

TONY WARREN LIMITED

LIFT CONSULTANTS



## **REPORT**

on

**TWO LIFTS**

at

**TOPMAST POINT  
THE QUARTERDECK  
LONDON E14**

Report on: The condition of the lifts, asset register, compliance with current standards, suitability, life expectancy, recommended works

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## **1 Introduction**

### **1.1 Scope**

This report has been prepared by Tony Warren Ltd to cover a study into the vertical transportation systems at Topmast Point, The Quarterdeck, London E14.

Tony Warren Ltd was appointed by MCCE Limited on behalf of its client to undertake a survey of the vertical transportation systems, the scope of the appointment requiring:

- a detailed description of areas of non-compliance with reference to the relevant legislation and standards for each item
- an assessment of risk for each identified breach in compliance
- recommendations for works to address the areas of non-compliance
- a costed assessment of the anticipated remaining of the lifts
- advice on whether issues can be deferred
- an assessment of whether the existing lifts are fit for purpose

The survey was undertaken on 28<sup>th</sup> November 2017 and constituted a visual inspection of the vertical transportation systems within the building, observed under normal operating conditions wherever possible.

No dismantling of components was undertaken and access panels were only removed where safe to do so and where no interruption of services would occur. This type of visual survey may not fully establish the true condition of the equipment, as it is common to find plant, which from an external view appears satisfactory, to have a history of operational problems.

It should be noted that no design checks were carried out within the scope of this survey.

The survey did not include any examination of deleterious materials within the property and the findings summarised within this report do not allow for the treatment of such materials to affect any recommendations.

Comments made within this report are not intended to satisfy the statutory biannual 'Through Examination and Inspection' reports required under the Lifting Operations and Lifting Equipment Regulations or the 'Guidelines on the Supplementary Tests of In-Service Lifts' issued by the Safety Advisory Federation (SAFed).

The above statements are to set the parameters of the study and do not imply any deep-seated problems.

Observations made in this report on the condition of the existing equipment do not take into account the provisions of any maintenance contract, which may cover some of the recommended works.

### **1.2 Philosophy**

The relevant legislation and standards in respect of health and safety, and disabled use, and the interpretations of these that have been used in the compilation of this report, are detailed in Appendices 5 and 6 respectively.

## **2 Findings**

### **2.1 General**

There is an interconnected pair of passenger lifts in this residential building, outline details of which are shown in the Asset Register in Appendix 1.

### **2.2 Quality and Condition**

The lifts are thought to have been installed new at the time of the building's construction approximately 50 years ago and have been modernised at least once since, most recently in 2010.

They are in good visual condition.

From the Precision maintenance log cards in the machine room, the lifts appear to be very reliable with only no recorded 'lift' callouts in the past six months .

The quality of the lifts is high, with good quality components from reputable suppliers, and with a robust design suited to their environment and use.

The lifts appear to be have no obvious faults.

### **2.3 Health and Safety Issues**

The lifts are almost fully compliant with current health and safety standards (see Appendix 5), however some works are necessary for full compliance and a schedule of these is given in Appendix 2.

These are relatively minor deviations from relevant standards and the risk is low, however the out of use landing door release mechanism should be repaired urgently to prevent delay in releasing trapped passengers, ie to allow them to be released at the nearest floor rather than requiring the lift car to be hand maneuvered to the next one.

### **2.4 Operational Issues**

There are a few minor additional items of an operational nature and a schedule of these is given in Appendix 3.

### **2.5 Disabled Access**

There are a few items on the lifts of non-compliance with current disabled access standards (see Appendix 6) and a schedule of these is given in Appendix 4.

Again these are relatively minor deviations and easily resolved, other than the lifts not serving the top floor of the building, however this can be largely 'managed' by not locating tenants who are wheelchair users or and other persons unable to or who have difficulty using stairs on this floor (this of course would not consider visitors to these tenants).

### **2.6 Suitability for Use**

The lifts are in good condition, designed, manufactured and installed to a high standard, using components ideally suited to local authority general housing, being of resilient construction with ant-vandal features.

