Elevator (HK) Ltd.		9	N/A
7.	22/10/07	San Woon House, San Wai Court, Tuen Mun	Passenger's loss of balance due to defective leveling control device	Ltd.	KONE Elevator (HK) Ltd.	KONE	7	N/A
8.	24/12/07	Sun Tuen Mun Centre, 55-65 Lung Mun Road, Tuen Mun	Passenger's loss of balance due to defective leveling control device	KONE Elevator (HK) Ltd.	Schindler Lifts (Hong Kong) Ltd	Schindler	17	N/A
	05/01/07		due to defective leveling control device		Schindler Lifts (Hong Kong) Ltd	Schindler	7	N/A
10.	29/03/07	Riviera Gardens, Tuen Wan	Passenger's loss of balance due to defective leveling control device	(Hong Kong) Ltd	Schindler Lifts (Hong Kong) Ltd	Schindler	18	N/A
		Riviera Gardens, Tuen Wan		*Schindler Lifts	Schindler Lifts (Hong Kong) Ltd	Schindler	18	N/A
12.	28/04/07		Passenger's loss of balance due to defective		Schindler Lifts (Hong Kong) Ltd	Schindler	46	N/A

Item	Market In Addition of the State of	Incident location	Incident nature	Name of maintenance	Name of installation	Lift	Lift	Performance
	date			contractor	contractor	brand	age	index for
				(*original			(year)	maintenance
				contractor)			1 7	contractor
		Road, Central	leveling control device					
		Southern, Repulse Bay	the lift car	Kong) Ltd	KONE Elevator (HK) Ltd.	KONE	13	N/A
14.	20/09/07	Times Square, 1 Matheson Street, Causeway Bay	Stoppage of lift service due to defective bearing		Schindler Lifts (Hong Kong) Ltd	Schindler	1.4	N/A
15.	30/11/07		Smoke due to overheat of motor component	*Schindler Lifts (Hong Kong) Ltd	Schindler Lifts (Hong Kong) Ltd	Schindler	11	N/A
16.		Bldg, San On Street, Tuen Mun	Stoppage of lift service due to defective landing door component	*Otis Elevator Company (HK) Limited	Otis Elevator Company	Otis	33	N/A
		Voeux Road Central, Central		*Otis Elevator Company (HK) Limited		Otis	46	N/A
18.	26/11/07	Kwai Yin Court, Tai Wo Hau, Tsuen Wan	Passenger's loss of balance due to defective leveling control device	*Otis Elevator Company (HK) Limited	Otis Elevator Company (HK) Limited	Express	4	N/A
	13/01/07	Mong Kok	Passenger entrapment due to broken machine shaft		Hang Fung Lift Limited	Nippon	25	N/A
		Hotel, 33 Canton Road, Tsim Sha Tsui	due to poor contact of electrical component	_	Analogue Elevator Company Limited	Dong Yang	19	N/A
			Abnormal car movement due to defective brake component		Swire Eng. Limited	Falconi	28	N/A
		Yardley Commercial Building, 3-6 Connaught Road, Sheung Wan		*Hitachi Elevator Engineering Co. (HK)	Hitachi Elevator Engineering Co. (HK) Ltd.	Hitachi	26	N/A
			balance due to defective car door component	Holake Hong Kong Lifts Ltd.	Schindler Lifts (Hong Kong) Ltd	Shanghai	25	N/A
24.				*Fujitec (HK) Co. Ltd.	Fujitec (HK) Co. Ltd.	Fujitec	13	N/A
25.					Hitachi Elevator Engineering Co. (HK)	Hitachi	27	N/A

Item	Incident	Incident location	Incident nature	Name of maintenance	Name of installation	Lift	Lift	Performance
	date			contractor (*original contractor)	contractor	brand	age	index for
		Road, Tsuen Wan	electrical wire		Ltd.			
26.		Building, Cheung Sha Wan	Stoppage of lift service due to defective door re-opening device	ThyssenKrupp Elevator (HK) Limited	Mitsubishi Elevator Hong Kong Company Limited	Boral	37	N/A
27.	12/07/07		Passenger's loss of balance due to defective leveling control device		Fujitec (HK) Co. Ltd.	Fujitec	20	N/A

A total of 17 cases (63% of the total number) were 'maintained by original contractors.'

Information of lift equipment failure incident reported to EMSD in 2006 (total: 33 cases)

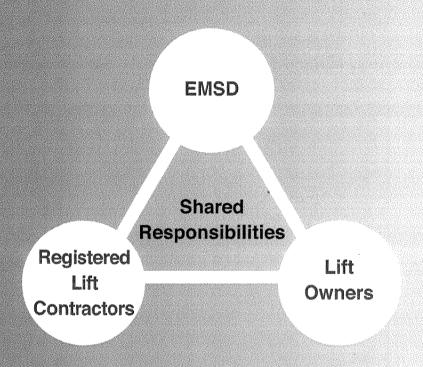
Item	Principal Carthad and American	Incident location	Incident nature		Name of installation		e Palasta (Balasa)	erformance
	date			contractor (*original contractor)	contractor	 In the state of th	year) m	ndex for aintenance ontractor
1.	03/01/06		balance due to defective electrical component	* Otis Elevator Company (HK) Limited		GEC 13	3 N	/A
2.	27/01/06		Passenger's loss of balance due to defective car door lock			Otis 5	N	/A
3.	22/02/06	KCRC HQ Building, Fo Tan	Passenger entrapment due to defective electrical component	* Otis Elevator Company (HK) Limited	1 1 2	Otis 12	2 N.	/A
4.	24/02/06	China Taiping Tower, Causeway Bay	Passenger entrapment due to defective electrical component	* Otis Elevator Company (HK) Limited		Otis 15	5 N.	/A
	01/04/06	Shopping Centre, Kwai Hing		* Otis Elevator Company (HK) Limited		Express 1	N,	/A
	30/04/06	Court, Tuen Mun	Falling object inside the lift car	* Otis Elevator Company (HK) Limited	Otis Elevator Company (HK) Limited	Falconi 6	N,	/A
7.	29/06/06		Passenger entrapment due to defective electrical component	* Otis Elevator Company (HK) Limited	Otis Elevator Company (HK) Limited	Express 13	N,	/A
		Point	due to defective electrical component	* Otis Elevator Company (HK) Limited		Otis 40) N	/A
9.	30/07/06	Yat Ching House, Yee Ching, Lai Chi Kok	Passenger entrapment	* Otis Elevator Company (HK) Limited	4 2	GEC 12	N/	/A
	14/09/06	Tung Estate, Apleichau	due to oil leakage of the gear box	Company (HK) Limited	Otis Elevator Company (HK) Limited	Falconi 18	N/	/A
	15/09/06	Fuk Road, North Point	Passenger entrapment due to dislodgement of the door lock	* Otis Elevator Company (HK) Limited	Otis Elevator Company (HK) Limited	Otis 42	N/	/A
12.		Realty Garden, Conduit Road, Mid-level	Passenger's loss of balance due to defective leveling control device		Otis Elevator Company (HK) Limited	Otis 35	N/	/A

