

High Rise Rescue Operations

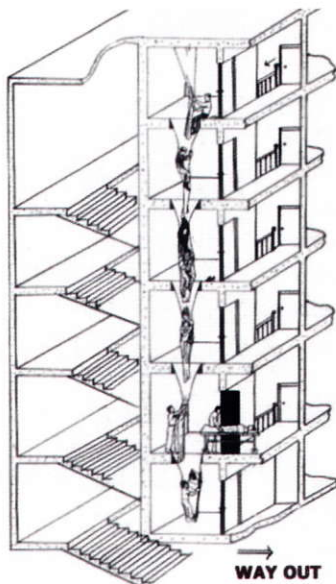
NO FIRE AND EMERGENCY Services Department likes to contemplate the possibility of a high-rise fire. While most building management have a procedure for evacuation which is not dependent on the fire brigade, however, if the system fails then the fire brigade will have to come to the rescue. When incidents involving high-rise rescue operations, it can become a dangerous affair of protecting and saving the property and lives. For this reason the provision of means of dealing with such incidents must assume at all times the possibility of, and need for, height rescue and extinguishing a fire at any time during rescue operations.

HEIGHT RESCUE EQUIPMENT

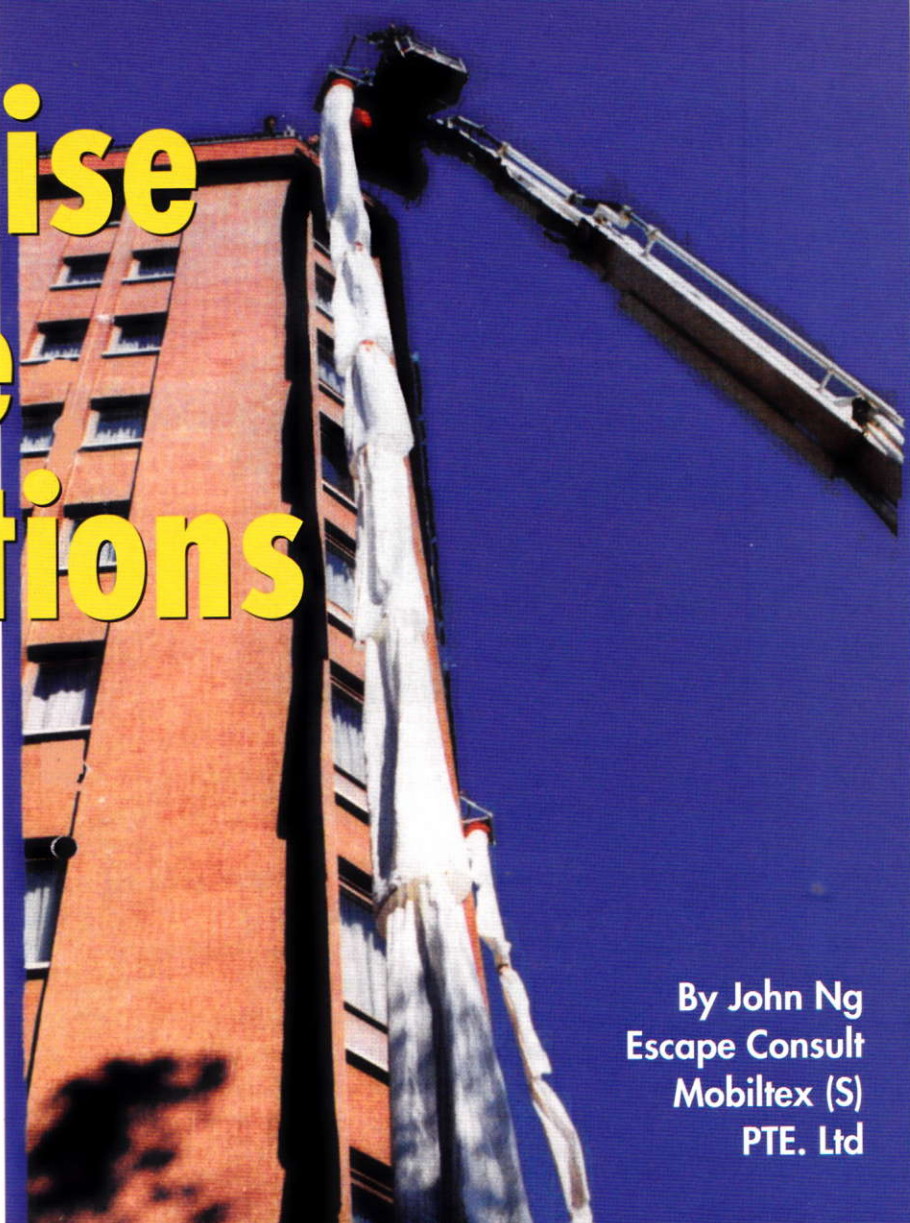
Traditionally, the rescuers from the Fire and Emergency Services Department are highly trained men to accomplish difficult and complicated height rescue operations in rope access techniques for high angle rescue. However, high angle rescue techniques and super-high aerial ladders employed yesterday can soon become obsolete or irrelevant in today's built-up environment as high rises progressively penetrating further into the skyline.