### **3 Life Cycle Costings**

The table in Appendix 5 shows the estimated expenditure necessary on the lifts over the next 30 year period. These costs are current at today's date and exclude VAT and any relevant fees.

Recommended health and safety works, and disabled access, have been included in the first year's costs.

Items felt to be of a maintenance nature, eg adjustments, have not been included in these costs as it is felt that these would be carried out at no cost by the contractor.

Costs for minor repairs, eg replacement oils seals, to the lifts, vandalism, and the repair, replacement or maintenance of other plant or facilities associated with the lifts, eg heating/ventilation, etc are excluded from the costs below. Also excluded are routine maintenance premiums and statutory inspections.

**Asset Register****Appendix 1****Lift 817 (Even Floors)**

|                                  |   |
|----------------------------------|---|
| Number and Type of Lift          | One passenger   |
| Location                         | Main Core   |
| Contract Load                    | 13 person 1000kg  |
| Floors Served                    | 11 (G, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20)                        |
| Contract Speed                   | 1.6m/s  |
| Control System                   | Down collective   |
| Drive System                     | Variable frequency geared traction                                |
| Machine Room Position            | Directly above at roof level                                      |
| Car Entrance                     | Power operated single panel side opening door                     |
| Landing Entrances                | Power operated single panel side opening doors                    |
| Entrance Protection              | Non-contact safety edge   |
| Contractor and Installation Date | Unknown in 1960s approximately<br>Modernised by Precision in 2010 |

**Lift 818 (Odd Floors)**

|                                  |   |
|----------------------------------|---|
| Number and Type of Lift          | One passenger   |
| Location                         | Main Core   |
| Contract Load                    | 13 person 1000kg  |
| Floors Served                    | 12 (G, 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 20)                     |
| Contract Speed                   | 1.6m/s  |
| Control System                   | Down collective   |
| Drive System                     | Variable frequency geared traction                                |
| Machine Room Position            | Directly above at roof level                                      |
| Car Entrance                     | Power operated single panel side opening door                     |
| Landing Entrances                | Power operated single panel side opening doors                    |
| Entrance Protection              | Non-contact safety edge   |
| Contractor and Installation Date | Unknown in 1960s approximately<br>Modernised by Precision in 2010 |



**Health & Safety Items****Appendix 2**

*NB The items apply to both lifts unless stated otherwise.*

*The items exclude comments on the pit, underside of car, lift well and car top due to unavailability of access, other than what was able to be seen through the glazed lift wells.*

1. The hasp and padlock to the machine room door should be removed and replaced with a 'Yale' type lock and snib to allow escape from the locked room without a key to avoid personnel being trapped in the room.
2. The 200mm 'kerb' at floor level across the machine room access doors is a tripping hazard and should be provided with hazard markings and warning notices on both sides of the doors.
3. The lifting beam in the machine room should be tested and marked with its SWL or labelled "Do not Use" (testing and re-certification is required at 12 month intervals by the Lifting Operations and Lifting Equipment Regulations).
4. A fire extinguisher should be provided in the machine room, mounted on the wall adjacent to the access door.
5. The lift car lighting appears to be switched from the distribution board only and should be modified to be switched independently.
6. There is no means of preventing overspeeding of the cars in the upward direction and this should be provided as part of any future major refurbishment contract.
7. There is no means of preventing unintended movement of the cars away from a landing, as required by current British Standards, and this should be provided as part of any future major refurbishment contract.
8. The governor tension weight pulley in the lift pit should be fitted with easily removable personnel and debris guards.
9. The landing emergency release mechanism of L817 at the Ground floor will not permit access to the well and this should be checked for correct operation and adjusted as necessary.

**Operational Items**

(Not used.)

