Alpha
Consulting Engineers Pte Ltd

FEEDBACK REPORT FORM

Ref No: 133 - 200410 (S)

To: LCT From: LFY

Job No./Project: LIFT MASTER SPECS *(where applicable)*
Section 1 - Scope of Work & Design Information

Source of feedback:

Scope of Feedback: * ☐ Quality ☐ Environmental ☐ Administrative ☐ Contractual
☐ Technical ☒ Specification ☐ Others

Section A : Problem & Cause

CP2 is now SS 550, no need to update. Also to update on the Code of on Accessibility in Built Environment 2007.

Section B : Mitigating Action Taken, if any

Section C : Suggested Corrective Action

Update specs.

Section D : Approved Corrective Action

Document Affected * : ☑ Yes ☐ No Affected Document : L/1-1 to L/1-6

Approved By : (LCT) Date : 21/4

Section E : Action

Action By : NA

Targeted Completion : April 2010

Actual Completion : 19 April 2010 Verified By : (LCT)

** Mark [X] where appropriate*

Distribution:

Select one of the following headings

LIFT & ESCALATOR INSTALLATION

LIFT INSTALLATION

ESCALATOR INSTALLATION

SECTION 1 - SCOPE OF WORK AND DESIGN INFORMATION

Select (a) Clause 1.1a for Lifts and Escalators
(b) Clause 1.1b for Lifts only
(c) Clause 1.1c for Escalators only

01/04/97
1.1a General - Lifts and Escalators

1.1 General

The locations and arrangements of the lifts and escalators are shown on the Specification Drawings. The work to be carried out shall include the whole of materials, components, equipment and ancillaries, control and computer software, protection and safety devices, cabling etc. and all necessary labour for the completion of the lifts and escalators in every detail ready for continuous and safe operation whether such be specifically mentioned hereunder or not.

01/04/97
1.1b General - Lifts Only

1.1 General

The locations and arrangements of the lifts are shown on the Specification Drawings. The work to be carried out shall include the whole of all necessary materials, components, equipment and ancillaries, control and computer software, protection and safety devices, cabling etc. and all necessary labour for the completion of the lifts in every detail, ready for continuous and safe operation whether such be specifically mentioned hereunder or not.

01/04/97
1.1c General - Escalators Only

1.1 General

The locations and arrangements of the escalators are shown on the Specification Drawings. The work to be carried out shall include the whole of all necessary materials, components, equipment and ancillaries, control protection and safety devices, cabling etc. and all necessary labour for the completion of the escalators in every detail, ready for continuous and safe operation whether specifically mentioned hereunder or not.

1.2 Location of Site

The site is located as shown on the Specification Drawings.

1.3 Electricity Supply

The electricity supply for the works shall be 400/230 volts, 3 phase, 4 wire, 50 Hz system with deviations/fluctuations as declared by Singapore Power Pte Ltd.

For projects where Acoustic Consultants are engaged to advise on the noise & vibration aspects of the M & E Systems etc., the Acoustic Consultants should be consulted before using Clause 1.4. The following clause should be common for all M&E Services for the particular project.
20/08/09

1.4 Noise Levels

Octave band sound pressure levels in the various areas within the Building shall not exceed the noise criteria as set out in the following Schedule.

When dispute arises over the classification of any area under the following Schedule, the Architect's determination of the space, type and function of the area, as listed below, shall be final and binding on the Sub-Contractor.

Space/Area	Noise Criteria (NC)	Approx. Level in db (A)
Guestrooms for Service Apartment	35	43
Apartments Bedroom, Dining/ Living Room	35	43
Executive Offices, Conference Rooms	35	43
Quality Restaurants	40	48
Bedroom Bathrooms	40	48
General Offices	40	48
Public Areas, e.g. Foyers, Corridors, Lobbies, Coffee Houses, Shops, Kiosks and General Outlets, Atrium Space (where applicable)	45	53
Control Rooms	50	57
Kitchens	55	63
Carparks	60	67
At Property Boundaries:		
(7 am to 7 pm)		60
(7 pm to 11 pm)		55
(11 pm to 7 am)		50

The specified interior noise criteria limits apply to every position from 1m to 2m from the floor not closer than 1.5m from any air outlet, or equipment.

