Case Study Of The Marina Bay Suites & Other Residential Fires

9 Mar 2015
Scope

- Introduction
- What is Unique about Super High-rise
- Marina Bay Suites Fire / Gaps
What is Unique about Super High-rise

• Longer movement time thru staircase to safety
• Human fatigue (specially old and disabled residents)
• Higher chance of injury involved with full evacuation
• Unit is compartmented
What is the Purpose of Refuge Floor

• Refuge area has been adopted for usage to relief the congestion in exit staircase/passage
• Offer a reasonability safe area to seek refuge (compartment/ventilation)
• Sufficiently remote from the effects of fire
• Situations whereby full evacuation not necessary
Evacuation Flow Chart between Low-Rise & Super High-rise

Low-rise Building with Full Evacuation Mode

Super High-rise Building with Refuge Floor
Concept of Place of Reasonable Safety
What to Do in the Event of Fire

• If possible check that it is a confirmed fire or there is sign of fire or heat
• If there is any immediate fire risks then move toward the nearest exit staircase
• If you can identify the fire risks to be reduced significantly, then you may decide to seek refuge at the refuge floor (ensure that the staircase remained accessible at all times in case you need to evacuate when the situation worsen)
• Wait at the refuge floor and if need help can use the intercom at the lift lobby to call for assistance
Incident No : /20140113/0915
Incident Date/Time : 13 Jan 14 @ 21:34:58 hrs
Location : Marina Bay Suites
            No. 3, Central Boulevard
            Singapore 018965.
Fire involved renovation materials and equipment placed at the fire fighting lobby, (Fireman Lift 3) at the 65th storey. 2 lives were lost in this fire.

**WHAT HAPPENED**

1. Singapore Civil Defence Force officers used the 63rd floor lobby as a point from which to carry out their fire fighting operations.
2. They got to the 65th floor but could not get past the door to the lobby as it was too hot to open.
3. They then went down to the 63rd floor again and took the other fire escape staircase. They broke down the fire escape door on the 65th floor.
4. They found the charred bodies of the two security guards in an adjacent service lift, which was stationary with its doors open.
Fire Hazard Violations

FH Violations at storey 1, 47, 50, 62 & 65
Involving the obstruction to fire protection systems and placement of combustibles along common passageways.
Fire Hazard Violations

FS Violations at 5th Storey Carpark

Unauthorised Change of Use /Structure at Car Park
Identified Gaps

1. Correct operations of fire lifts in the event of fire

2. Management of common areas especially during renovation works

3. Training and enhance fire safety knowledge of security guards / staff to handle fire emergencies
Q & A?