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9 September 2005

All Registered Lift and Escalator Contractors

Dear Sirs,

Circular No. 10/2005
Performance Monitoring Points System (PMPS)
For Registered Lift/Escalator Contractors & Engineers

After consulting the Housing Department, the Architectural Services Department, the Lift and Escalator Contractors Association, the Registered Elevator & Escalator Contractors Association Ltd. and the International Association of Elevator Engineers, we have revised the PMPS.

Attached please find the revised PMPS, which would be effective on 1 November 2005.

Yours faithfully,



(K. M. WOO)
for Director of Electrical and Mechanical Services

Encl.

c.c. Director of Housing
Director of Architectural Services
The Lift and Escalator Contractors Association
The Registered Elevator and Escalator Contractors Association Ltd.
The International Association of Elevator Engineers

LE/02/07 Pt. II

Performance Monitoring Points System (PMPS)
for
Registered Lift/Escalator Contractors & Engineers

This Circular has been superseded by Circular No. 20/2009 commencing 1 January 2010.

Effective Date: 1 November 2005
Electrical & Mechanical Services Department

Registered Lift/Escalator Contractors & Engineers Performance Monitoring Points System

1. Introduction

Under the Lifts and Escalators (Safety) Ordinance, Cap. 327, (the Ordinance), registered lift/escalator contractors/engineers (hereinafter called RC and RE for registered contractor and registered engineer respectively) are required to perform their specific duties as stipulated in sections 11A (for REs) and 11J (for RCs) of the Ordinance. In order to monitor the performance of REs and RCs, the Director of Electrical and Mechanical Services (hereinafter called the Director) implemented the Performance Monitoring Points System on 1 July 1992. *In order to enhance the quality of works of the RCs/REs, the system was reviewed and certain amendments have been made, which include:-*

- (i) *addition of new and revision of the existing non-compliant items*
- (ii) *lowering of the critical points for taking actions against the RC/RE*
- (iii) *introduction of a rewarding system for the RCs with better performance*
- (iv) *other miscellaneous amendments*

2. Performance Monitoring Points System (PMPS)

(a) The PMPS is a tool to measure the performance pitfalls of RCs and REs. Their performance pitfalls are quantified based on their non-compliance with the requirements stipulated in the following Ordinance, Code of Practice and British Standards:

- i. Lifts and Escalators (Safety) Ordinance,
- ii. Code of Practice on Building Works for Lifts and Escalators,
- iii. Code of Practice on the Design and Construction of Lifts and Escalators (Design Code),
- iv. Code of Practice *for Lift Works and Escalator Works (Works Code)*,
- v. Code of Practice for the Electricity (Wiring) Regulations,
- vi. BS2655, BS5655 and BS5656, wherever applicable to lifts or escalators.

(b) The established non-compliant items, depending on their nature, are classified into 5 categories, namely A, B, C, D & E. Each item under the same category has the same Performance Monitoring (PM) points.

(c) During a lift/escalator inspection conducted by the Director's representative in the presence of the RC/RE, PM points will be recorded according to each identified non-compliant item. The lift/escalator inspections may be conducted under the following occasions:

- (i) Upon receiving a test certificate issued by a RC and a RE for a new lift or a new escalator.

- (ii) Upon receiving a test certificate issued by a RC and a RE for a lift or an escalator after major alterations.
- (iii) Upon receiving a test certificate issued by a RC and/or a RE for an existing lift or escalator.
- (iv) Upon receiving complaints from the public.
- (v) Random inspections of existing lifts or escalators.

PM points recorded will be kept in the account of each RC or RE or both of them depending on the nature of the identified non-compliant items. Normally, the PM points will always be recorded in the RC's account as the RE is caused by the RC to carry out lift/escalator works.

- (d) The RC or the RE will be notified in writing in case any non-compliant items are identified and the related PM points are recorded in his account. He may appeal to the Director within two weeks of the notification date. The Director's decision shall be final.
- (e) PM points incurred for the non-compliant items identified will be kept in the RC's or RE's account for 12 successive calendar months, commencing from the month of the non-compliant items identified, for calculation of the moving average in g(iii) below, despite any action having been taken by the Director in (f).
- (f) As the total PM Points of each RC/RE's account accumulate up to the critical points, the Director may:
 - (i) issue a warning letter to the RC or RE and also notify other relevant enforcing authorities; or
 - (ii) bring the matter to the notice of a Disciplinary Board appointed under section 8 or section 11E of the Ordinance.
- (g) For the purpose of paragraph (f), three types of critical points are established:
 - (i) 15 PM points for a non-compliant item found under Category A in a single unit inspection;
 - (ii) **12 PM points** for a number of non-compliant items found not under Category A in a single unit inspection;
 - (iii) **4 PM points** for the moving average of the accumulated PM points of the non-compliant items found over a period within which the number of units inspected is not less than 10. PM points recorded under Category A will not be used to calculate such moving average of PM points.
- (h) *At the end of each year, the average of the PM points accumulated in the*

year will be calculated for those RCs, who have not less than 10 units inspected and have not received any warning letter according to (f) above in the past 12 months. Letters of commendation will be issued to the three RLCs and three RECs having the lowest average score.