Item	Incident date	Incident location	Incident nature		Name of installation		Lift	Performance
				contractor (*original contractor)	contractor	brand	age (year)	index for maintenance contractor
		Block 15, Lei King Wan, Sai Wan Ho	Passenger entrapment due to defective electrical component	Ltd.	KONE Elevator (HK) Ltd.	KONE	18	N/A
	10/03/06	Ро	Passenger's loss of balance due to defective electrical component	Ltd.	KONE Elevator (HK) Ltd.		20	N/A
	17/03/06	Road, Aberdeen	Passenger's loss of balance due to defective leveling control device	Ltd.	KONE Elevator (HK) Ltd.	KONE	7	N/A
		Tsing Yi	electrical component	Ltd.	KONE Elevator (HK) Ltd.		15	N/A
		On Lane, Tuen Mun	re-opening device	Ltd.			7	N/A
		On Lane, Tuen Mun	electrical component	Ltd.	KONE Elevator (HK) Ltd.	KONE	7	N/A
		Yuen, Pokfulam	Passenger injury due to defective door re-opening device		Schindler Lifts (Hong Kong) Ltd	Schindler	27	N/A
		Three Pacific Place, No. 1 Queen's Road East, Wan Chai	Passenger's loss of balance due to defective leveling control device	(Hong Kong) Ltd	Schindler Lifts (Hong Kong) Ltd	Schindler	2	N/A
		Castle Peak Road, Tsuen Wan	Passenger entrapment due to defective electrical component	(Hong Kong) Ltd	Schindler Lifts (Hong Kong) Ltd	Schindler	10	N/A
22.		New Town Plaza Phase I, Shatin		* Chevalier (HK) Limited	Chevalier (HK) Limited	Toshiba	22	N/A
		Street, Tsim Sha Tsui	due to defective electrical component	* Chevalier (HK) Limited	Chevalier (HK) Limited	Toshiba	23	N/A
		Garden, Shatin	due to defective electrical component	Holake Hong Kong Lifts Ltd.	Ng Mook Kee Engineering Limited	Goldstar	16	N/A
25.		Two Chinachem Plaza,	Passenger entrapment	Holake Hong Kong Lifts Ltd.	KONE Elevator (HK) Ltd.	Kone	16	N/A

Item	Incident date		Incident nature	Name of maintenance contractor (*original contractor)	Name of installation contractor	Lift brand	Lift age (year)	Performance index for maintenance contractor
		Central, Central	electrical component					
26.	02/10/06	Ying King Mansion, 192 - 198 Hennessy Road, Wan Chai	due to defective		Schindler Lifts (Hong Kong) Ltd	Schindler	39	N/A
27.	22/06/06	Haven Mansion Woo Sung Street, Jordon	Worker injury due to moving component	* Sigma Elevator (HK) Ltd.	Sigma Elevator (HK) Ltd.	LG	8	N/A
28.	01/02/06		Stoppage of lift service due to defective car door lock		Ryoden Elevator Company Limited	Ryoden	36	N/A
29.	02/05/06	2	Falling object inside the lift car		Hitachi Elevator Engineering Co. (HK) Ltd.	Hitachi	37	N/A
30.	10/04/06	Station (West Rail),	Passenger injury due to defective door re-opening device		Mitsubishi Elevator Hong Kong Company Limited	Mitsubishi	3	N/A
31.	18/04/06	Kong Nam Industrial Building Castle Peak Road, Tsuen Wan	Falling object inside the lift car	*Fujitec (HK) Co. Ltd.	Fujitec (HK) Co. Ltd.	Fujitec	22	N/A
32.	14/10/06	Sha Tsui Road, Tsuen	Passenger entrapment due to dislodgement of the door lock	* Anlev Elex Elevator Ltd.	Anlev Elex Elevator Ltd.	Anlev	12	N/A
33.	16/04/06	Tung Fat Building, 206 Fa Yuen Street, Mong Kok	Passenger injury due to defective door re-opening device	Heng Pak Engg. Ltd.	Ng Mook Kee Engineering Limited	Falconi	40	N/A

A total of 29 cases (88% of the total number) were 'maintained by original contractors.'

Annex 3 Introduction to Registered Lift Contractors' Performance Rating



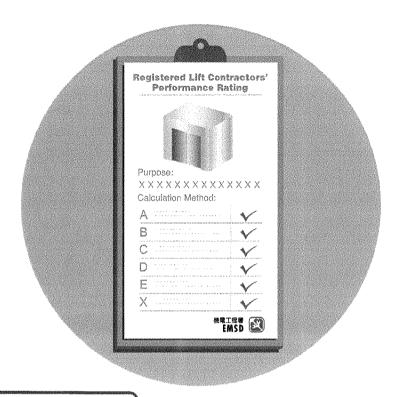




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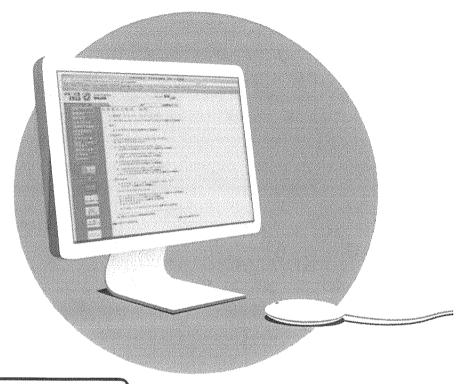
Fax: (852) 2504 5970 Website: www.emsd.gov.hk E-mail: info@emsd.gov.hk





Introduction

This leaflet briefs the background, purpose, assessment criteria and calculation method of the "Registered Lift Contractors' Performance Rating (CPR)" Scheme.



Background

The CPR is not a requirement under the Lifts and Escalators (Safety) Ordinance (the Ordinance), Chapter 327. It is an administrative measure employed by the Electrical and Mechanical Services Department (EMSD) to supplement the enforcement of the Ordinance. With a view to further enhancing the rating methodologies for the CPR scheme implemented in June 2009, the EMSD has, in collaboration with the trades, reviewed and revised the calculation method of the CPR scheme in February 2011.

