

Part One

1.0 SCOPE OF THE WORK

- 1.01 The scope of the works shall be for the complete refurbishment of one pair of duplex passenger lifts within Grenfell Tower, incorporating enhanced speed and car dimensions, plus the complete replacement of the hydraulic passenger lift which serves the Social Services offices at the lower levels of the Tower.
- 1.02 The lifts are located at Grenfell Tower, Lancaster West Estate, London, W11.
- 1.03 The works shall include all building, civil engineering and electrical works, plus other associated works necessary for the successful completion of the project, including the construction of a complete new pump room located at Ground Floor level for the Social Services lift.
- 1.04 Uninterrupted lift service to the Tower during the course of the works is of the utmost importance and special attention shall be given to the measures outlined in Part 2 of the specification in this regard.
- 1.05 Prior to the refurbishment of the selected first lift, the remaining lift shall undergo a comprehensive re-test as defined in Part 2A Clause 2A.71. *Notice 2*
- 1.06 The lifts shall achieve full compliance with, BS5655, SAFed LG1, HASAW, BS7255 Safe Working on Lifts, EN81-1 and 2, The Lift Regulations, and any other appropriate statutory instruments.
- 1.07 The lifts shall integrate energy saving and efficiently operating equipment.
- 1.08 The specification is generically led, warranting full and free access to all design and operational parameters and rejecting proprietorial tooling for any equipment or systems.
- 1.09 All equipment shall be proven fit for purpose and shall be readily available to the UK lift industry as a whole, thus ensuring freedom of the maintenance market and a 25 year life span for the refurbished installations.
- 1.10 Parts Two, Three and Four plus Schedule 1 of Part Six of the tender documentation detail the requirements of the specification but a summarised schedule is given in Clause 1.1 on page 1/2.

17. Lift alarm operated,
18. Opening of locks when running,
19. LIS signal true,
20. Shutdown after three successive attempts to start,
- 21-24. Provision for four further event types defined by the SO.

Information on additional faults that may be recorded shall be supplied with the tender documents.

The event recorder shall be capable of examination without affecting the normal lift control function or the continued logging of events.

2A.14 Controller: Duplex Lift Control Logic

- ### 1. Controller Function

The control system shall be capable of independently controlling two cars.

- ## 2. Type of Control

The control of the lift shall be duplex fully collective with automatic powered door operation.

- ### 3. Call Acceptance

All call acceptance indicators shall be driven by the computer and the information path is as follows: call registration push pressed-input to computer programme - recognition and acceptance - output by computer to call acceptance indicator.

- #### 4. Hall Call Cancellation

The registered hall call shall be cancelled and the hall call push illumination shall be extinguished before or at the stopping of the lift at floor level.

- ## 5. Door Reversal

Door reversal shall be achieved by constant pressure being applied to the car or landing door open push.

- ## 6. Parking Floor/Sequence

When idle, one lift shall return to the Ground Floor and remain with the doors closed, whilst the other lift shall remain at the last floor served.

- ## 7. Maintenance Control

Car top maintenance control is required on each lift.

For BDA purposes?

m radius

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Ceiling and Roof

The car ceiling shall be constructed from patterned stainless steel panels not more than 250mm in width and shall be reinforced externally with 14 gauge sheet zintec treated with a non-slip compound.

The design of the roof shall be such that it will adequately support the weight of 150Kg at any point on the roof surface without causing permanent deformation or damage. The working area shall be flat, smooth and without tripping hazards.

Ventilation

Concealed ventilation shall be provided to the car at the top and bottom of the side wall panels. The ventilation shall consist of 10mm diameter clear apertures totalling 1.5% of the total car floor area with robust masking plates to the shaft side of the car. The design of the vents shall be such that it shall not be possible for persons travelling in the car to touch any fixed or moving equipment in the lift shaft by means of inserting objects through the vents.

Plumbing and Alignment

Adjustments to the car shall be made by packing to the base and not by taking up tolerance on the car top isolation rollers which shall be fitted only after the plumbing and levelling of the completed car and inspection by the SO.