For those RCs having the same average score, the rate of occurrence (per unit inspected) of non-compliant items with higher PM points rating will be considered. If their PM point score in the past 12 months is zero, the total number of units inspected will be considered.

- (i) A sample calculation illustrating the arrangements mentioned in (e) and (g) is shown in the appendix.
- (ii) This PMPS shall not derogate of any action or penalty which has to be taken or imposed in relation to any disciplinary matter or any offence stipulated in the Ordinance.

3. List of Common Non-compliance – Lifts

Category A (15 points)

- LA1 The car door electrical interlock device is not provided or ineffective such that the lift is still operational with a car door not fully closed.
- LA2 The landing door interlock device is not provided or ineffective such that the landing door is insecure or can be opened without using the unlocking key when the car is not in the unlocking zone, or when the lift can be operated with a landing door not fully closed or locked. *(for lifts installed on or after 31 May 1984, the landing door is considered "locked" only when the engagement of the locking elements is not less than 7 mm)*
- LA3 The safety gear including the ascending car overspeed protection means or the overspeed governor is not provided or failed to perform its intended function when the car reaches the designated tripping speed of the overspeed governor *such that:-*
 - (i) *the car (and/or counterweight where applicable) cannot be stopped and maintained stationary, in the case of safety gear.*
 - (ii) *the car cannot be stopped or slowed down to a speed for which the counterweight buffer is designed, in the case of ascending car overspeed protection means. (this applies to the lifts installed with the tender date on or after 1 January 2001)*
- LA4 The machine brake is ineffective such that a downward traveling car up to 125% of the rated load (150% of the rated load for industrial truck loaded

freight lifts and vehicle lifts; 110% of the rated load for passenger lifts designed & constructed prior to BS 5655:Pt. 1) cannot be stopped and maintained stationary in case the power supplies to the motor and the brake are interrupted.

LA5 The buffer is ineffective due to either improper installation or, in the case of oil buffer, insufficient buffer oil.

LA6 Deleted and replaced by LA8

LA7 Deleted and replaced by LA8

LA8 Protection device against free fall or descent with excessive speed according to table 1 in part 2, section E of the Design Code or other device permitted to be used according to clause 5.8.2 in part 2, section E of the Design Code is not provided or failed to perform its intended function. (for hydraulic lifts only)

LA9 The electrical interlock device for the inspection or emergency door or inspection trap to the lift well or for the access door to the lift pit is not provided or ineffective such that the lift can be operated when any of these doors or trap doors is not in the closed position.

LA10 More than two items in the Supplementary Report for New Lift Installation which are certified completed/complied with by the RE are found not completed/complied with during site inspection.

*(Note: 1. if these items also appear in other parts of the PMPS, PM points will be recorded for LA10 only;
2. PM points will be recorded on a per report basis irrespective of the number of lifts involved;
3. items with supporting photos will not be counted;
4. in respect of machine room ventilation, the edge-to-edge distance between the inlet and outlet should be at least 1.0m in order to avoid short circuiting.)*

Category B (6 points)

LB1 Incorrect setting of the car overload device or the car overload device is not of a fail-safe design such that the lift can close its doors and operate when the load in the car exceeds 10% or more of the rated load (for lifts installed on or after 3 May 1969).

LB2 Upper/lower final limit switches of the electric lift, or upper final limit switches of the hydraulic lift are not provided or ineffective.

LB3 Terminations of hoist ropes or compensation ropes or governor ropes improperly installed such that the ropes pull free or the rope ends are not

firmly anchored to the termination.