**Appendix 3**

## Disabled Use Compliance

## Appendix 4

*NB The items apply to both lifts unless stated otherwise.*

Current disabled access standards (see Appendix 6) are not met by the lifts due to the following:

- the lack of a handrail on a side wall of the car
- the lack of a mirror on the rear wall of the car to allow wheelchair users to see when they back out (the car is too small for the wheelchair to be easily turned)
- the lifts do not serve all levels of the building
- the lack of induction loops in the cars

Modifying the lifts to comply with current standards is relatively simple, other than the levels served:

- a handrail on a side wall is simply provided
- a mirror can be provided on the rear wall to allow wheelchair users to see what is on the landing as they back out
- induction loops are easily incorporated around the cars

The lifts currently do not serve the top floor and it is felt to be require more than “reasonable material alterations” to modify the building to achieve this.

## Life Cycle Costings

## Appendix 5

(Costs are '000s')

| <i>Component of Work</i>      | <i>Years</i> | <i>1</i> | <i>2</i> | <i>3</i> | <i>4</i> | <i>5</i> | <i>6</i> | <i>7</i> | <i>8</i> | <i>9</i> | <i>10</i> | <i>11-15</i> | <i>16-20</i> | <i>21-25</i> | <i>26-30</i> | <i>1-30</i> |
|-------------------------------|--------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|--------------|--------------|--------------|--------------|-------------|
| Health and Safety/Operational |              | 2.5      |          |          |          |          |          |          |          |          |           |              |              |              |              | 2.5         |
| Disabled Access               |              | 5        |          |          |          |          |          |          |          |          |           |              |              |              |              | 5           |
| Modernisation/Replacement     |              |          |          |          |          |          |          |          |          |          |           |              | 300          |              |              | 300         |
| <b>Totals</b>                 |              | 7.5      | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         |              | 300          | 0            | 0            | 307.5       |

## **Current Health and Safety Standards**

## **Appendix 6**

There is a multitude of British Standards, statutory instruments and Health and Safety Executive 'Guidance Notes' that relate to lifts, in addition to the expectations of insurance companies and accepted good trade practice.

Other than BS EN 81, British Standards are generally accepted as a minimum standard under health and safety requirements and non-compliance without good reason may lead to legal difficulties as the courts approve compliance with British Standards' recommendations, and insurance companies expect installations which they cover to comply.

Additionally, British Standards are not intended to be retrospective in most cases, ie a newly published requirement would apply to all new lifts and major refurbishment of current installations, however it would not necessarily be expected to be applied to existing lifts otherwise. For example, mechanics' car top control units should include a 'common' button in addition to the 'up' and 'down' buttons to meet current requirements, but it is not expected that existing non-compliant units be replaced except as part of other refurbishment works.

Lifts need to comply with the Health and Safety at Work etc Act 1974 which is not specific, other than to require the installation and environment to be safe for passengers, maintenance operatives and others alike.

The recommendations within in this report include the following requirements:

- a. safe access and escape to/from machine room, lift well and pit
- b. safe working and operational environments in normal and emergency situations
- c. compliance with current BS requirements on safety (rather than design) matters
- d. precautions against fire

## Current Disabled Access Standards

## Appendix 7

It is necessary to provide access for disabled users in new buildings in accordance with Part M of Building Regulations and the requirements of this standard have been used for the purpose of assessing the minimum suitability of a lift for disabled passengers.

These Regulations, while allowing ramps, effectively specify a lift for multi-storey buildings, with certain characteristics. These features are listed below and comments in this report indicate where the lift does not meet these requirements:

- e. a 'standard' 8 person car, 1100mm wide x 1400mm deep
- f. landing in front of entrance at least 1500mm wide x 1500mm deep
- g. a clear entrance width of 800mm
- h. car controls between 900mm and 1200mm above floor level
- i. car controls at least 400mm from the front wall
- j. landing controls between 900mm and 1200mm above floor level
- k. tactile indication on or adjacent to the car buttons to identify the floor selected
- l. tactile indication on the landing adjacent to the call button to identify the floor level
- m. visual indication (position indicator) of the floor reached, if more than three floors
- n. audible indication (voice synthesizer) of the floor reached, if more than three floors
- o. a signalling system to advise that a lift is answering a landing call
- p. a 'door open' period of five seconds, or three seconds if provided with electronic safety edges or light rays