Purpose

Lift owners or their management agents could make reference of the CPR to choose appropriate lift contractor for maintenance of the lifts in their premises.



Assessment Criteria

Enforcement of the CPR was based on the scheme of the performance monitoring (PM) points. If registered contractors (RC) have shown inferior performance and non-compliant items are found during lift inspection by the EMSD, the EMSD will record and aggregate the PM points based on their non-compliances. The CPR will be updated and announced every 3-month. The PM points will be kept valid for 12 successive calendar months. The contents of the assessment are shown as follows:

- (i) The non-compliant items are classified into 6 categories, namely A, B, C, D, E and X. Category A belongs to the critical safety item, which accords 15 points for each non-compliance while Categories B, C, D and E belong to the maintenance items, which accord 6 points, 4 points, 3 points and 2 points respectively for each non-compliance. Category X includes the conviction by the court for contravening the Ordinance and the guilty by the disciplinary board, which accord 20 points and 15 points respectively.
- (ii) In addition to PM points recorded in para (i), EMSD will issue a warning letter to the contractor under the following situations:
 - (a) A total of 12 PM points or more for a number of non-compliant items found in a single lift inspection; or
 - (b) An average PM point exceeds over 4 PM points within a 12-month period.
- (iii) To reflect the performance of the lift contractors effectively, only the performance results of contractors whose installations were inspected by EMSD for 5 times will be included in the table.
- (iv) The simplified examples of non-compliant items are listed in the Annex for reference.

(Remark: For details of non-compliant items, the Circular posted on the EMSD website should be referred to.)

Calculation Method

A full mark of 100 is used for the performance rating of lift contractor, calculating by the sum of the maintenance index (0 to 50 marks) and safety index (0 to 50 marks). Please refer to the following formulas:

Performance Index = Maintenance Index + Safety Index

Maintenance Index = $50 \times [1 - \frac{\text{(cumulated maintenance performance monitoring points)}}{\text{(number of inspections in the period)}}]$

Safety Index = 50 - cumulated safety performance monitoring points (each critical safety non-compliant item with 15 points)

For example: EMSD conducted 75 inspections (including 1 inspection for Category A critical safety item) on "Company A" which has recorded 5 non-compliant items.

Examples of PM Points

Non-compliant Category	Description	PM Points
A	Ineffective car door electrical interlock	15
В	Ineffective overspeed governor	6
C	Emergency alarm devices failure	4
D	Ineffective landing door emergency release function	3
Ē	Inoperative car ventilation fan	2

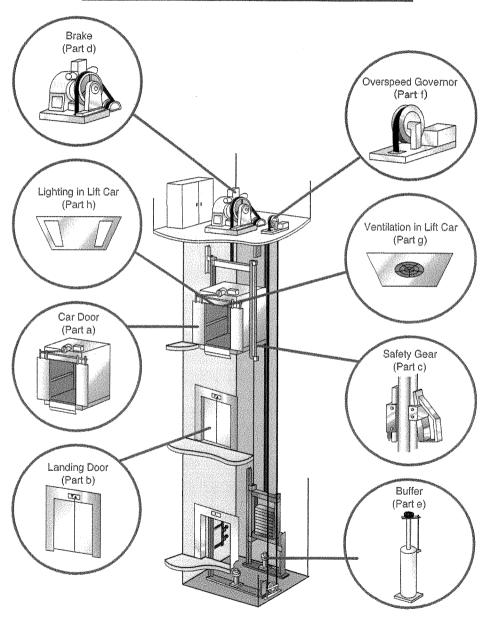
The Performance Index of "Company A" is calculated as follows:

- (i) Maintenance Index = $50 \times [1 \frac{(6+4+3+2)}{75}] = 40 \text{ PM points}$
- (ii) Safety Index = 50 15 = 35 PM points
- (iii) Performance Index = (i) + (ii) = 40 + 35 = 75 PM points

Performance Index of "Company A"

Name of RC	RC No.	Maintenance Index	Safety Index	Performance Index
Company A	RLCXXXX	40	35	<u>75</u>

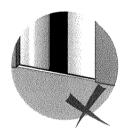
Basic Structural Layout of Lift



Simplified Examples of Non-compliant Items for Lift

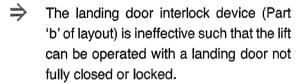
(Remark: For details of non-compliant items, the Circular posted on the EMSD website should be referred to,)

Category A Non-compliant Items (15 points)



The landing door interlock device is ineffective

The car door electrical interlock device (Part 'a' of layout) is ineffective such that the lift is still operational with a car door not fully closed.



- The safety gear (Part 'c' of layout) failed such that the lift car cannot be stopped and maintained stationary.
- The machine brake (Part 'd' of layout) is ineffective such that the lift car cannot be stopped.
- The buffer (Part 'e' of layout) is ineffective.

Category B Non-compliant Items (6 points)



Fixing or termination of the ropes is insecure

- Incorrect setting of the car overload device such that the lift can close its doors and operate when the load in the car exceeds the rated load.
- Fixing or termination of the ropes is insecure.
- The buffer switch is ineffective.
- Overspeed governor (Part 'f' of layout) switch is ineffective.
- The fireman's lift fails to perform the required fireman's lift operating mode.

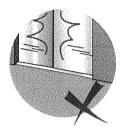
Category C Non-compliant Items (4 points)



Emergency alarm devices are ineffective

- Self-closing function of the landing door is ineffective.
- Emergency alarm devices are ineffective.
- The car emergency lighting is ineffective.
- More than 10% of the total number of landing / car doors inspected has excessive clearance.
- Damage of car cages, car doors or landing doors which affect the safety of passengers.

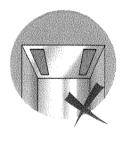
Category D Non-compliant Items (3 points)



Door closing force is excessive

- The landing door emergency release function is ineffective.
- Door sensitive protective devices are ineffective.
- Door closing force is excessive.
- Filler weights of the counterweight are insecure.
- The car apron is not properly fixed.

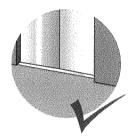
Category E Non-compliant Items (2 points)



Car lighting is inoperative

- The car ventilation fan (Part 'g' of layout) is inoperative.
- > Ventilation slots are blocked up.
- Car lighting (Part 'h' of layout) is inoperative.
- Malfunction of the brake releasing device.
- ⇒ Oil leakage from machinery resulting in insufficient lubrication or oily floor.

