

***HOUSING AUTHORITY
Lift and Escalator NSC
Safety Audit System
(HALENSAS) version 1.0***

17 April 2013



Occupational Safety & Health Council



HALENSAS Version 1.0

- Audit scores of lift NSC in HASAS (New Works) Version 1.4
- New approach in safety audit for Lift NSC
- Part A & B of HALENSAS
- Major Safety Standards
- Implementation
- Scoring Table
- Checklist for high risk activities



Audit on Nominated Subcontractors

- **Check on-site safety performance of NSCs**
- **Physical checklists on 4 NSCs**
 - Electrical Contractors
 - Fire Services and Water Pump Contractors
 - **Lift and Escalator Contractors**
 - Air Conditioning & Ventilation Contractors

New approach in safety audit for Lift and Escalator Nominated Sub-contract (NSC)

HASAS version 1.4

- Vetting the NSC safety plan by HA
- Auditing every 3 months on the safety audit of main contractor safety audit
- Checking the site condition of NSC by ASA based on a prescribed check list

New Approach

- Auditing Lift and Escalator NSC will carry out separately on the active period of processes (usually last for 3 months)
- Checking both site condition and process control programme by ASA using a newly developed audit programme (HALENSAS)

HALENSAS

Audit Programme

The audit programme consists of two parts:

- PART A: Safe systems of work – process control programme
- PART B: Existing NSC Lift & Escalator Installation audit checklist
- Payment method with score banding
- Scores < 70% for Part A and Part B or both, no payment
- Scores > 70% or = 70% full payment for the safety audit item.

Audit Elements

PART A:

1. **Process safety information**
- 5 questions
2. **Process Hazard Analysis (PHA)** – 7 questions
3. **Definition of safe methods**
- 7 questions
4. **Implementing the system**
- 5 questions
5. **Monitoring the system**
- 6 questions

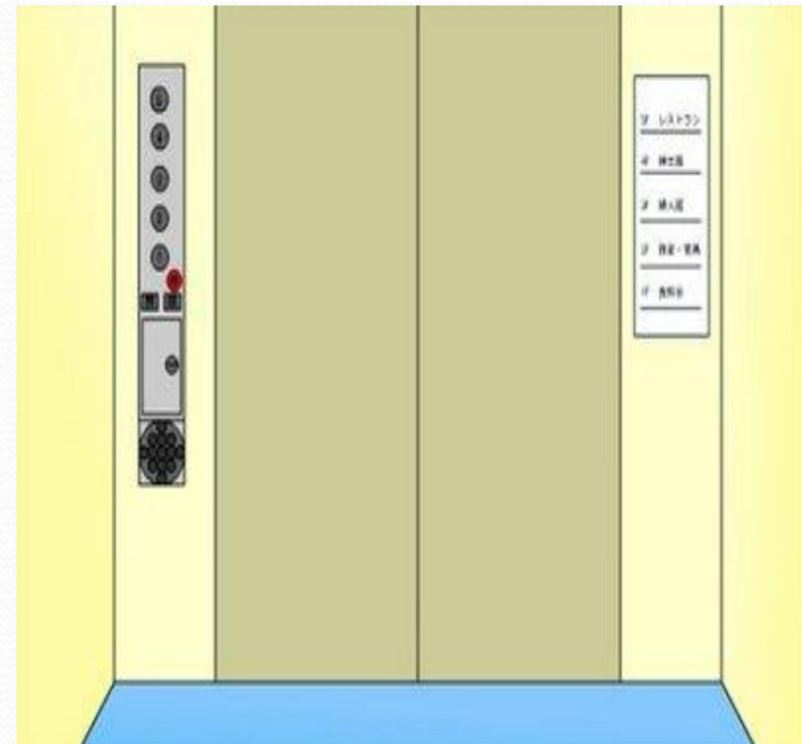


NSC Lift & Escalator Installation audit checklist

Prepared in consultation with the Hong Kong Federation of Electrical & Mechanical Contractors Limited (HKFEMCL) and Occupational Safety & Health Council (OSHC)

