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SECURITY ASSOCIATION
SINGAPORE

A-CERTS
Association of Company Emergency Response Teams (Singapore)

PRACTICE GUIDELINES

ON FIRST RESPONSE TO FIRE SITUATIONS BY SECURITY PERSONNEL

These Practice Guidelines are drafted by the Security Industry Committee of Practice with input from the Association of Company Emergency Response Teams (Singapore).

The Practice Guidelines serves as a base template for security agencies to adopt and develop a SOP customised to the needs or challenges specific to the premises or facilities that they are serving.

Security Industry Committee of Practice

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Table of Contents

1. **Introduction**

    Security personnel are the frontline staff and are amongst the first responders to any situation that happens on site. It is important for security personnel to know how to identify potential emergencies and be familiar with the emergency response plan ("**ERP**").

    An emergency is a situation that poses an immediate risk to health, life, property, or environment. Most emergencies require urgent intervention to prevent the situation from worsening or becoming more dangerous. Security agencies should develop a Standard Operating Procedure ("**SOP**") for fire emergencies to ensure that security personnel are aware of the steps to take in the event of a fire emergency.

    This Practice Guidelines serves as a base template for security agencies to adopt and develop a SOP customised to the needs or challenges specific to the premises or facilities that they are serving.

    This Guide includes the following points:

    a. Role, Responsibilities and Tasks of Security Personnel in a Fire Situation

    b. Key Considerations in Developing an SOP for Security Personnel Handling a Fire Situation

    c. Different Risks and Threats from Different Premises

    d. Key Stakeholders Involved in Handling the Fire Situation

    e. Safety Considerations

2. **Roles, Responsibilities and Tasks of Security Personnel in a Fire Emergency**

    In the event of a fire alarm, the alarm signal will have a continuous ringing note resounding from the electrically operated bells, and in some buildings, there will be strobe lights blinking on every storey of the building. The different approaches to activate the fire alarm signal can be found at the **Annex A**.

    In the event of a fire, security personnel are required to perform a supporting role to assist the Fire Safety Manager ("**FSM**") while waiting for the Singapore Civil Defence Force ("**SCDF**") to arrive.

    In the event of a real fire, the alarm signal will ring throughout the building and there may be signs and smell of smoke. Security personnel at site should look out for these signs of fire when the alarm signal has been triggered and react according to the SOP.

    Different types of premises may have different types of threat and risk that may lead to a fire situation. Nevertheless, security personnel must be well versed with the fire exercise that is implemented by the person in charge of the premises.

Security personnel that are trained in Company Emergency Response Team ("**CERT**") may be tasked to be the first responders to the initial phase of an emergency before the SCDF arrives.

Security personnel that are tasked to be a CERT member will be responsible for the following:

a. Respond to incipient stages of an incident;

b. Assist SCDF and other emergency responders;

c. Ensure safety of occupants.

Security personnel must be familiar with the Building's ERP and means of escape of the building or facility. The security supervisor must also ensure that security personnel are familiar with their roles in the event of a real fire situation.

2.1. Fire Drill

A Fire drill should be conducted at least twice a year and all occupants in the building should participate in the exercise. The FSM should notify the Singapore Defence Force (**SCDF**) and the Singapore Police Force ("**SPF**") before conducting a major fire drill involving a large number of people. The FSM is also required to inform the DECAM Company prior to the activation of the fire alarm and when the fire drill has ended.

2.2. Alarm Activation

When the alarm signal is triggered, security personnel on site should inform the person in charge of the premises immediately and identify the location on the Fire Alarm Master Panel and head to the affected area to confirm the situation.

Stages of Fire Alarm Activations in Buildings
Stage 1- First activation of fire alarm
Security personnel shall confirm the location of the fire alarm from the Main Fire Alarm Panel (and Sub-Indicator Board or SIB). They shall confirm whether the fire alarm is false or if there is a real fire after proceeding to verify at the actual fire area or zone.

Stage 2 – Second activation of the fire alarm
This second stage alarm confirms the presence of a real fire and signifies the requirement to evacuate the building or premise.

2.3 False Alarm

Upon checking the affected area and confirming that it is a false alarm, the security supervisor shall inform the person in-charge of the premises immediately. The security supervisor must also notify the company in charge of the DECAM system that it is a false alarm.

To prevent another false alarm, security personnel should do the following:

a. Inspect the fire alarm panel and notify the FSM if there are any signs of fault;