The Sub-Contractor shall ensure that noise emitting from any equipment (chiller, cooling tower, fan, pump, etc.) to be effectively controlled such that the noise level at property boundaries shall comply with the requirements of the Code of Practice on Pollution Control.

The Sub-Contractor shall examine all the Specification Drawings and Specifications including architectural and structural sets of working drawings, before commencing any work forming the Works and shall immediately bring to the Architect's attention any characteristics or properties of the Building or any other factors which, in his opinion, would jeopardize or nullify the attainment of the design objectives in respect of noise level control.

The Sub-Contractor shall examine all plant equipment and installation included in the Works, when operated within the design criteria, shall acoustically perform to the specified noise criteria ratings.

The Sub-Contractor shall be responsible for any corrective action which may be necessary either during the execution or after completion of the Works, to achieve all design objectives.

The specifier shall discuss with the Employer to decide whether to include these requirements. Also for installation with few lifts, this is not required.
01/04/97

1.5 Operation of Lifts

In addition to the requirements stipulated under 'Servicing and Maintenance' and 'General Requirements' of this Specification, the Works shall include a competent and experienced Lift mechanic to be stationed full-time on site during the first three (3) months of the Maintenance Period; the hours of duties on site shall be from 8.00am to 6.00pm for Mondays to Fridays and 8.00am to 1.00pm on Saturdays except Public Holidays.

1.6 Codes of Practice

The complete Installation shall comply with the current editions of the following Codes of Practice, where applicable:

(a) Singapore Standard SS 550: Code of Practice for Installation, Operation and Maintenance of Electric Passenger and Goods Lifts.

(b) Singapore Standard CP 15: Code of Practice for Installation, Operation and Maintenance of Escalators and Passenger Conveyors.

(c) Singapore Standard SS 209: Standard Specification for Battery-Operated Emergency Power Supply for Lighting and Ventilation of Passenger Lifts.

(d) British Standard BS 5323 Code of Practice for Scissor Lifts.

(e) Singapore Standard CP 5: Code of Practice for Electrical Installations.

(f) The Factories Act, 1973 (Singapore).

(g) ANSI/ASME A/17.1. Safety Code of Elevators and Escalators (only for issues not covered in all the above Codes).

(h) Code On Barrier Free Accessibility in Buildings.

(i) Code on Accessibility in Built Environment 2007.

The complete Installation shall also comply with the relevant Local Authorities' regulations and requirements.

1.7 Building Completion Programme

It is anticipated that the entire building including the Installation will be completed as detailed elsewhere in the Preliminaries. The actual contract completion date will be confirmed by the successful Contractor who will be required to prepare a co-ordinated and detailed programme to be reviewed by the Architect and which will then become the contract programme; the Sub-Contractor shall assist the Contractor in preparing the programme and agree with the same.

1.8 Amplification of Specification

The following Sections of this Specification shall be read with reference to the design of this particular installation. In case of any doubts about the meaning or relevance of any portion of

the Specification, the Sub-Contractor shall refer the matter to the Architect for a definition or interpretation and the Architect's decision shall be final and binding upon the Sub-Contractor.

The following Clauses should be common for all M&E Services, if used. Before using these clauses, the engineer preparing this Specification should consult the project manager and check whether this clause should be included in this section or to use the Clauses in the preliminaries as prepared by the Quantity Surveyor.
If these clauses are applicable, choose 1.9a and either 1.9b or 1.9c.
06/04/10

1.9a Work Not Included - Applicable for All Developments

1.9 Work Not Included

The facilities and attendance upon the Sub-Contractor as will be provided by the Contractor unless otherwise stated and other works not included in the Sub-Contract are stated herebelow:

(a) The cutting and formation of holes, recesses, etc. for ductwork, pipes, conduits and fittings through walls, floors, ceilings, roofs, etc. and making good after the electrical and mechanical works are sufficiently advanced. Cutting of holes through false ceiling and special partitions shall be by the respective specialist contractors. However, the Sub-Contractor shall be responsible for chasing of brickwalls for pipes, conduits and fittings but making good shall be by the Contractor.