NSC Lift & Escalator Installation audit checklist

- Part 1 Working At Height
- Part 2 Protection Against Falling Objects
- Part 3 Housekeeping
- Part 4 Lifting Operations
- Part 5 Welding/Cutting Operations and Equipment
- Part 6 Abrasive Wheels
- Part 7 Portable Tools
- Part 8 Electrical Works
- Part 9 Dangerous Substances
- Part 10 Manual Handling and Mechanical Materials Handling
- Part 11 Noise
- Part 12 Confined Spaces
- Part 13 Miscellaneous





Part A and Part B of HALENSAS

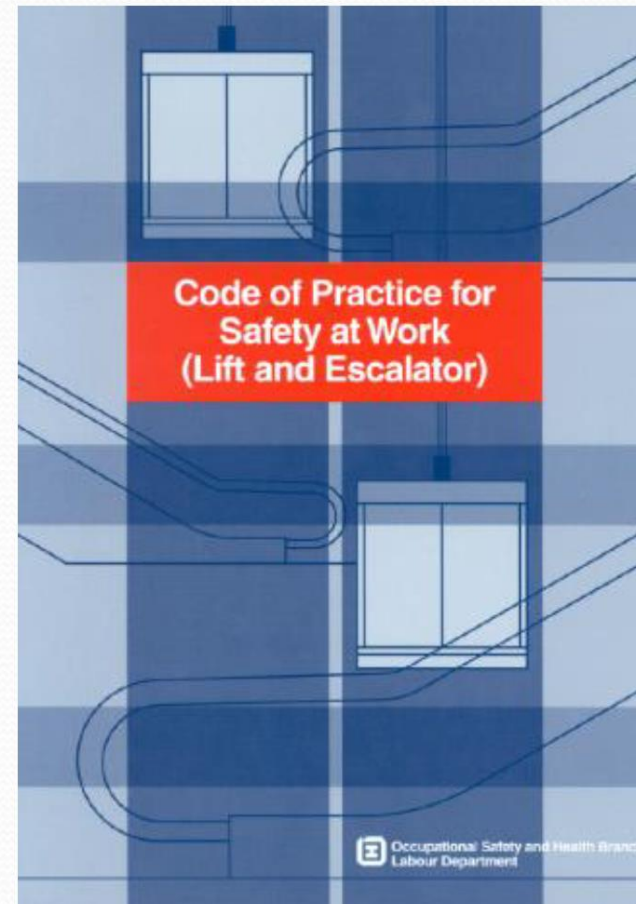
- Part A: Process Control Programme – Safe System of Work
- Part B: Site Verification Checklist to be used by Accredited Safety Auditor (ASA) on site checking and verification

Major Safety Standards

- Construction Sites (Safety) Regulations, Chapter 59I
- Code of Practice for Safety at Work (Lift and Escalator), Labour Department
- Guidelines of Safety of Lift Shaft Works, Construction Industry Council (hereinafter referred to as CIC safety guideline)