Examples of Rectified Item



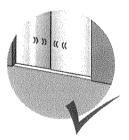
Landing door properly function



Ropes in nomal condition



Emergency alarm devices properly function



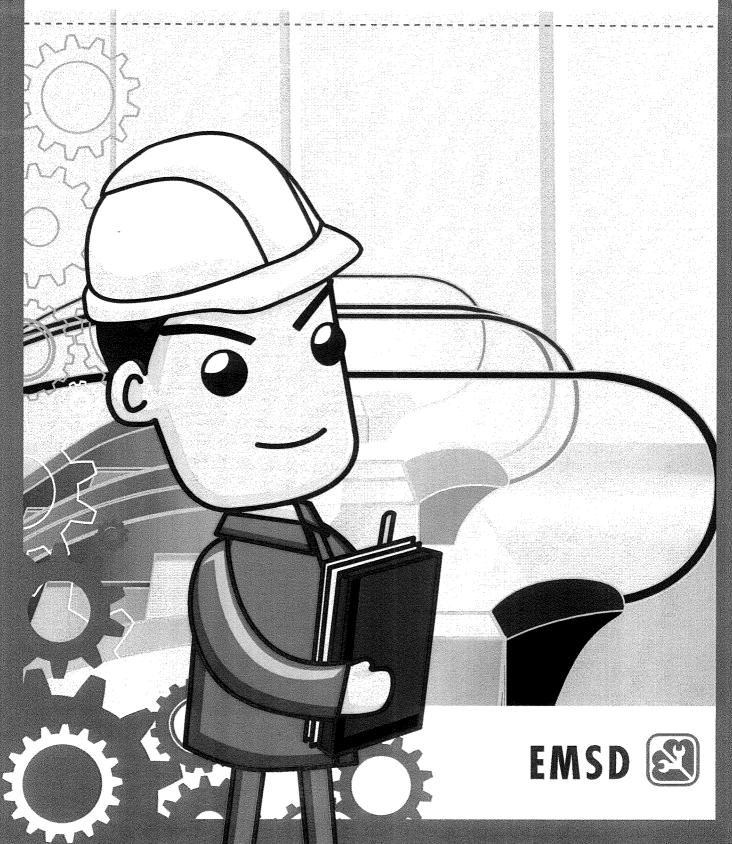
Adequate door closing force

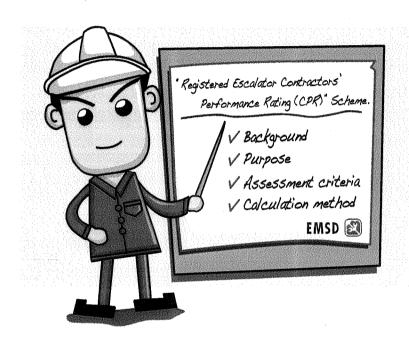


Lighting in lift car properly function

In case of query, please visit our website or contact EMSD. For details, please refer to end page.

Introduction to Registered Escalator Contractors' Performance Rating





Introduction

This leaflet briefs the background, purpose, assessment criteria and calculation method of the "Registered Escalator Contractors' Performance Rating (CPR)" Scheme.

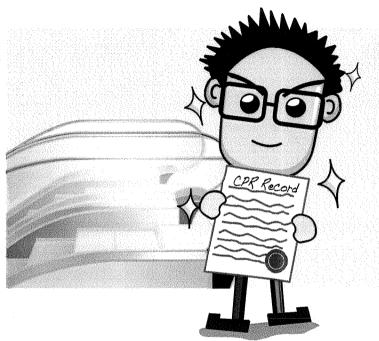


Background

The CPR is not a requirement under the Lifts and Escalators (Safety) Ordinance (the Ordinance), Chapter 327. It is an administrative measure employed by the Electrical and Mechanical Services Department (EMSD) to supplement the enforcement of the Ordinance. After consulting with the Trade, the EMSD implemented the performance rating scheme and announced the first quarter CPR results (June to August 2011) of registered escalator contractors in September 2011, such that it can serve as an effective way to reflect the maintenance and safety performance of registered escalator contractors.







Purpose

Escalators owner or their management agents could make reference of the CPR to choose appropriate escalator contractor for maintenance of the escalators in their premises.

Assessment Criteria **V** X



Enforcement of the CPR was based on the scheme of the performance monitoring (PM) points. If registered contractor (RC) has shown inferior performance and non-compliant items are found during escalator inspection by the EMSD, the EMSD will record and aggregate the PM points based on their non-compliances. The CPR will be updated and announced every 3-month. The PM points will be kept valid for 12 successive calendar months. The contents of the assessment are shown as follows:

- (i) The non-compliant items are classified into 6 categories, namely A, B, C, D, E and X. Category A belongs to the critical safety item, which accords 15 points for each non-compliance while Categories B, C, D and E belong to the maintenance items, which accord 6 points, 4 points, 3 points and 2 points respectively for each non-compliance. Category X includes the conviction by the court for contravening the Ordinance and the guilty by the disciplinary board, which accord 20 points and 15 points respectively.
- (ii) In addition to PM points recorded in para (i), EMSD will issue a warning letter to the contractor under the following situations:
 - (a) A total of 12 PM points or more for a number of non-compliant items found in a single escalator inspection; or
 - (b) An average PM point exceeds over 4 PM points within a 12-month period.
- (iii) To reflect the performance of the escalator contractors effectively, only the performance results of contractors whose installations were inspected by EMSD for 5 times will be included in the table.
- (iv) The simplified examples of non-compliant items are listed in the Annex for reference.

(Remark: For details of non-compliant items, the Circular posted on the EMSD website should be referred to.)





Calculation Method



A full mark of 100 is used for the performance rating of escalator contractor, calculating by the sum of maintenance index (0 to 50 marks) and safety index (0 to 50 marks). Please refer to the following formulas:

Performance Index = Maintenance Index + Safety Index

Maintenance Index = 50 x 1- cumulated maintenance performance monitoring points number of inspections in the period

Safety Index = 50 – cumulated safety performance monitoring points (each critical safety non-compliant item with 15 points)

For example: EMSD conducted 75 inspections (including 1 inspection for Category A critical safety item) on "Company A" which has recorded 5 non-compliant items.