- LB4 The buffer switch is not provided or ineffective for the energy dissipation type buffer (for lifts installed on or after 31 May 1984).
- LB5 The governor slack rope switch is not provided or ineffective (for lifts installed on or after 31 May 1984).
- LB6 The compensation rope tension switch is not provided or ineffective.
- LB7 The emergency stop switch at the machine room (for lifts installed on or after 18 March 1994), the pit or the car top is not provided or ineffective.
- LB8 Incorrect speed setting of the overspeed governor.
- LB9 The stopping distance in a safety gear test not complying with the sliding distance limitation stated in BS5655: Part 10 or BS2655: Part 1 (for lifts installed before 18 March 1994).
- LB10 Phase failure/reversal protection is not provided or ineffective.
- LB11 Insufficient traction such that the requirements stated in BS5655: Part 10 are not satisfied (for lifts installed on or after 31 May 1984).
- LB12** The car door mechanical lock is not provided or ineffective (for lifts installed on or after 31 May 1984) *such that the car door is insecure or can be opened by bare hands inside the lift car when the car is not in the unlocking zone, or when the lift can be operated with the car door not locked. (for lifts installed on or after 10 October 2000, the car door is considered "locked" only when the engagement of the locking elements is not less than 7 mm)*
- LB13** Deleted and included in LB12
- LB14** The car/counterweight obstruction safety device is ineffective *or not correctly adjusted* (for lifts installed on or after 31 May 1984).
- LB15 The interlocking device for the car top/side emergency exit is not provided or ineffective such that the lift can be operated when the exit is not closed and locked.
- LB16 The fireman's lift fails to perform the required fireman's lift operating mode.
- LB17 The home landing operation is not provided or ineffective such that the lift car cannot be brought back to home landing in case of fire emergency (for lifts installed on or after 18 March 1994).

- LB18 The electrical interlock device for the fire/security gate installed in front of the lift entrance is not provided or ineffective. (Points will be recorded if the RC or RE has not advised the owner of this defect in writing for rectification.)
- LB19 The landing door bridging control station is not provided or ineffective (for lifts installed on or after 18 March 1994).
- LB20 The tape switch is ineffective (for the lift with reduced stroke buffer and using tape to transmit car position).
- LB21 Electrical checking on operation of the car safety gear is not provided or ineffective (for lifts installed on or after 31 May 1984).
- LB22 The protective screen is not provided at the pit for the counterweight or between liftways for common shaft installation.
- LB23 Exposed/ extraneous conductive parts of the lift system are not electrically earthed or earthing ineffective in accordance with the Code of Practice for the Electricity (Wiring) Regulations.
(Points will be recorded under the following conditions:
The parts concerned are provided by the RC; or
The parts concerned are not provided by the RC and the RC or RE has not advised the owner of this defect in writing for rectification.)
- LB24 The anti-creep system is not provided as required or ineffective. (for hydraulic lifts only)
- LB25 The pressure relief valve is not provided or ineffective. (for hydraulic lifts only)
- LB26 Security gate is installed in front of the lift entrance of a fireman's lift. (PM points will be recorded if the RC or RE has not advised the owner of this defect in writing for rectification.)***
- LB27 Sufficient overhead runby or bottom clearance in the pit according to the Design Code is not provided.***
- LB28 Clause 4.10 in part 1 or clause 4.10 in part 2, section E of the Design code is not complied with.***

Category C (4 points)

- LC1 Self-closing function of the landing door is ineffective (for lifts installed on or after 31 May 1984). This excludes the cases where debris, sand particles, etc. found in door sills.

- LC2 Emergency alarm devices such as car push button with buzzer or intercom system are not provided or ineffective. For lifts installed on or after 20 September 1997, CCTV system, indication light, reset function and indication light for acknowledgement in lift car for the disabled are also included.
- LC3 The car emergency lighting is not provided or ineffective (for lifts installed on or after 3 May 1969).
- LC4 More than 10% of the total number of landing/car doors inspected have excessive clearance between door panels, or between door panels and uprights, lintels or sills (This item is only applicable to cases specified in paragraphs 2(c)(i), (ii) & (iii) of this document).
- LC5 Corrosion or damage of car cages, car doors, landing doors or hoist ropes which affects the safety of passengers.
- LC6 The normal/inspection switch of the car top control station is ineffective.
- LC7 Display of the floor indication panel does not tally with the actual position of the lift car. (No points will be recorded if this non-compliance is due to the owner's arrangement without notifying the RC.)
- LC8 The compensating rope/chain is broken.
- LC9** *The empty car can be raised by the lift machine rotating in the "up" direction when the counterweight is resting on the buffer. (for lifts installed on or after 31 May 1984).*

Category D (3 points)

- LD1 The landing door emergency release function is ineffective.
- LD2 All door sensitive protective devices are ineffective such that car/landing doors continue to close even when the device has been triggered. (It does not include the case when the sensitive protective device is made inoperative for the forced closing system.)
- LD3 Door closing force of automatic power operated horizontally sliding doors is excessive.
- LD4** *Filler weights of the counterweight are insecure such that emergency stopping or vibration during normal operation can cause the filler weights to dislodge from the counterweight frame or displace horizontally by more than 20 mm or displace to a position such that the clearance between lift car (and its associated equipment) and the filler weights is less than 50 mm*

(the 50 mm clearance is applicable to lifts installed on or after 31 May 1984 only), or jump and hit the adjacent filler weight or counterweight frame. During the PMPS inspections, the filler weights may be pushed by hand without using any tool in order to check whether the filler weights are securely fixed.

