

REVIEW OF EVACUATION **GUIDELINES**



Scope

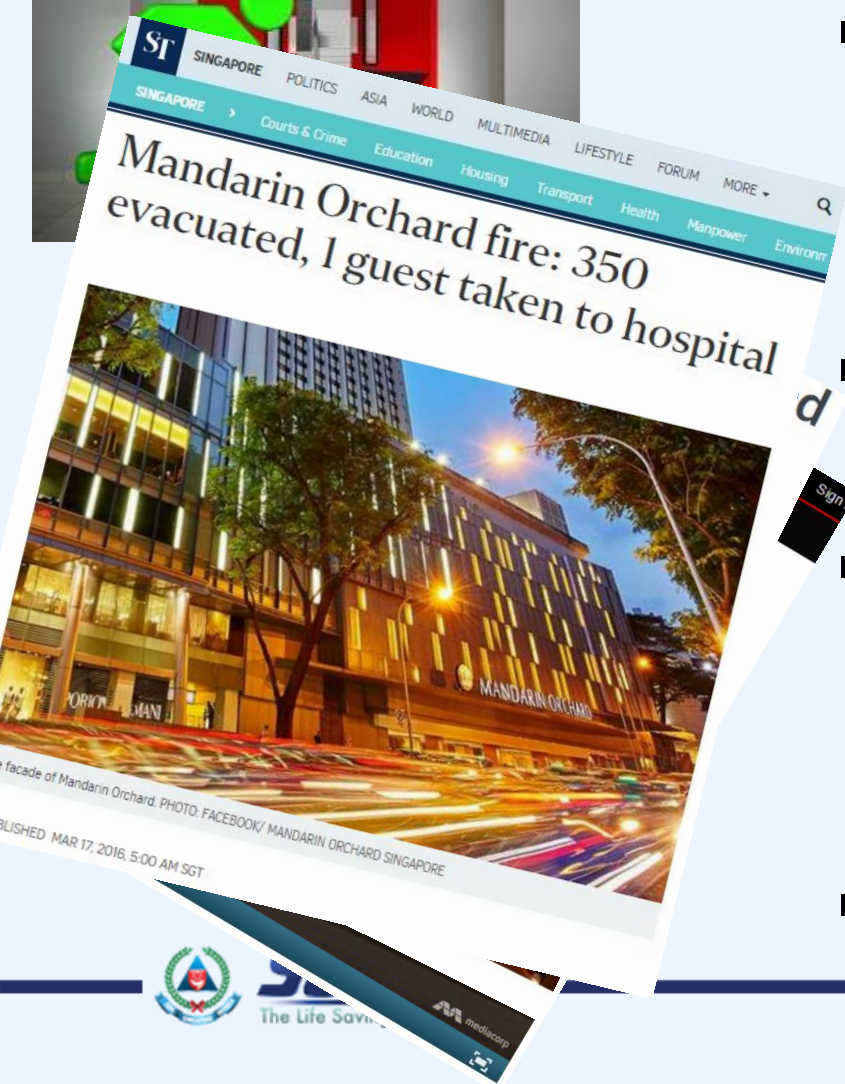
- Background
- Impetus for Change
- Sharing: Local Fire Incident
- Areas for Review
- Proposed amendments
- Conclusion



Background

Observations

- Past incidences have revealed:
 - ✓ Wrong actions
 - ✓ Lack of action
 - ✓ Malpractices in fire-safety e.g. fire doors
- Dig deeper to understand the reasons
- A number of possible factors :
 - ✓ Pressures faced,
 - ✓ Familiarity with ERP
 - ✓ Internal challenges
- Focus on the guidelines



The Life Savers



Impetus for Change

Insights:

- Evacuees observed to suffer from injuries as a result of evacuation;
 - ✓ Eg. Local Hotel Fire. 1 male 69 yrs, conveyed to SGH for Minor Lacerations
- Evacuation may not necessarily be the best option in some situations
- Balance the risk between evacuation and staying put
- Can premises below 30 storeys adopt the phased evacuation
- Other areas to be reviewed



Learning Points

Fire Incident at 39 Storey Hotel

Level 6 Kitchen



Recommendations (Fire Incident at 39 Storey Hotel)

- Call 995 first
 - ✓ Delay in calling SCDF can lead to escalation of situation
- Trigger the manual call point/fire alarm early
 - ✓ A delay in activation of the manual call points will lead to a delay in the activation of pressurization system in the smoke stop lobby and staircase
- Hotel to review their evacuation plan in the ERP
 - ✓ Phased evacuation system should be adopted



Areas for Review

Current Evacuation Guidelines - 3 Basic Models:

	Low-Rise	Medium-Rise	High-Rise
Height	Less than 8 storeys	8-30 storeys	More than 30 storeys
Alarm type	Single-stage alarm	2-stage alarm	2-stage alarm
Evacuation Strategy	Total Evacuation	Total Evacuation	Phased Evacuation



Relationship Between Fire Code Provision and Evacuation Strategy.