(b) The Contractor will undertake the building-in or cast-in of insets, bolts, sleeves or other forms of suspensions for pipes, ducts, trunkings, guide rails, equipment, etc. The Sub-Contractor shall provide the insets, bolts, sleeves, suspensions, etc. and will assist the Contractor in locating those fittings at the correct positions.

Sealing between the sleeves and the pipes, trunkings, ducts, etc. shall be by the respective Sub-Contractor whereas sealing between the sleeves and building structure (e.g. floors, walls) shall be by the Contractor. All sealing materials and methods shall be of appropriate fire rating and to the approval of the Building Authority and the Architect/Engineer.

(c) General scaffolding will be provided by the Contractor. However the Lift and Escalator Sub-Contractor shall provide scaffolding and/or other temporary platforms within the lift shafts for his own work and subsequent removal after use.

(d) The Contractor will provide all separator beams, sheave beams, hoisting beams (in lift motor rooms) and lift pit cat ladders for the lift installation, as well as necessary grouting under the shaft entrance sills and around doorways, hall button casings, car position indicator casings, hall lantern casings, etc.

(e) Providing all setting out and survey information including giving all necessary dimensions. (For builders' work provisions related to the Sub-Contract work, the Sub-Contractor must, however, check all dimensions on site and take responsibility for their accuracy).

(f) Providing programming information on a week-by-week or month-by-month basis and co-ordinating his and all other Sub-Contractors' and Specialists' works to ensure the correct timing, sequencing and completion of all operations.

(g) Clearing away all Sub-Contractors' rubbish including crates, packing cases, drums, etc. The Sub-Contractor shall deposit all rubbish, crates and drums at positions to be indicated by the Contractor.

(h) Providing substantial protection for equipment and materials brought on to the site against physical damage from the civil or building construction works; protection shall

be subject to review by the Architect/Engineer. The Sub-Contractor shall take all precautions and provide protection to safeguard all his work against corrosion, mechanical damage, water damage, inclement weather, etc. during storage and erection at the site.

(i) Providing hoisting facilities. The Sub-Contractor shall be responsible for unloading, getting in and lifting to a convenient location, equipment, materials, plant, etc. for hoisting by the Contractor. When the equipment, materials, plant, etc. are hoisted to the required level by the Contractor, it shall be the responsibility of the Sub-Contractor to lift or remove if necessary to the required positions using his own facilities. However, all escalators, travellators and lifts shall be hoisted by the Lift, Escalator and Travellator Sub-Contractor. The lifts shall be hoisted through the respective lift hoistways; where the lift machines are hoisted through the hoistways, the casting of portions of the lift hoistway or lift motor room floor slabs shall be programmed accordingly.

(j) The Contractor will provide concrete bases, plinths, inertia blocks, etc. for plant and equipment, door louvres, exhaust discharge (external) grilles and fresh air intake louvres, unless otherwise stated in the Specification or Specification Drawings. Steel framework for concrete inertia blocks shall be provided by the respective Sub-Contractors.

(k) The Contractor will provide manholes, floor wastes, drawpits, pits and trenches for cables, pipes, ducts, etc. unless otherwise stated in the Specification or Specification Drawings.

06/04/10
1.9b Work Not Included - Applicable for Residential Development
Add the following clauses (l) to (n) together with Clause 1.9a for residential developments (including service apartments)

(l) Provision of temporary lighting and power supplies for the works including power drawn from the permanent systems for testing and commissioning of all equipment and associated installations covered under the Main Contract and all the Sub-Contracts. The Contractor shall be responsible to make arrangements with Singapore Power Pte Ltd in respect of the application for the temporary and permanent electricity supplies, opening of accounts for permanent systems, temporary accounts for the construction works as well as temporary accounts for each and every apartment unit prior to test-running and commissioning of the installations. The Contractor shall pay for all charges and fees (but excluding the Singapore Power service connection charges for the permanent system) associated with the provisions of temporary and permanent electricity supplies.