Examples of PM Points

Non-compliant Category	Description	PM Points
Α	Ineffective main brake	15
В	Ineffective emergency stop switch	6
C	Clearance between the skirt panel and the step exceeds 4mm	4
D	No protective cover for moving parts	3
E	No pictograph provided	2

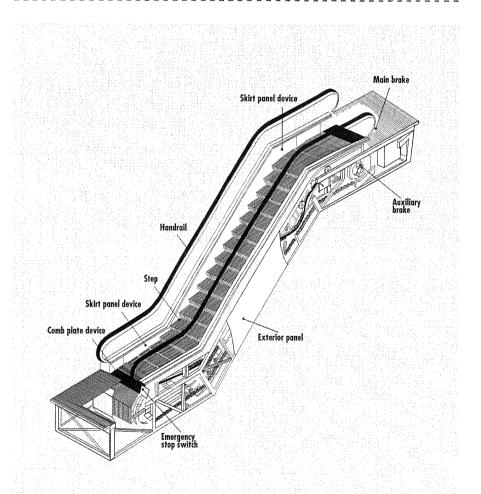
The Performance Index of "Company A" is calculated as follows:-

- (i) Maintenance Index = $50 \times [1 (6+4+3+2)/75] = 40 \text{ PM points}$
- (ii) Safety Index = 50 15 = 35 PM points
- (iii) Performance Index = (i) + (ii) = 40 + 35 = 75 PM points

Performance Index of "Company A"

	RC No.		Safety Index	Performance Index	
warne or RC	REIVO.	Waintenance index	j Sarety muex	renormance moex	
Company A	RECXXXX	40	35	75	

Basic Structural Layout of Escalator





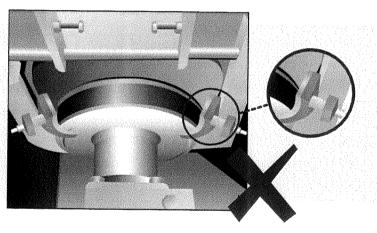


Simplified Examples of Non-compliant Items for Escalator

(Remarks: For details of non-compliant items, the Circular posted on the EMSD website should be referred to.)

Category A

Non-compliant Items (15 points)



Main brake is ineffective

- The main brake is ineffective such that the escalator cannot be stopped.
- The step chain or the shaft of the drive machine is broken.

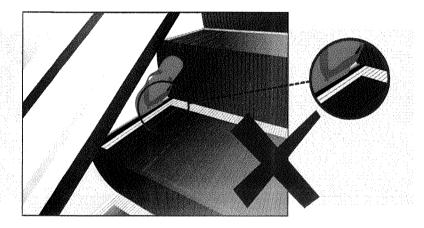
Category B Non-compliant Items (6 points)



Emergency stop switch is ineffective

- The emergency stop switch is ineffective.
- The broken step chain device is ineffective.
- The comb plate device is ineffective.
- The skirt panel device is ineffective.

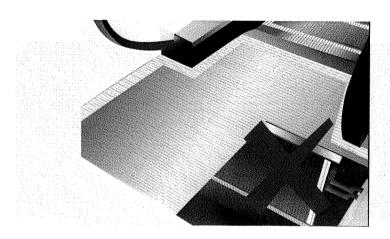
Category C Non-compliant Items (4 points)



The clearance between the skirt panel and the step exceeds 4mm.

- The clearance between the skirt panel and the step exceeds 4mm.
- The clearance between the comb and the step exceeds 4mm.
- ► The enclosure is not properly installed such that the machinery, moving parts or electrical parts are exposed.
- The inspection door device is ineffective.
- ▶ The clearance between the handrail profile and cover profile exceeds 8mm.

Category D Non-compliant Items (3 points)



No protective cover for moving parts.

- The guard is not properly installed.
- The protective cover for moving parts is not installed.
- ▶ Deviation of the speed of handrail from the speed of the steps is exceeding the allowable tolerance of 0 to +2%.
- The skirt panel device is not properly installed.

Category E

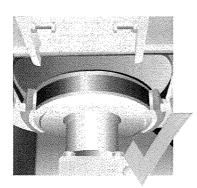
Non-compliant Items (2 points)



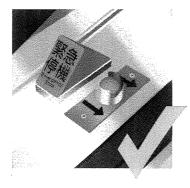
No pictograph is provided

- The brake release instruction is not provided.
- The pictograph is not provided.
- Failure to update the logbook.

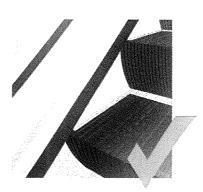
Examples of Rectified Items



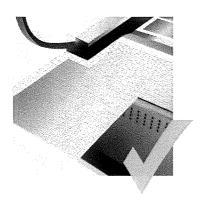
Effective main brake



Effective emergency stop switch



Clearance between the skirt panel and the step within 4mm



Protective cover for moving parts provided



Pictograph provided

EMSD



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Lifts and Escalators Bill Table of Offences and Penalties

Clause	Offence (Escalator related similar offence not stated for clarity)	Penalty level	
8(2) & 8(3)	A person not being (a) a qualified person or a specified person; or (b) under the direct supervision of a qualified person at the site; personally carries out lift works.	Fine at level 5 (\$50,000) and imprisonment for 6 months	
	A person knowingly causes or permits any other person to carry out any lift works if that other person is not (a) a qualified person or a specified person; or (b) under the direct supervision of a qualified person at the site.		
9(4)	A person knowingly uses or operates, or knowingly causes or permits any other person to use or operate, a lift while lift works involving the lift are underway.	Fine at level 5 (\$50,000)	
	A person knowingly uses or operates, or knowingly causes or permits any other person to use or operate, a lift while there is no use permit in force in respect of the lift.	Fine at level 5 (\$50,000)	
	A person knowingly uses or operates, or knowingly causes or permits any other person to use or operate a lift after the completion of any major alteration to the lift but a resumption permit has not been issued in relation to the alteration.		
10(3) & 10(4)	A person knowingly travels in a lift specified in Schedule 4 (a lift which is not allowed for carrying persons).	Fine at level 5 (\$50,000)	
	A person knowingly causes or permits a lift specified in Schedule 4 (a lift which is not allowed for carrying persons) to be used for carrying any person.		
11(2)	A person knowingly causes or permits a lift specified in Schedule 4 (a lift which is not allowed for carrying persons) to be used for carrying a load that exceeds the rated load of the lift.	Fine at level 5 (\$50,000)	
12(2)	A responsible person for a lift without reasonable excuse fails to ensure that the lift and all its associated	Fine at level 5 (\$50,000)	