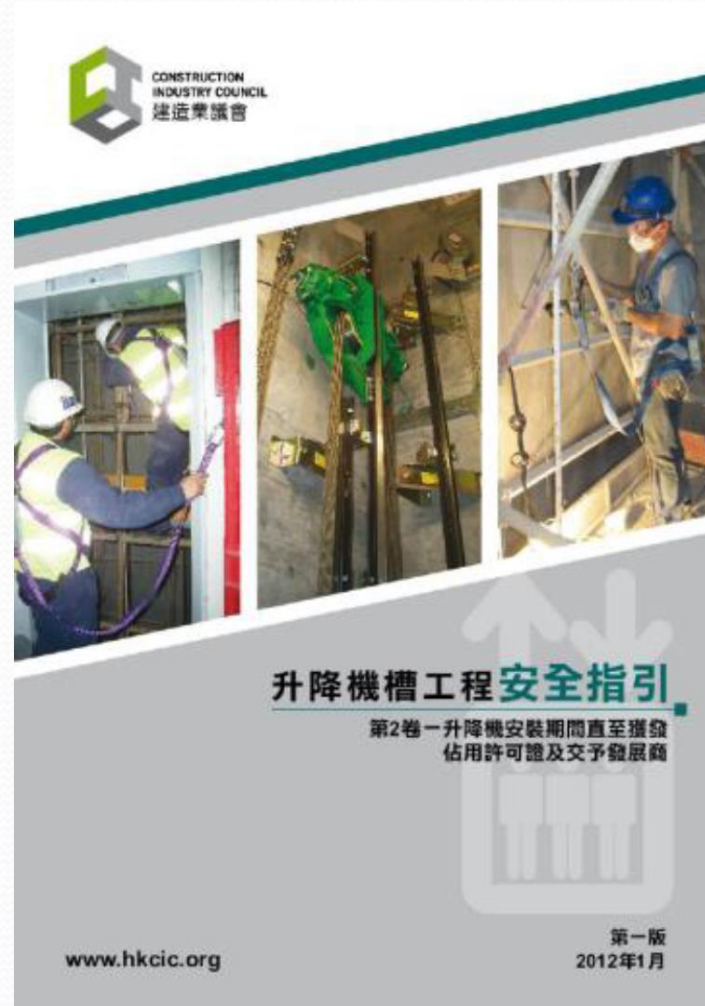
Audit criteria

- Code of Practice for Safety at Work (Lift and Escalator) issued - Labour Department



Audit criteria

- Guidelines on Safety of Lift Shaft Works – Volume 2 – During Lift Installation Stage Until Issue of Occupation Permit (OP) and Handing Over to Developer - Construction Industry Council



Extent and scope of lift shaft works

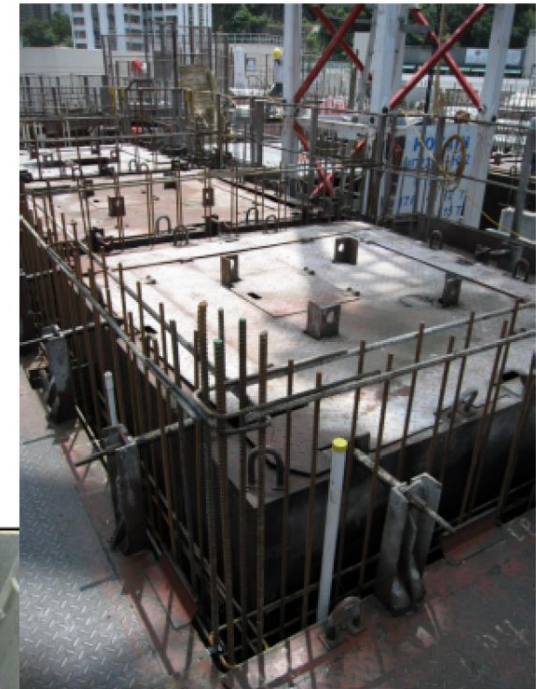
升降機槽工程之涵蓋範圍

the whole process can generally be divided into three stages:

升降機安裝的工作周期，
歸納為以下三個工程階段：

- **Stage 1** – During Construction Stage and Before Handing Over to Lift Installation Contractor

第一階段 - 施工期間直至移交予升降機安裝承建商前；



Extent and scope of lift shaft works

升降機槽工程之涵蓋範圍

- **Stage 2** – During Lift Installation Stage Until Issue of Occupation Permit (OP) and Handing Over to Developer; and