- LD5 The car apron is not installed or properly fixed.
- LD6 The landing door apron under the threshold is not installed or properly fixed.
- LD7 The protective screen is not properly installed at the pit for the counterweight or between liftways for common shaft installation.
- LD8 Guides/Guide brackets are not properly fixed/spaced.
- LD9 The car 'door open' button is ineffective.
- LD10** Protective guards *not provided or failed to offer the protection as required such that moving parts including rotating parts can inadvertently be accessed.*

Category E (2 points)

- LE1 Failure of the RC (agent of the owner) to cause a RE to test/examine the lift in accordance with sections 21 & 23 of Cap. 327, or failure of the RC to submit Form 11 in accordance with section 26 of Cap. 327.
- LE2 The car ventilation fan is inoperative.
- LE3 Ventilation slots blocked up (not applicable for lifts installed before 31 May 1984).
- LE4 Car lighting is not properly installed or inoperative such that all lamps fail to turn on.
- LE5** The brake releasing device or the handpump or the manual lowering device is malfunction or the *correct or updated* emergency operation instruction is not provided.
- LE6 Excessive oil leakage from machinery resulting in insufficient lubrication or oily floor.
- LE7 Correct notice or operating instruction for freight lift or industrial truck loaded freight lift or vehicle lift is not provided.
- LE8** Failure to update log-book in accordance with the Code of Practice *for Lift*

Works and Escalator Works, Section C, Clause 7.

- LE9** *The lift well lighting, when fitted, are not properly spaced. (not applicable for lift well lighting installed before 31 May 1984).*
- LE10** *Load plate is not provided inside the lift car or not showing the required and correct information.*
- LE11** *Machine room door or pulley room door or emergency/inspection door to the lift well or access door to the lift pit not opening outwards, or not provided with self closing device (not applicable to trap doors) or permanent warning notice or locking device of the type that can be opened without key from inside the room or lift well or lift pit. (PM points will not be recorded if RC or RE has advised the owner of this non-compliant item in writing)*

List of Common Non-compliance – Escalators

Category A (15 points)

- EA1** The escalator machine brake or the auxiliary brake or the broken drive chain safety device is ineffective such that the escalator steps cannot be stopped and maintained stationary.
- EA2** *More than two items in the Supplementary Report for New Escalator Installation which are certified completed/complied with by the RE are found not completed/complied with during site inspection.*
- (Note*
- 1. if these items also appear in other parts of the PMPS, PM points will be recorded for EA2 only;*
 - 2. PM points will be recorded on a per report basis irrespective of the number of escalators involved;*
 - 3. items with supporting photos will not be counted.)*

Category B (6 points)

- EB1** The phase failure/reversal protection device is not provided or ineffective.
- EB2** The escalator brake is not properly adjusted such that the sliding distance does not comply with the limitations.
- EB3** The emergency stop switch is not provided or ineffective.
- EB4** The broken step chain safety device is not provided or ineffective.
- EB5** The step sagging safety device is not provided or ineffective (for escalators installed on or after 31 October 1987).

- EB6 The non-reversal device is not provided or ineffective.
- EB7 The broken handrail safety device is not provided or ineffective (for public service escalators installed on or after 31 October 1987).
- EB8 The handrail entry safety device is not provided or ineffective (for escalators installed on or after 31 October 1987).
- EB9 The comb plate safety device is not provided or ineffective (for escalators installed on or after 31 October 1987).
- EB10 The speed governor or speed control is not provided or not complying with the requirements in the Design Code, Section E, Part 4, Clause 8.5.1.
- EB11 The skirt panel switch is not provided, missing or ineffective such that the escalator does not stop even if foreign object is jammed between the skirt panel and the pallet (for escalators installed on or after 18 March 1994).
- EB12 The electrical interlocking device of the escalator in connection with the adjacent shutter gate is not provided or ineffective. (Points will not be recorded if the RC or RE has advised the owner of this defect in writing for rectification)
- EB13 Exposed/ extraneous conductive parts of the escalator system are not electrically earthed or earthing is ineffective in accordance with the Code of Practice for the Electricity (Wiring) Regulations.
(Points will be recorded under the following conditions:
The parts concerned are provided by the RC; or
The parts concerned are not provided by the RC and the RC or RE has not advised the owner of this defect in writing for rectification.)
- EB14 The interlocking device for the successive escalators without intermediate exit is not provided or ineffective such that the escalator will not stop automatically upon stopping of its succeeding escalator.***