Clause	Offence (Escalator related similar offence not stated for clarity)	Penalty level
	equipment or machinery are kept in a proper state of repair and in safe working order.	
13(4)	The responsible person for a lift consents or connives, or fails to take all reasonable steps to prevent, the use or operation of the lift,	Fine at level 6 (\$100,000) and imprisonment for 12 months
	(i) if lift works concerning the lift are underway;	montas
	(ii) where there is no use permit in force;	
	(iii) no resumption permit has been issued after any major alteration to the lift.	
14	The responsible person for a lift specified in Schedule 4 (a lift which is not allowed for carrying persons) consents or connives the lift to be used; or fails to take all reasonable steps to ensure that the lift is not used; for carrying (i) any person; or (ii) any load that exceeds the rated load of the lift.	Fine at level 6 (\$100,000) and imprisonment for 12 months
15(3)	The responsible person for a lift without reasonable excuse fails to ensure that the (a) installation, (b) major alteration, (c) demolition, or (d) lift works that are likely to affect the safe operation, of the lift is not carried out unless the works are undertaken by a registered lift contractor.	Fine at level 5 (\$50,000)
	The responsible person for a lift without reasonable excuse fails to (i) cause a registered lift contractor to undertake the maintenance works of the lift; or (ii) ensure that periodic maintenance works are carried out by a registered lift contractor at intervals not exceeding the period specified in or determined under Part 1 of Schedule 5.	Fine at level 5 (\$50,000)
16(2)	A registered lift contractor without reasonable excuse fails to ensure that lift works undertaken are carried out properly and safely.	Fine at level 5 (\$50,000) and imprisonment for 6 months for 1st conviction
		Fine at level 6 (\$100,000) and imprisonment for 6 months for subsequent

Clause	Offence (Escalator related similar offence not stated for clarity)	Penalty level	
		conviction	
16(3)	A registered lift contractor without reasonable excuse fails to ensure that (a) adequate safety precautions are taken to prevent the injury to any person or damage to any property, (b) there is sufficient workforce to carry out the works, (c) there are adequate equipment and tools for carrying out the works, (d) lift installation works are not carried out unless the lift and all safety components for the lift are respectively of a type approved by the Director, or (e) measures are in so far as reasonably practicable taken to minimize the impact the lift demolition works may have on the structural integrity of the building.	Fine at level 4 (\$25,000) and imprisonment for 6 months for 1st conviction Fine at level 6 (\$100,000) and imprisonment for 6 months for subsequent conviction	
17(2)	A registered lift engineer without reasonable excuse fails to ensure that lift works are carried out properly and safely.	Fine at level 5 (\$50,000) and imprisonment for 6 months for 1st conviction Fine at level 6 (\$100,000) and imprisonment for 6 months for subsequent conviction	
17(3)	A registered lift engineer without reasonable excuse fails to ensure that (a) adequate safety precautions are taken to prevent the injury to any person or damage to any property, or (b) lift installation works are not carried out unless the lift and all safety components for the lift are respectively of a type approved by the Director.	Fine at level 4 (\$25,000) and imprisonment for 6 months for 1st conviction Fine at level 6 (\$100,000) and imprisonment for 6 months for subsequent conviction	
18(2)	A registered lift worker without reasonable excuse fails to ensure that (a) the works are carried out properly and safely, or (b) adequate safety precautions are taken to prevent the injury to any person or damage to any property while the works are being	Fine at level 3 (\$10,000)	

Clause	Offence (Escalator related similar offence not stated for clarity)	Penalty level	
	carried out.		
20(2)	Before a lift is put into use and operation, the responsible person for the lift without reasonable excuse fails to cause a registered lift engineer (a) to examine the lift with load in accordance with section 24(2); or (b) to thoroughly examine all the associated equipment or machinery of the lift.	Fine at level 3 (\$10,000)	
21(2)	Where any major alteration has been made in respect of a lift and before the normal use and operation of the lift is resumed, the responsible person for the lift without reasonable excuse fails to cause a registered lift engineer (a) to thoroughly examine the lift and all its associated equipment or machinery; or (b) to examine the affected part of the lift in accordance with section 25(1).	Fine at level 3 (\$10,000)	
22(2)	The responsible person for a lift without reasonable excuse fails to cause the lift and all its associated equipment or machinery to be thoroughly examined by a registered lift engineer at intervals not exceeding the period specified in or determined under Part 2 of Schedule 5.	Fine at level 3 (\$10,000)	
23(2)	The responsible person for a lift without reasonable excuse fails to cause a registered lift engineer (a) to examine the lift with load and in accordance with section 24(2) at intervals not exceeding the period specified in or determined under Part 3 of Schedule 5; or (b) to thoroughly examine all its associated equipment or machinery at intervals not exceeding the period specified in or determined under Part 3 of Schedule 5.	Fine at level 3 (\$10,000)	
24(8)	A registered lift engineer who undertakes to examine a lift without reasonable excuse fails to ensure that the lift is thoroughly examined by the engineer. A registered lift engineer who undertakes to examine a	Fine at level 5 (\$50,000) and imprisonment for 6 months for 1st conviction	
	lift without reasonable excuse — (a) in undertaking to examine a lift with load, fails to ensure that (i) the lift is thoroughly examined by the engineer; or (ii) the lift is examined by the	Fine at level 6 (\$100,000) and imprisonment for 6	

Clause	Offence	Penalty level	
	(Escalator related similar offence not stated for clarity)		
	engineer in accordance with Schedule 6;	months for subsequent conviction	
	(b) in undertaking to examine any associated equipment or machinery of a lift, fails to ensure that the associated equipment or machinery is thoroughly examined by the engineer;	Conviction	
	(c) on examination under section 24 where the registered lift engineer is of the opinion that the lift or any of its associated equipment or machinery is not of good design and construction or is not in safe working conditions, he (i) issues a certificate under section 24(4); or (ii) fails to, within 24 hours after the examination is completed, notify in writing the responsible person of the reasons for not issuing the certificate, and report to the Director the result of the examination and the opinion of the engineer.		
25(6)	A registered lift engineer who undertakes to examine any affected part of a lift without reasonable excuse fails to thoroughly examine in so far as is necessary the lift and its associated equipment or machinery to determine whether the affected part is in safe working order.	Fine at level 5 (\$50,000) and imprisonment for 6 months for 1st conviction Fine at level 6	
	On examination under section 25(1) where a registered lift engineer is of the opinion that the affected part after major alterations is not in safe working order without reasonable excuse (i) issues a certificate to the responsible person under section 25(2); or (ii) fails to, within 24 hours after the examination is completed, notify in writing the responsible person of the reasons for not issuing the certificate, or report to the Director the result of the examination and the opinion of the engineer.	(\$100,000) and imprisonment for 6 months for subsequent conviction	
30(3)	A person, who cannot establish that he did not know and could not with due diligence have discovered the prohibition of the use or operation of a lift, uses or operates a lift in contravention of a Prohibition Order.	Fine at \$200,000 and imprisonment for 12 months	
30(4)	A person causes or permits any other person to use or operate a lift in contravention of a Prohibition Order		