2A.48 Lift Car: Station

The faceplate shall be fabricated from 3mm finished stainless steel fitting flush to the wall panel and supported by stand-off furniture hinges on a metal back box mounted in the side wall, adjacent to the slam post.

The minimum lateral distance to the centre of any push from the return shall be 400mm

The hinged faceplate shall have secret fixings and shall incorporate the car station fixtures. The Contractor shall submit a drawing, for approval by the SO, indicating the incorporation, size and arrangement of the following:

1. Lift Number and Identification - engraved characters, black, 20mm characters.
2. Contract Load in Kgs and Persons - engraved characters, black.
3. Auto Dialling Telephone Unit - engraved instruction, yellow.
4. Floor Pushes.
5. Speech Synthesiser.
6. Car Position and Direction Indicator.
7. Door Open Push.

8. Alarm Push, engraved characters, yellow.
9. Key Operated Fan Switch, engraved characters, black.
10. No Smoking Notice - engraved characters, red.
11. Car Preference Key Switch, engraved characters, black.
12. Emergency Lighting Test Switch with LED indication.

Unless specified otherwise, all engraved characters shall be 12mm and flush filled with epoxy resin.

The flat form trailing cables shall run continually from the controller to the car and shall be connected to terminal blocks permanently mounted in the metal back box behind the car station.

The car station fixtures shall be secured by weld studs to the faceplate to enable simple access and replacement of components by authorised personnel.

2A.49 Lift Car: Auxiliary Car Station

A canted, auxiliary stainless steel car station, incorporating the full range of the car pushes, shall be provided within the car wall diagonally opposite the car station to the same design and fixing as the car station.

2A.50 Lift Car: Pushes

All pushes shall meet the requirements of EN81-70 and M2/S2 Building Regulations and shall:

1. Be stainless steel tactile coloured black for the floor and door open pushes, yellow for the alarm push and green for the Ground floor push.
2. Be flush mounted except for the Ground floor push that shall stand proud of the faceplate by 5mm.
3. Incorporate long life LED call acceptance.
4. Be half illuminance at all times with full illuminance to indicate call registered.
5. Remain half illuminance in the event of power failure.
6. Have an audible signal to signify that a call has been registered.
7. Be flame resistant.
8. Have shock loads on the pressel transmitted to the body of the unit and not the contacts.

In addition to the notices and labels otherwise specified within Part 2 and Clause 3.29, the following notices and labels shall be provided:-

1. To identify all miscellaneous electrical switches within the machine room and shaft including the main isolator and consumer unit fuses.
2. To the controller door advising the clients lift number of the live condition of the equipment.
3. To identify all run/stop switches.
4. A 240mm x 170mm paxoline notice to the lift machine room door stating:

DANGER

~~LIFT HO~~

UNAUTHORISED ACCESS PROHIBITED
DOOR TO BE KEPT LOCKED

The word "DANGER" shall be red and all other wording shall be black.

The following shall also to be provided:-

5. Encapsulated, fully detailed and illustrated, hand winding and emergency release instructions.
6. Encapsulated electric shock notice in accordance with the current IEE Regulations to the machine room.
7. Encapsulated electrical and operational drawings, wall mounted within the machine room, using swivel type brackets.
8. Tool rack to accommodate the landing door drop release key, brake release, safety harness and hand winding wheel if not integral. Each component shall be clearly identified by permanent labels on a shadow board arrangement.
9. Service Log Card and Planned Maintenance Programme.
10. Plastic ring binder with divisions for copies of work sheets, LG1 certification, Statutory Inspection PAS 54, rope and beam test certificates.

2A.72 Guarding

The complete lift installation shall be guarded as necessary to meet the requirements of BS 7255 to ensure the safety of all personnel using, inspecting or maintaining the lift equipment.