Today's firefighter is faced with not only a bewildering array of difficult and complicated high rise rescue operations but also choosing the most efficient height rescue equipment for firefighter safety. The most important factors are

the efficiency of the equipment and the speed with which personnel and equipment designated for rescue purposes can be efficiently put into use.



Picture courtesy of Escape Consult Mobiltext (S) PTE. Ltd



By John Ng
Escape Consult
Mobiltext (S)
PTE. Ltd

TECHNOLOGY AND INNOVATION

The industry in fire and rescue equipment has a fine tradition of being innovative and creative. The mobile/portable rescue chute mounted on the bucket of hydraulic platform or aerial ladder of fire truck is an excellent example of the industry's innovative and creative outlook – of how to think and do beyond the conventional. It is one of the most vital pieces of height rescue equipment in the market that provides dual functions in one unit portable rescue chute. This equipment allow the rescue personnel to quickly deploy and put to use under adverse conditions when space, speed and mobility are essential for mass rapid height rescue operations:

- The quick deployment of mobile rescue unit and its flexibility of extending or shortening the chute length to the desired height for the



Picture courtesy of Escape Consult Mobiltex (S) PTE. Ltd

rescue allow the rescuers the speed to quickly provide victims a safer means of rapid vertical escape from bucket to ground. It eliminates the time involved in lowering and raising the aerial platform, and reduces the speed of mass rescuing victims from tall building by almost ten times in comparison to using the conventional method. Thus improves the evacuation capacity of any aerial ladder/hydraulic platform of fire engine from 10 to 100 times. In addition, it is able to evacuate over 100 people in 10 minutes, including the handicapped.

- Should the surrounding of the building site could not accommodate the fire aerial truck, the portability and versatility of the rescue chute allows the rescue personnel to carry the rescue unit to the desired floor. The universal platform has a pair of bolts that serve as hangars that can hang on the handrail of the balcony within minutes for ready use. In situation where there is no handrail on the balcony, with the additional equipment (horizontal arms and vertical legs), it allows the rescue chute to be positioned at the parapet of balcony and window for quick rescue use.
- The chute main body material is constructed of three layers chute. This 3-way protection protects the evacuees once inside the chute from flame, heat, and smoke during rescue operation. The system works on the principle of gravity, using the stress and friction on the body as it slides down. Usability for all people, regardless of body size, shape and weight, injured on stretcher and unconscious people can use the chute to arrive at ground level quickly and relatively safely.

HIGH RISE EVACUATION

The super-high aerial ladders are not the sure way out of a burning high rise as they have their limits – they can extend to 52 metre, or 18 storeys. When incidents involving high-rise rescue operations beyond the reach of the height rescue equipment, it can offer a wide range of new and deadly prob-

lems for firefighters and the evacuees. Hence, the safest thing for building occupants to do in a high-rise fire is to head for the nearest staircase on the floor to avoid being trapped and make their way out of a blazing high rise.

Mass evacuation in a high-rise scenario offers a wide range of problems for the building management. It is important to realize that in the context of high-rise evacuation, there are people among the building population who may have difficulty or no ability to walk down stairs unassisted during emergency evacuation. The scenario may become even more complicated for the fire fighters when some of the occupants are trapped above the fire floors and that the stairwells are impassable because of smoke, heat or flames.

Just as we accept the daily use of elevators to gain access to every floor in high-rise buildings, so too there are ways that must be taken to ensure that all building occupants can also get down and out in the absence of elevators during emergency evacuation. Future tall buildings would need to provide another means of safer egress to facilitate speedier evacuation that allows all people, include those who have difficulty or no ability of using stairs to get out of building in extreme emergencies. Such an emergency exit system for everyone would simultaneously grants occupants their right to evacuate, maximize the escape potential of the elderly and people with disabilities while giving priority the firefighters to focus on fire suppression.

CONCLUSION

Fortunately, rare occurrence of major hazards in high rise buildings means that more often than not, the real-life experience of high rise rescue, mass evacuation and evacuating people with disabilities under urgent circumstances is not tasted. But when they do occur, a safe strategy would be to get as many people evacuated out of a blazing high rise in a predetermined evacuation plan than having to depend on firefighters to perform height rescue operations. This approach is the only acceptable way in guaranteeing life safety prevention.



Picture courtesy of Escape Consult Mobiltex (S) PTE. Ltd