The Contractor will terminate temporary electricity supplies at 30 amp 3 phase 400 volt isolators and 13 amp single phase 230 volt socket outlets and the numbers and locations shall be decided on site by the Architect and Engineer. The Sub-Contractor shall be responsible for all necessary wiring, connections, etc. to the actual points of execution of the Sub-Contract Works.

(m) Provision of temporary water and water drawn from the permanent systems for the testing and commissioning of all equipment and associated installations covered under the Main Contract and all the Sub-Contracts. The Contractor shall be responsible to make arrangements with PUB's Water Department in respect of the application for the temporary and permanent water supplies, opening of permanent accounts for water supplies for the permanent systems, temporary accounts for the construction works as well as temporary accounts for each and every apartment unit prior to test-running and commissioning of the installations. The Contractor shall pay for all charges and fees (but excluding the PUB's Water Department service

connection charges, for the permanent system) associated with the provision of temporary and permanent water supplies. The Sub-Contractor shall be responsible for providing hoses to the water supply points provided by the Contractor at each floor.

(n) The provision of fire alarm wiring from the Main Fire Alarm Panel to Fire Alarm Contactor Panels in Lift Controller cabinet or Motor Rooms as the case may be, Ventilation/Pressurization Fan Rooms and electrically operated exit doors, to initiate emergency operations of lifts/fans/ electrically operated exit doors shall be by the Fire Fighting & Alarm Sub-Contractor. However, the wiring from these Fire Alarm Contactor Panels to the respective lift emergency power operative devices or the control panels of the ventilation/pressurization fans and electrically operated exit doors, shall be provided by the respective Sub-Contractor.

15/7/97

1.9c Work Not Included - Applicable for Developments other than residential developments

Add the following clause together with clause 1.9a for developments other than residential developments

(l) Providing artificial lighting and water for the Sub-Contractor's work. The Sub-Contractor shall be responsible for providing hoses to the water supply points as well as lighting within the lift hoistways.

(m) Providing temporary electricity supplies. The Contractor shall terminate supplies at 30 amp 3 phase 400 volt isolators and 13 amp single phase 230 volt socket outlets, the numbers and locations shall be decided on site by the Architect and Engineers. The Sub-Contractor shall be responsible for all necessary wiring, connections, etc. to the actual points of execution of the Sub-Contract works.

(n) The provision of fire alarm wiring from the Main Fire Alarm Panel to Fire Alarm Contactor Panels in Lift Controller cabinet or Motor Rooms as the case may be, Ventilation/Pressurization Fan Rooms and electrically operated exit doors, to initiate emergency operations of lifts/fans/electrically operated exit doors shall be by the Fire Fighting & Alarm Sub-Contractor. However, the wiring from these Fire Alarm Contactor Panels to the respective lift emergency power operative devices or the control panels of the ventilation/pressurization fans/electrically operated exit doors shall be provided by the respective Sub-Contractors.

(o) A Computer-based Control Centre complete with central processing unit, operation unit, data gathering panels and wiring system shall be provided by the Air Conditioning and Ventilation Sub-Contractor. However, the respective Sub-Contractors shall provide all necessary auxiliary contactors as specified elsewhere in the Specification for connections to the Computer-based Control Centre.

(p) The Contractor shall pay all charges (including deposits and maximum demand charges (if applicable) for electricity supplies) for water and electricity drawn from the permanent systems, for the test-run and commissioning of all equipment and associated installations covered under the Sub-Contracts. ~~The declared demand for this project is __*__ kW at 22 kV supply.~~ The Sub-Contractor shall not allow for such electricity and water charges in the Sub-Contract Sum.

~~** The declared demand load must be entered for the respective project.*~~