Category C (4 points)

- EC1 The clearance between the skirt panel and the step of an escalator exceeds 4mm.
- EC2 The clearance h6 (see figure 1, detail X of Section E, Part 4 of the Design Code) between the comb and the step exceeds 4 mm, or the horizontal clearance between the teeth of the comb and the web of the step exceeds 4 mm or the clearance between steps exceeds 6 mm.
- EC3 The enclosure of escalator (cladding) is not properly installed such that machinery, moving parts or electrical parts are exposed and accessible by

unauthorized persons.

EC4 The safety device for the inspection door or the trap door next to the adjacent escalator treadway is not provided or ineffective such that the adjacent escalator can still operate when this inspection door or trap door is open.

EC5 *The clearance b_6' or b_6'' (see figure Z detail W of section E, part 4 of the Design Code) between the handrail profile and guide or cover profile exceeds 8mm.*

Category D (3 points)

ED1 Failure of the RC or RE to advise the owner of the missing guards or the guards are installed incorrectly at intersection between escalator and floor, between escalator and adjacent obstructions, or between criss-cross escalators.

ED2 Protective Guards for accessible moving parts including rotating parts are not provided or they fail to offer the protection as required.

ED3 Deviation of the speed of the handrail from the speed of the steps is not within the limits of 0 to +2%. *(for escalator installed on or after 31 October 1987)*

ED4 The skirt deflector is not provided or the installation is ineffective (for escalators installed on or after 18 March 1994).

Category E (2 points)

EE1 Failure of the RC (agent of owner) to cause a RE to test/examine the escalator in accordance with Sections 23 and 24 of Cap. 327, or failure of the RC to submit Form 12 in accordance with Section 26 of Cap. 327.

EE2 The brake release or manual release instruction is not provided.

EE3 The notice or pictograph is not provided.

EE4 Failure to update log-book in accordance with the Code of Practice *for Lift Works and Escalator Works*, Section C, Clause 7.

EE5 *The clearance between the balustrade exterior paneling and the guard wall/rail erected adjacent to the escalator at the landing exceeds 100mm or the guard rail/wall is not securely fixed. (PM points will not be recorded if RC or RE has advised the owner of this non-compliant item in writing for rectification)*

Appendix - Sample calculation of moving averages in 2(e) and 2(g)

For a particular RC/RE, assessment started in Nov 2005

A. Month	2005												2006															
	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec
B. No. of units inspected in the month	3	5	0	4	8	1	5	1	3	0	6	2	3	7	3	8	8	12	20	21	26	27	30	30	36	38	38	40
C. Total no. of units inspected for 12 successive calendar months																												
D. Total no. of PM Points (Category A only) scored in the month	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15 ⁽³⁾	0	0	0	0	0	0
E. Total no. of PM points (excluding Category A) scored in the months	6	9	0	30	21	12 ⁽²⁾	24	0	30	0	10	4	3	1	6	15	15	45	66	78	102	102	132	132	142	146	143	135
F. Total no. of PM points (excluding category A) scored for 12 successive calendar months																												
G. Moving average PM points (excluding category A) scored for 12 successive calendar months (G = F/C)	(N/A)	N/A	N/A	N/A	3.8	3.3	3.7	3.9	3.8	4.4 ⁽⁴⁾	4.4 ⁽⁵⁾	3.8	3.8	3.8	3.8	3.7	3.8	3.8	3.9	3.9	3.9	3.8	3.8	3.9	3.8	3.8	3.8	3.4

Notes:

- (1) As no. of units inspected in the first 3 months is only 8, moving average is not calculated.
- (2) In April 2006, a single unit inspected has scored 12 PM points (not from category A). Action is taken against the RC/RE.
- (3) In June 2006, another single unit inspected has scored 15 PM points from category A. Action is taken against the RC/RE, but such PM points are not used to calculate moving average.
- (4) In July 2006, the moving average of the PM points (excluding category A) has reached 4.4 and no. of units inspected is accumulated to 30. Action is taken against the RC/RE.
- (5) As no inspection has been made in Aug 2006, no action is taken though the moving average of the PM points is maintained at 4.4, as in July 2006.
- (6) When we step into Nov 2006 the data in Nov 2005 is excluded, since we are interested in 12 successive calendar months in calculating moving average.

THIS CHARTER HAS BEEN SUCCEEDS BY CIRCULAR No. 21/2009 COMMENCING 1 JANUARY 2010