

## **Report on Lift Incident on 9 November 2008**

### **at Lift No. 4, Wan Lam House, Wan Tau Tong Estate, Tai Po**

#### **Introduction**

In the evening of 9 November 2008, at around 5:00pm, 5 passengers were trapped in Lift No.4 on 7/F of Wan Lam House, Wan Tau Tong Estate, Tai Po. Fire Brigades and Registered Lift Contractor, Fujitec (HK) Co Ltd (Fujitec) were called for the rescue. The passengers were released by Fujitec and there was no injury in this incident. Fujitec's subsequent safety examination found that one of the four suspension ropes had broken. The building management company, Synergis Management Services Ltd (Synergis) reported the incident to EMSD on 10 November 2008.

#### **Background**

2. The lift was manufactured and installed in 1991 by Fujitec. It is driven by an electric motor with rated speed at 2.5 metre per second (m/s) and rated load at 1,250kg. It serves the 35 storey building with stops at every 3 floor interval (namely G/F, 4/F, 7/F, 10/F .....34/F). From 1991 to 2001, the lift was under the management and control of the Housing Authority. From 1 April 2001, the management of the lift was transferred to the Incorporated Owners of the Wan Tau Tong Estate. As a result, the lift came under the control the Lifts & Escalators (Safety) Ordinance (the Ordinance), Chapter 327 of the Laws of Hong Kong.

3. The maintenance of the lift was provided by Fujitec since 1991. The last periodic examination of the lift was conducted by a Registered Lift Engineer (RLE) of Fujitec on 31 January 2008, and the lift was certified in a safe working condition.

## **Investigation and Findings**

4. On 10 November 2008, inspection by EMSD found that one of the four suspension ropes had broken inside the lift shaft at 31/F, a position around 16 metres below the anchored point at the lift machine room. (see Figure 1 in Appendix A.) The other three suspension ropes were found in safe condition. No physical damage of other lift components was observed. (see Figures 2 and 3 in Appendix A.)

5. The breakage of one of the ropes was detected by the safety device attached on the lift car, which immediately stopped the operation of the lift to protect safety of passengers.

6. After the incident, an independent expert of the University of Hong Kong was engaged to conduct laboratory examinations of the suspension ropes. In addition, all the safety components of Lift No.4 were also thoroughly checked by the RLE.

7. In order to find out whether the breakage of the rope was due to inferior material quality, specimens of the suspension ropes of Lift No.4 were tested at the Government Public Works Central Laboratory. The test results showed that the tensile strength of each rope complied with the manufacturer's technical specification of 69.2kN.

8. The fracture ends of the broken rope were then examined under microscope at the University of Hong Kong. Most of the wires of the broken rope exhibited signs of overload and some wires ends had signs of corrosion. The corroded wires caused deterioration in the tensile strength in that portion of the broken rope.

## **Remedial Actions**

9. Fujitec was required to replace all the suspension ropes of Lift No.4. After the rope replacement, the lift was thoroughly tested and examined by a RLE of Fujitec

under the monitoring of EMSD on 21 November 2008. The lift was certified by the RLE in a safe working condition.


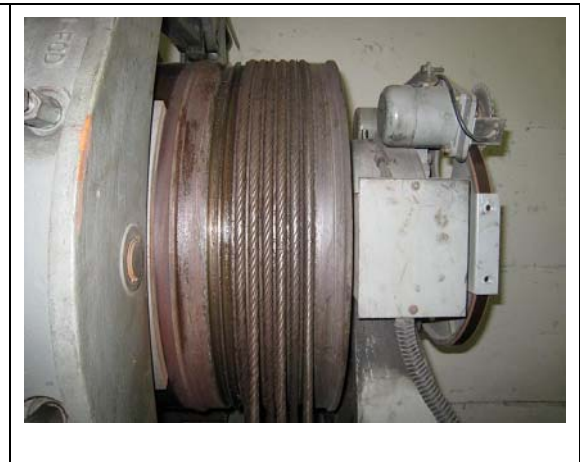

10. Although 1 out of the 4 ropes was broken, the lift's safety devices functioned properly to stop the lift and it would not lead to any serious consequence. EMSD considered that Fujitec's failure to identify the rust on the rope was a negligent act and they have to be officially warned. The issuance of the official warning letter may lead to disciplinary action if Fujitec fails to perform again in future.

11. EMSD issued a warning letter to Fujitec on 9 December 2008 reminding their role and responsibility in keeping the lift and its accessories in good working order as stipulated in the Code of Practice for Lift Works and Escalator Works. EMSD will closely monitor the performance of Fujitec and more frequent inspections of its installations will be made.

Electrical & Mechanical Services Department

17 December 2008

**Appendix A – Photos**

	
<p>Photo 1 – Broken rope inside the lift shaft at about 31/F.</p>	<p>Photo 2 – No damage of the lift machine inside the lift machine room.</p>
	<p>Photo 3 – No damage found from the counterweight.</p>