Safety & Health Circular No. 27 / 2012
Safety Alert on Lift Installation and Maintenance Works - OSHC

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Safety Alert on Lift Installation and Maintenance Works

This circular serves to draw your attention to safe work practice when carrying out lift installation and maintenance works. Lift installation and maintenance activities may potentially expose the workers involved (and also other persons) to all sorts of hazards. The following paragraphs outline some of the common hazards and the severity of harm that may thus be caused. These hazards, which are by no means exhaustive, warrant particular attention and necessary actions in order to ensure site safety.

Falls from height

Lift installation and maintenance work often involves using access equipment to reach roofs, building services, and raised sections of plant and machinery. It can be all too easy to fall from these positions, or to drop things onto people beneath. Openings for landing doors, emergency doors, inspection doors and access panels to the lift shafts should be properly covered and protected to prevent any working personnel or objects falling from height. No worker is allowed to enter a lift shaft if he is not wearing a safety harness with fall arrestor. Contractors should install at least 3 sets of independent lifelines anchored to eyebolts inside a lift well with at least one independent lifeline be located near the door openings of a lift well for lift installation work.

Isolation

Isolation and lock off arrangements are essential to enable installation and maintenance work to be conducted safely. Where maintenance requires that normal guarding is removed, or access is required inside existing guarding, then additional measures are needed to prevent danger from the mechanical, electrical and other hazards that may be exposed. There should be isolation from the power source (usually, but not exclusively, electrical

energy), the isolator should be locked in position (for example by a padlock), and a sign should be used to indicate that maintenance work is in progress. If more than one maintenance worker is involved in the work, each of them should lock off the power with their own padlock. Multi-padlock hasps can be used in such circumstances.

Permit- to- work

Permit-to-work forms part of a formal, written, safe system of work to control potentially hazardous activities. The permit details the work to be done and the precautions to be taken. Permits to work are usually required in (but not limited to) the following situations:

- where contractor's work interfaces with other production activities
- work on plant which must be isolated from the possible entry of fumes or gases (included those from fire extinguishing systems)
- hot work which could cause fire or explosion
- work in confined spaces etc.

Falls of items

Heavy items sometimes have to be lifted, moved, or get distributed, during installation and maintenance work. If the event of falling objects, the results can be fatal. There may well be cranes, chain blocks or props available for use, but installation and maintenance tasks may sometimes involve one-off situations and the handling of heavy loads may not always be properly planned. If a heavy item has to be moved or temporarily supported during installation and maintenance work, it is crucial that the risks involved are assessed and a plan of action is properly thought through. Competent person and examiner should be appointed to provide advice on safe slinging and on safe working practices for work involving heavy loads and all equipment used to lift or support a heavy load and (where necessary) conduct inspection and test.

Replacement of suspension rope

To ensure safety of lift installation and maintenance, Lift Contractors have to carry out periodic maintenance and accident investigation, keep the equipment in good working order and ensure that the requirements of the Lifts and Escalators (Safety) Ordinance are complied with. Suspension ropes shall be replaced in accordance with the criteria stipulated on the Code of Practice for Lift Works and Escalator Works. Risk assessment should be carried out and method statement with suitable control measures should be implemented for rope replacement work. Lift Contractor shall ensure rope lifting work safety. The old ropes should be properly transported down to the ground for removal from the work site. Regarding the use of “reeving splice”, the weight of the new wire rope and the maximum

permissible weight to be suspended by the "reeving splice" should be taken into account in planning the operation with adherence to the relevant manufacturer's instructions concerning its usage. Where necessary, a permit-to-work system should be adopted.