第二階段 - 升降機安裝期間直至獲發佔用許可證及交予發展商；及



Extent and scope of lift shaft works

升降機槽工程之涵蓋範圍

- **Stage 3** – Operation and Maintenance Throughout the whole Occupation Stage

第三階段 - 整個佔用期內的操作及保養階段



HOUSING AUTHORITY LIFT AND ESCALATOR NSC SAFETY AUDIT SYSTEM (HALENSAS) VERSION 1.0

Both

- Part A 70% or above
- Part B 70% or above

28 audit questions

40 audit questions

Duration of audit

Max. 1 day for each
audit (6 hours)

Number of audits per site

3 audits within the
active construction period

Scoring Table for HALENSAS Version 1.0

Part A Safe systems of work – Process Control Programme

Section	Topics	No. of Questions	Score	% of total score
1	Process safety information	5	18	18.2
2	Process Hazard Analysis (PHA)	7	27	27.2
3	Define of safe methods	7	21	21.2
4	Implementing	5	15	15.2
5	Monitoring	4	18	18.2
PART A Total		28	99	100%

Part B Work Site Conditions

Section	Topics	No. of Questions	Score	% of total score
1.	Working At Height	4	24	14.5
2	Protection Against Falling Objects	2	12	7.3
3	Housekeeping	4	24	14.5
4.	Welding/Cutting Operations and Equipment	2	12	7.3
5.	Lifting Operations	3	18	11
6.	Abrasive wheels	2	6	3.6
7.	Portable Tools	2	6	3.6
8.	Electrical Works	5	15	9.0
9.	Dangerous Substances	2	6	3.6
10.	Manual Handling and Mechanical Materials Handling	3	9	5.5
11.	Noise	4	12	7.3
12.	Work in Confined Spaces	4	12	7.3
13.	Miscellaneous	3	9	5.5
PART B Total		40	165	100



Implementation

- Implemented for all on-going and new Lift & Escalator Nominated Sub-contracts **from 1 January 2013**
- It covers specific lift and escalator work activities and mainly focuses on work process control – safe system of work of the lift or escalator nominated subcontractor, with focus on high risk activities.
- HALESAS audit will be conducted by the same Accredited Safety Auditor (ASA) if there is no conflict of interest but on different date(s) to suit the site progress of lift and escalator installation work.



Safety Audit Report

1. The ASA would prepare a Safety Audit Report for the NSC
2. together with a **Summary of Recommendations** and **Action Plan for Improvement** after each audit on site.
3. There will be an “**Extract for Attention**” highlighting weakness of key Sections in Part A and imminent risk Items for physical activities in Part B with unsatisfactory performance (score less than 70% within that Section) in the Summary of Recommendations.

Audit score

- Part A & B $\geq 70\%$ - PASS
- Verified score of less than 70% in either Part A or Part B will trigger alert to the respective Contractor Review committee (CRC) for review of the nominated sub-contractor's safety performance.
- Verified score is to be considered in processing payment in regard to "Achievement in Safety Audit" under the Integrated pay for Safety, Environment and Hygiene Scheme (if applicable).

checklist for high risk activities

- 1. Setting plumb lines
- 2. Install landing sills
- 3. Install architraves
- 4. Install landing doors
- 5. Install guide rail brackets
- 6. Install guide rails
- 7. Grout architraves
- 8. Install electrical conduits, trunking and cables
- 9. Assemble car cage and car sling
- 10. Assemble counterweight
- 11. Install suspension ropes
- 12. Lift pit installation
- 13. Adjustment and testing



checklist for high risk activities

- For general reference and is by no means exhaustive
- NSC should build up the list as appropriate, **assess the risks** of site operations/activities and establish appropriate control measures /safe operation procedures
- ASA should identify high risk operations/activities that are anticipated according to the project nature and progress, **prioritize in the audit plan** for verification during the safety audit.
- Appropriate control measures/step-by-step safe operation procedures for the listed activities/operations have to be submitted along with site demonstrations for safety audits



- Thank you!