Current Evacuation Guidelines

	Low Rise	Medium Rise	High Rise
Height	Less than 8 storeys	8-30 storeys	More than 30 storeys
Alarm type	Single-stage alarm	2-stage alarm	2-stage alarm
Evacuation Strategy	Total Evacuation	Total Evacuation	3-Phased Evacuation

Fire Code Provisions

Available EVCS	No EVCS if Height <24m & GFA < 5000m ² & OL <1000	EVCS available
Available Sprinkler	No sprinkler	Sprinkler available
Available Ventilation systems	No pressurized staircases	Pressurized staircases available

Basic Evacuation Principles

- Occupants believed to be in the greatest potential danger are to evacuate first
- Should the scale of the emergency increase, evacuations can be expanded to include additional floors, or if need be, the entire building
- The provision of a EVCS, will allow buildings to adopt a 2-stage alarm
- The provision/adequacy of compartments, fire and smoke protection systems in addition to EVCS, allow premises to adopt a phased-evacuation strategy



Proposed Amendments

New Model:

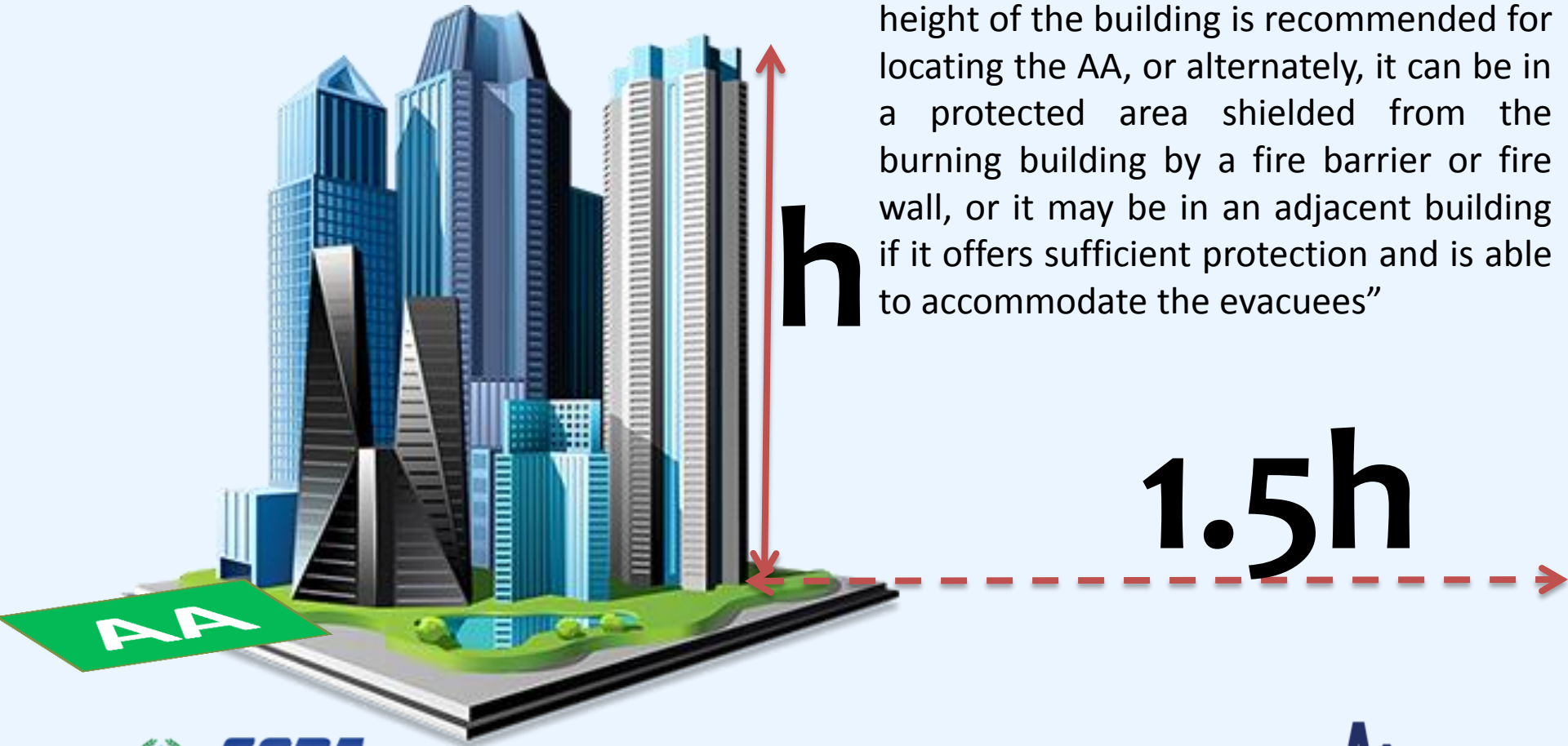
	Low-Rise			High-Rise
	No EVCS	With EVC But has Atrium Space e.g Dept Stores	With EVC & Compartmented Floors e.g Industrial Building	
Height	Less than or equal 24m			More than 24m
Alarm type	Single-stage Alarm	2-stage alarm	2-stage alarm	2-stage alarm
Evacuation Strategy	Total Evacuation	Total Evacuation	Phased Evacuation	Phased Evacuation



Areas for Review

Current Evacuation Guidelines - Selecting Suitable Assembly Area:

“A distance more than one and a half the height of the building is recommended for locating the AA, or alternately, it can be in a protected area shielded from the burning building by a fire barrier or fire wall, or it may be in an adjacent building if it offers sufficient protection and is able to accommodate the evacuees”



Proposed Amendments

Selecting Suitable Assembly Area:



The revised guidelines will be aligned to NFPA standard regarding the prescribed distance that is at least equal to the height of the building. And must be no less than 20m away.

Other requirements in the current guidelines regarding AA remains the same.

h (at least 20m)



Conclusion:

- “Building evacuation procedures consider the need to move occupants from harms way in the event of a fire that grows at a very predictable way at a rate that is typical to the anticipated fire hazard in the building” – NFPA
- “In reality, there may simply be no physical way to provide such protection against all foreseeable and unforeseeable hazards, even with unlimited funds” – NFPA
- The guidelines on evacuation are not meant to be “One Size Fits All” and can never be able to achieve that



Thank You