Working on lift car top

Working on lift car top would be very dangerous and hazardous if the movement of the lift car is not solely controlled by the worker working thereon. Workers working on lift car top are prone to accidents if the lift is suddenly set in motion by other persons. To ensure the safety of workers undertaking repair, alteration or maintenance works on a lift-under-repair, the contractor/employer responsible for the works should adopt the following safety measures:

- Before a lift-under-repair is used to carry lift workers either inside its lift car or on its car top for the first time, the lift-under-repair should be examined by a Registered Lift Engineer to ensure that the operating switches and safety devices are functioning properly. The examination should be properly documented for checking.
- As far as practicable, front guardrail and toe-board (facing the door side), in addition to guardrails and toe-boards at other edges, should be installed at the lift car top, and foothold should be provided on the front of the lift car top. The guardrail should be so designed and constructed to allow safe access to and egress from the lift car top.
- A switch lock on the Inspection/Operation Switch at the lift car top or other similar device should be installed to ensure that the operation of the lift-under-repair is under the sole control by the lift worker working on the lift car top.
- Suitable anchorage should be provided for the use of every worker wearing a safety harness with a short lanyard.
- A permit-to-work should be developed and implemented to ensure that all safety measures and procedures are followed. In particular, the permit should include, among others, check boxes covering the name of the supervisor responsible for the key of the switch lock and the name of the Registered Lift Engineer who has examined the lift-under-repair.

Temporary electricity supply

Temporary electricity at voltage 110V with circuits equipped with waterproof sockets should be provided for use by the Nominated Sub-contractor for lift installation.

Reference

i. Construction Sites (Safety) Regulations, Chapter 59I, hyperlink: https://www.elegislation.gov.hk/hk/cap59I!en?INDEX_CS=N

ii. The Lifts and Escalators (Safety) Ordinance, Chapter 327, hyperlink: https://www.elegislation.gov.hk/hk/cap618!en?INDEX_CS=N

iii. Code of Practice on the Design and Construction of Buildings and Building Works for the Installation and Safe Use of Lifts and Escalators, Buildings Authority, hyperlink: https://www.bd.gov.hk/doc/en/resources/codes-and-references/code-and-design-manuals/BWLE2011e.pdf

iv. Practice Notes for Authorized Persons, Registered Structural Engineers and Registered Geotechnical Engineers, PNAP ADV-10 (formerly PNAP 181), Building Department, hyperlink: https://www.bd.gov.hk/doc/en/resources/codes-and-references/practice-notes-and-circular-letters/pnap/ADV/ADV010.pdf

v. Practice Notes for Registered Contractors, PNRC 29, Lift Shaft Platforms, Building Department, hyperlink: https://www.bd.gov.hk/doc/en/resources/codes-and-references/practice-notes-and-circular-letters/pnrc/Pnrc29.pdf

vi. Code of Practice for Building Works for Lifts and Escalators, Buildings Department, hyperlink: https://www.bd.gov.hk/doc/en/resources/codes-and-references/code-and-design-manuals/BWLE2011e.pdf

vii. Code of Practice for Lift Works and Escalator Works, Electrical & Mechanical Services Department, hyperlink: https://www.emsd.gov.hk/filemanager/en/content_805/CoP%20on%20Lift%20Works%20and%20Escalator%20Works%202018%20Edition%20(Eng).pdf

viii. Code of Practice for Safety at Work (Lift and Escalator), Labour Department, hyperlink: http://www.labour.gov.hk/eng/public/os/B/lift.pdf

ix. Guidelines on Safety of Lift Shaft Works: Volume 1 - During Construction Stage and Before Handing Over to Lift Installation Contractor, Construction Industry Council , hyperlink: http://www.cic.hk/cic_data/pdf/about_cic/publications/eng/guidelines/Guidelines%20on%20Lift%20Shaft%20Works%20(Vol%201)%20May%202012%20e.pdf

x. Guidelines on Safety of Lift Shaft Works: Volume 2- During Lift Installation Stage until Issue of Occupation Permit and Handing Over to Developer, Construction Industry Council , hyperlink: http://www.cic.hk/cic_data/pdf/about_cic/publications/eng/V10_6_e_V00_201

20106 .pdf

xi. Compliance Notes for Lift-under-repair, Labour Department

xii. Safety & Health Circular No. 13/2011 - Compliance Notes for Lift-under-Repair , Hong Kong Housing Authority, hyperlink: https://www.housingauthority.gov.hk/mini-site/site-safety/common/resources/circulars/2013/SH-2013-11e.pdf

Should there be any queries, please contact OSHC on 3106-5672, the Labour Department hotline 2559-2297, or the Electrical & Mechanical Services Department hotline 2333-3762.