Clause	Offence (Escalator related similar offence not stated for clarity)	Penalty level
	where he cannot establish that (i) he did not know and could not with due diligence have discovered that the use or operation of the lift was prohibited; or (ii) the contravention occurred without his consent or connivance, and that he has taken all reasonable steps to prevent the use or operation of the lift.	
31(2)	A registered lift contractor without reasonable excuse contravenes the order of the Director directing the contractor to disconnect the supply of electricity to a lift.	Fine at level 3 (\$10,000)
31(3)	Without Director's written permission, a person reconnects the supply of electricity to a lift after it has been disconnected where he cannot establish that he did not know and could not with due diligence have discovered that the supply of electricity to the lift was disconnected under section 31(1)(a).	Fine at \$200,000 and imprisonment for 12 months
	Without Director's written permission, the supply of electricity to a lift is reconnected after it has been disconnected where the responsible person for the lift cannot establish that the offence was committed without his consent or connivance and that he has taken all reasonable steps to prevent the commission of the offence.	
32(3)	A responsible person for a lift or a registered lift contractor without reasonable excuse contravenes a Cessation Order.	Fine at level 4 (\$25,000) and imprisonment for 6 months, and a daily fine of \$2,000
34(3)	A responsible person for a lift without reasonable excuse contravenes an Examination Order.	Fine at level 4 (\$25,000) and imprisonment for 6 months, and a daily fine of \$2,000
35(3)	A responsible person for a lift without reasonable excuse contravenes a Removal Order.	Fine at level 4 (\$25,000) and imprisonment for 6 months, and a daily fine of \$2,000

Clause	Offence (Escalator related similar offence not stated for clarity)	Penalty level
36(4)	A responsible person for a lift, registered lift contractor, or registered lift engineer without reasonable excuse contravenes an Improvement Order.	Fine at level 4 (\$25,000) and imprisonment for 6 months, and a daily fine of \$2,000
38(2)	A registered lift contractor who undertakes any lift works, without any written approval from the Director, subcontracts lift works or any part of the works (other than installation or demolition of a lift) to any other person who is not a registered lift contractor.	Fine at level 5 (\$50,000) and imprisonment for 6 months
39(3)	A responsible person for a lift without reasonable excuse fails to ensure that the use permit for the time being in force is displayed at all times in a conspicuous position (a) in the lift car, or (b) adjacent to the main landing of a lift specified in Schedule 4 (a lift which is not allowed for carrying persons).	Fine at level 3 (\$10,000)
40(4)	A responsible person for a lift without reasonable excuse fails to notify the Director and the registered lift contractor within 24 hours after an incident specified in Schedule 7 has come to his knowledge.	Fine at level 3 (\$10,000)
	A registered lift contractor who has been notified of the occurrence of an incident without reasonable excuse fails to cause a registered lift engineer to investigate the incident and to submit a report in the specified manner and within the stipulated time limits.	Fine at level 3 (\$10,000)
	A registered lift contractor who was caused to investigate into the incident without reasonable excuse fails to (a) notify in writing the Director of not able to submit a full report within 3 days, or (b) cause a registered lift engineer to investigate the incident and to submit a preliminary report / full report within the time limit approved by the Director.	Fine at level 3 (\$10,000)
41(3)	A responsible person for a lift or registered lift contractor without reasonable excuse fails to provide without charge any assistance or information that the Director or any other enforcement officer may reasonably require for carrying out the investigation of an incident.	Fine at level 3 (\$10,000)

Clause Offence Penalty lava				
Clause	Offence (Escalator related similar offence not stated for clarity)	Penalty level		
104(3)	A person whose registration is cancelled or suspended without reasonable excuse fails to return within 14 days after being notified by the Registrar of such cancellation or suspension the certificate of registration and (if applicable) the registration card.	Fine at level 1 (\$2,000)		
111(2)	A person without reasonable excuse contravenes an order of the Disciplinary Board (a) to attend before the board and to give evidence, or (b) to produce any document or information relevant to the complaint in respect of which a hearing is conducted.	Fine at level 5 (\$50,000)		
119(2)	A person without reasonable excuse contravenes an order of the Appeal Board (a) to attend before the board and to give evidence, or (b) to produce any document or information relevant to the complaint in respect of which a hearing is conducted.	Fine at level 5 (\$50,000)		
126(4)	A person, except for reasons provided for or defence available in the Ordinance, (a) fails to preserve and aid in preserving information concerning a trade or business secret that has come to the knowledge of or into the possession of the person in the course of the person's exercise or performance of functions under the Ordinance, (b) discloses or gives the information to any other person, or (c) suffers or permits any other person to have access to the information.	Fine at level 4 (\$25,000) and imprisonment for 6 months		
128(3)	A person without reasonable excuse fails to comply with a request of the Director for the provision of document or information for performing the functions of the Director under the Ordinance.	Fine at level 3 (\$10,000) and a daily fine of \$1,000		
136(2)	A person without reasonable excuse contravenes a requirement under the provisions relating to powers of entry.	Fine at level 5 (50,000)		
136(3)	A person wilfully obstructs an enforcement officer in the exercise of the power conferred on the officer (to inspect the lift or lift works).	Fine at \$200,000 and imprisonment for 12 months		
140(4)	A person in purported compliance with a requirement (a) produces any document or provides any information that he knows to be false or misleading in a material respect; or (b) produces any document or	Fine at \$200,000 and imprisonment for 12 months		

Annex 4

Clause	Offence (Escalator related similar offence not stated for clarity)	Penalty level
	provides any information that he ought reasonably to have known to be false or misleading in a material respect.	
140(5)	A person wilfully misuses, or interferes with, or causes misuse or interference with a lift, or any part of a lift, or any associated equipment or machinery.	Fine at level 3 (\$10,000)
140(6)	A person without reasonable excuse (a) defaces or otherwise interferes with a copy of an order issued by the Director, or (b) removes a copy of such an order displayed on a conspicuous part of a building or a lift under this Ordinance.	Fine at level 5 (\$50,000)
Sch. 15, 11(2)	A person uses or operates a lift in contravention of an order made under section 27(1) of the repealed Ordinance, where he cannot establish that he did not know and could not with due diligence have discovered that the use or operation was prohibited.	Fine at \$200,000 and imprisonment for 12 months
Sch. 15, 11(3)	A person causes or permits any other person to use or operate a lift in contravention of an order made under section 27(1) of the repealed Ordinance, where he cannot establish that (i) he did not know and could not with due diligence have discovered that the use or operation was prohibited; or (ii) the contravention occurred without his consent or connivance and that he has taken all reasonable steps to prevent the use or operation of the lift.	Fine at \$200,000 and imprisonment for 12 months