All guards containing equipment that requires periodic inspection such as sheaves and overspeed governors shall be fabricated from 12mm rod framing with 25mm welded mesh and be of fixed design with hinged inspection panels. Allen screws shall be used to secure all guarding into permanent fixing points, with the exception of the hand winding wheel guard which shall be fixed using thumb screws. An Allen key shall be placed on the tool board in the machine room.

The Contractor shall provide two fixed harness points to the car sling and a tubular barrier rail with 25mm weld mesh sides to the car top to prevent inadvertent movement into the counterweight and void areas.

A 150mm high zintec skirting shall be fitted to the edges of the car roof.

The design of all guarding shall be agreed by the SO.

2A.73 Machine Room Access

At the bottom of the staircase leading to the lift machine room a gate shall be installed fabricated from angle iron framing and 15mm diameter mild steel infill bars. The gate shall be located in such a manner that safe access from both sides is achieved.

The gate shall be a minimum of 2100mm high and the banister area adjacent shall be clad in 15mm weld mesh contained within an angle iron frame to the same height as the gate. The gate shall be fitted with a Gerda lock free issued by the Royal Borough of Kensington and Chelsea.

At the machine room and roof access staircase a 5mm aluminium chequerplate platform the full width of the staircase shall be erected to the height of the roof door sill, accessed by a set of permanently fixed flat tread steps with handrails.

The platform shall be of sufficient area to facilitate safe personnel access and depositing of tools and equipment prior to entering the roof corridor area, final details to be agreed with the SO

The whole of the steel assembly shall be painted with gloss black rust inhibiting paint.

2A.74 Painting and Cellulosing

Paint selection shall be approved by the SO and COSHH certificates shall be provided 7 working days in advance of proposed works and in all cases the full requirements of the COSHH certificate are to be implemented to the satisfaction of the SO.

All fabricated and structural iron and steel parts of the lift equipment, but excluding specially finished surfaces, shall be cleaned, wire brushed where necessary, descaled, properly prepared and primed with a zinc-phosphate primer and finished with good quality lead free enamel semi-gloss paint prior to delivery.

All iron and steel rotating parts of the lift equipment, counterweights etc, shall be painted yellow to BS 10E53 in accordance with BS 7255.

During these tests, the motor and controller shall be checked for excessive temperature rise. Checks shall also be made to ensure that the contract speed is maintained and that the levelling limits are not exceeded under no-load conditions and under selected conditions of load.

2. Setting of the main circuit breaker trips in relation to the stalling current and overload.
3. Static balance on car and counterweight to adjust roller guides.
4. Tests to record compliant closing forces on doors.
5. System and motor current readings under full load, balanced load and empty car conditions.

The testing of the lift which shall be designated as the second lift prior to the refurbishment of the first lift shall specifically incorporate the works as detailed below in addition to the testing procedures described above:

6. Setting up and checking of all lock clearances, upthrust rollers and door closer operations.
7. Security of all bottom door shoes and thrust plates.

2A.76 Maintenance and Remedy of Defects

The Contractor shall assume responsibility for maintaining all lifts in accordance with this clause from the date of site possession.

The Contractor shall warrant and maintain the lifts from handover throughout the defects liability period which shall extend from site possession of the first lift, to twelve calendar months from the date of issue of the relevant Acceptance Certificate by the Contractor on Practical Completion of the final lift.

Maintenance to the refurbished lifts shall be undertaken twice each month for the first three months and monthly thereafter.

The lift pit, machine room and all parts of the walls and floor adjacent to the lift equipment shall be kept clean and clear of oil, grease and rubbish and the Contractor shall immediately renew any defective lamps, tubes and indicators including car, access, machine room and shaft lighting.

The maintenance shall include all cleaning, oiling, greasing, and adjustments of all appropriate parts of the lift installation to ensure satisfactory operation, with adjustments made as necessary to maintain the levelling accuracy of the car to within plus or minus 6mm. A steel oil storage cabinet shall be provided in the machine room.

A safety barrier is to be used at all times access is required to the lift shaft and this shall be supplied by the Contractor and left on site. The barrier shall not be left unattended when the landing doors are open.