The Disability Discrimination Act 1995 (the DDA), imposes responsibilities upon 'service providers', ie those providing a service to the public – for example, restaurants, hotels, cinema, shops. From October 2004, it has been necessary for service providers to make 'reasonable...physical alterations' to existing building facilities if necessary to comply with this statutory instrument, however the requirements are not clearly defined as:

- a. the Act does not specifically refer to lifts in any way
- b. the Act refers to Building Regulations Part M, however this does not include all the provisions of Part 70 of BS EN 81 'Accessibility to lifts for persons including persons with disability', which applies to new lifts under the Lift Regulations

It is good practice to comply with Part 70 and the following requirements will be applicable:

- a. power operated horizontally sliding doors
- b. adjustable door dwell ('door open') time to be adjustable (normally 2-20 seconds) with 'quick close' override in car, e.g. 'door close' button
- c. full height (25-1800 mm) non-contact door protection device (safety edge)
- d. handrail on at least one side wall, with gripping part 30-45 mm wide with minimum radius of 10 mm, 35 mm minimum gap to wall, 900 mm  $\pm$ 25 mm from floor level to top of handrail, and handrail closed to wall
- e. car floor buttons to be identified by symbols, -1, 0, 1, 2, etc
- f. mirror to allow wheelchair users to observe obstacles when backing out of car where the car is not large enough to allow the user to turn before existing

- g. means to avoid substantially mirrored walls to be taken to avoid creating optical confusion for passengers with impaired vision, e.g. decorated mirror or starting mirror 300 mm above car floor
- h. car to stop at floor level  $\pm 10$  mm and be maintained at floor level  $\pm 20$  mm during loading/unloading operations
- i. 'alarm' button to be yellow with bell shaped symbol
- j. alarm and door buttons at least 900 mm to centreline from car floor, floor buttons above reading from left to right, bottom to top
- k. car control panel to be on right hand wall (looking from landing) for centre opening doors, on the closing side for side opening doors
- l. minimum area and dimensions for control buttons which should be identifiable visually and by touch from faceplate or surrounds, faceplate to contrast in colour from its surround, 2.5-5.0 n force to operate buttons
- m. operating feedback required to inform user that button, once pushed, has operated, with visual and audible registration feedback on every operation of button even if call is already registered
- n. exit floor button, eg Ground, to protrude 5mm  $\pm 1$ mm more than other buttons and be preferably green
- o. button symbols to be in relief (minimum 0.8mm), 15-40mm high, on or within 10-15mm to left of button, at least 10mm gap between call buttons, double this gap between call buttons and other buttons
- p. landing controls to be 900-1100mm above floor level and at least 500mm to any corner of adjacent walls, car controls to be between 900-1200mm above floor level (preferably 1100mm maximum) and at least 400mm to any corner of adjacent walls
- q. audible signal on landing to indicate when doors start opening (not required if door noise level is 45 (dB(a) or above)
- r. collective control systems to have visual pre-announcing direction of travel indicators (hall lanterns) on landings, at least 40mm high, between 1800mm and 2500mm above floor level, and with an angle of view of at least 140°, also audible indication to differentiate for direction of future travel (may be in car for a single lift)
- s. destination selection control systems (floor calls registered on landings) have specific landing audible and visual confirmations and signals.
- t. position indicator in the car between 1600mm and 1800mm above floor level, with legends 30-60mm high, and voice synthesizer to advise floor level.
- u. alarm device to operate audible signal and voice link, with illuminated pictogram in car to indicate operation of each

Part 70 refers to 'negotiations...between the customer and the supplier/installer' about the use and features of the lift, and the following provisions are felt to be optional:

- a. induction loop in car (this is mandatory in the latest 'draft for comment' edition of Part 70)
- b. tip-up seat in car