Maximum Penalty Level under the Lifts and Escalators Bill and similar Legislation

	Responsible Persons,			Any Person	
	Owners, Occupiers, Supplier	Contractors	Authorized Persons Engineers Examiners	Workers Installers	
	Maximum penal	ty level of offence sp	ecific to respective s	stakeholders [Fine /	[Imprisonment]
Lifts and Escalators Bill	\$100,000 / 12 mths	\$100,000	/6 mths	\$10,000 / nil	\$200,000 / 12 mths
Lifts and Escalators (Safety) Ordinance (LESO), Cap. 327	\$10,000 / 6 mths	\$5,000 /	6 mths	Not applicable	\$10,000 / 12 mths
Builders' Lifts and Tower Working Platforms (Safety) Ordinance, Cap. 470	\$	5200,000 / 12 mths		Not applicable	\$200,000 / 12 mths
Electricity Ordinance ² , Cap. 406	\$100,000	6 mths	Not applicable	\$10,000 / nil	\$100,000 / 6 mths
Gas Safety Ordinance, Cap. 51	\$25,000 / 6 mths; and continuing offence at \$2,000 per day	\$10,000 / nil; and continuing offence at \$1,000 per day	Not applicable	\$10,000 / nil; and continuing offence at \$1,000 per day	\$25,000 / 6 mths
The Buildings Ordinance,		0,000 / 3 years in case		Not applicable	\$1,000,000 / 3 years;
Cap. 123		ouilding works (other than minor works); 500,000 / 18 mths in case of minor works			and continuing offence at \$200,000 per day

Corruption related offences (\$500,000 and 7 years) under section 30 of the Lifts and Escalators (Safety) Ordinance are excluded in the comparison. The penalty for supplying of prohibited products of a fine of \$500,000 and imprisonment for 2 years under section 56A of the Electricity Ordinance is

excluded.

Disciplinary Actions under the Lifts and Escalators Bill and similar Legislation

The Lifts and Escalators Bill	LESO Similar Legislation			tion
Clause 112	Cap. 327	Cap. 470	Cap. 406	Cap. 123
After a hearing, if it is determined that the registered person concerned has committed the disciplinary offence alleged in the complaint, the board may make one or more of the	The Lifts and Escalators (Safety) Ordinance	The Builders' Lifts and Tower Working Platforms (Safety) Ordinance Section 35	The Electricity Ordinance	The Buildings Ordinance Sections 7 & 13
(i) order that the person (i.e. registered contractor, engineer or worker) be reprimanded;	&11G Applicable to registered contractors and engineers	Applicable to registered contractors and examiners	Applicable to registered contractors and workers	Applicable to registered contractors, authorized persons, and registered engineers
(ii) (if the person has committed the offence in the capacity of a registered contractor) order that the person be fined a sum of not more than \$100,000;	Fine not more than \$50,000	Fine not more than \$50,000	Fine not more than \$100,000	Fine not more than \$250,000 (in the case of building works other than minor works) ³
(iii) (if the person has committed the offence in the capacity of a registered engineer or worker) order that the person be fined a sum of not more than \$10,000;	Not applicable	In respect of examiners, fine not more than \$10,000	In respect of workers, fine not more than \$10,000	In respect of authorized persons and registered engineers, fine not more than \$250,000 (in the case of building works other than for minor works) ⁴

In respect of minor works, fine not more than \$150,000.

In respect of minor works, fine not more than \$150,000.

The Lifts and Escalators Bill	LESO	Sin	tion	
Clause 112	Cap. 327	Cap. 470	Cap. 406	Cap. 123
After a hearing, if it is	The Lifts and	The Builders'	The	The Buildings
determined that the registered	Escalators	Lifts and Tower	Electricity	Ordinance
person concerned has	(Safety)	Working	Ordinance	
committed the disciplinary	Ordinance	Platforms		
offence alleged in the		(Safety)		
complaint, the board may		Ordinance		
make one or more of the following orders—	Sections 9 &11G	Section 35	Section 36	Sections 7 & 13
(iv) order the Registrar to	Applicable	Applicable	Applicable	Applicable
cancel or suspend the				
registration of the				
person.				

Guidance on Workforce Arrangement

The requirements relating to provision of support to the engineering staff and work to be carried out by two or more lift workers under the Code of Practice are extracted as follows:

4.2.5 Support to the Engineering Staff

The registered contractor and its supervisory staff should provide assistance and reasonable support to its engineering staff. Where individual tasks are required to be performed by two or more persons, the failure to accomplish the task due to insufficient deployment of manpower will lie with the registered contractor.

Engineering staff should take into consideration the feasibility and risk associated with the respective work tasks. When in need of support, the registered contractor or the immediate supervisor should be made aware of the circumstances.

The registered contractor shall have in place a management system for safety and health in line with the requirements of the current edition of the Code of Practice for Safety at Work (Lift and Escalator) issued by the Labour Department in order to safeguard the work safety of the engineering staff.

4.3.3 Work to be Carried out by Two or More Lift Workers

The registered lift contractor shall remind its lift workers to take necessary safety precautions in carrying out maintenance and repair works, in particular when any safety circuit is bypassed or interfered affecting the safety of the lift users. The registered lift contractor shall ensure that the following lift works (other than for stairlifts and vertical lifting platforms) are carried out by two or more lift workers as required:

- (i) Releasing passengers trapped in a lift which stopped outside the unlocking zone;
- (ii) Manually releasing the brake of the traction machine of an electric lift, or operating the manual emergency lowering or ascending device of a hydraulic lift;
- (iii) Works in the lift pit;

- (iv) Maintenance of the counterweight assembly;
- (v) Carrying out maintenance works, while the lift is in motion, which cannot be performed by the worker who is controlling the motion of the lift;
- (vi) Lubricating wire ropes;
- (vii) Inspecting the conditions of the car top sheave;
- (viii) Measuring the braking distance of an electric traction lift;
- (ix) Disassembling and checking the machine brake; and
- (x) Testing the electrical safety device of the landing door or car door lock.