b. Conduct checks on why the fire alarm was activated and to report their findings to the FSM.
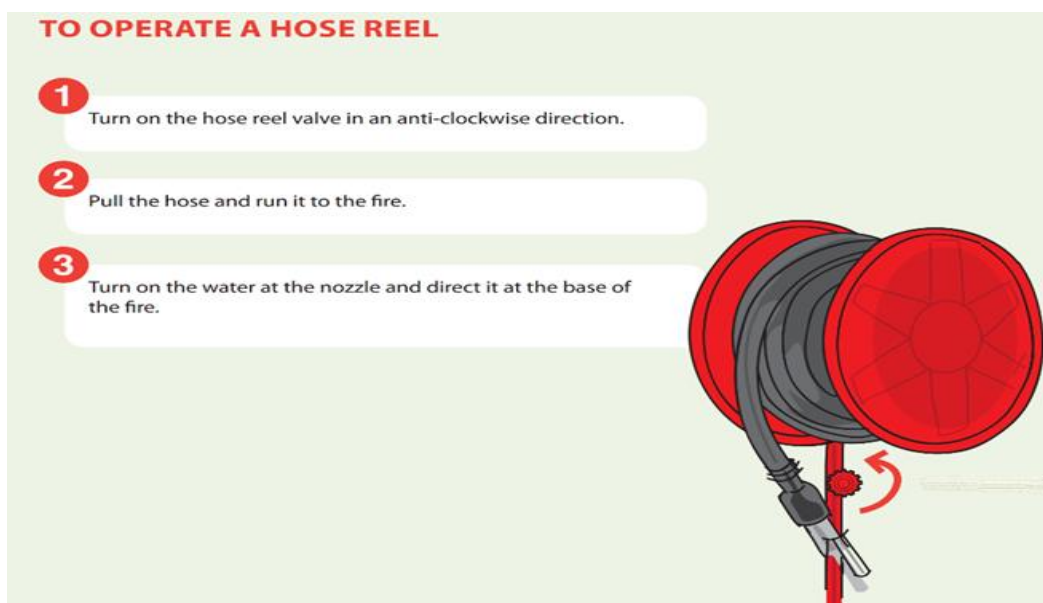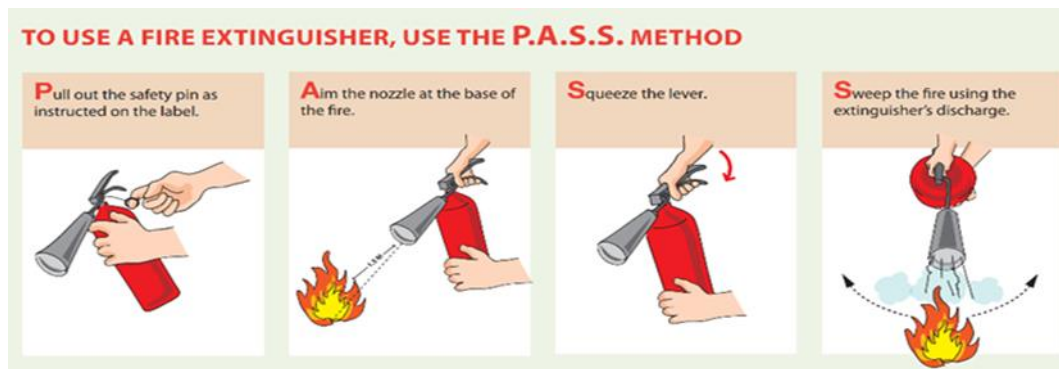
2.4 Detection of Real Fire

When the fire alarm signal is triggered, security personnel on site should inform the person in charge of the premises immediately and detect the location on the fire alarm master panel and head to the affected area to confirm the situation.

Upon checking the affected area and confirming that there is a real fire, security personnel must alert the DECAM company and the person in charge of the premises immediately.

2.5 Handling of Small Fire

If it is a small fire, the security personnel may attempt to extinguish or control the fire, without taking undue personal risk, while waiting for the SCDF to arrive.

Security personnel should be trained on how to use basic firefighting equipment such as a fire extinguisher and a hose reel.

TO USE A FIRE EXTINGUISHER, USE THE P.A.S.S. METHOD

| **P**ull out the safety pin as instructed on the label. | **A**im the nozzle at the base of the fire. | **S**queeze the lever. | **S**weep the fire using the extinguisher's discharge. |

TO OPERATE A HOSE REEL

1. Turn on the hose reel valve in an anti-clockwise direction.

2. Pull the hose and run it to the fire.

3. Turn on the water at the nozzle and direct it at the base of the fire.

Source: SCDF Emergency Handbook

2.6 Fire not Within Control – Evacuation of Premises or Building

In the event security personnel are <u>not</u> able to control the fire, the security supervisor or FSM must ensure the following:

a. Where a building or premise has a **Voice Communications Public Address (P.A.) System** in place, announcements be made over the PA system to inform all occupants on when to proceed to evacuate the building or premise in accordance to the Site Evacuation Plan specified in the SOP.

b. In the absence of a PA system, security personnel have to rely on the <u>2-stage</u> fire alarm system as a guide to decide on when to evacuate the building or premise.

c. Security personnel are deployed at the ground floor staircase exits to guide guests, visitors and occupants from the building to the designated assembly area safely when the <u>second stage fire alarm</u> (signifying evacuation of the building or premise) is activated;

d. When the <u>second stage</u> fire alarm for the building is sounded, and a real fire has been confirmed on site, this signal requires the evacuation of the building or premise. The person in charge of the premise has to commence to evacuate all occupants of the building in accordance to instructions provided in the SOP;

e. All occupants have been informed and are proceeding to evacuate the building by the Fire Wardens and/or Security Officers;

f. All occupants have been evacuated by checking on the CCTV system, and also getting the attendance records from the Roll Call Master/Fire Wardens/FSM at the Assembly Area Mustering Point.;

g. Main entrances and exits to/from the building are adequately manned to prohibit unauthorised entry.

h. Ensure that security personnel direct the SCDF officer on his arrival to the Fire Command Centre;

i. Ensure that security personnel are detailed to direct traffic to facilitate the movement of evacuees at points where they cross the roads to reach assembly point;

j. Ensure all lifts in operation are brought to the ground level and deactivated while waiting for the arrival of the SCDF.

The security supervisor must provide the following details upon SCDF's arrival:

a. Source of fire (e.g., paper, furniture, plastic, oil, gas, or chemical, etc);

b. Possible hazards within the building;

c. The location in the building where the fire is located.

d. Building plans, floor plans and site plans, if available.

e. Location of nearest fire hydrants within the facility or area.

Security supervisor must ensure that security personnel are well versed with their roles as described in the Emergency Response Plan (ERP). Security personnel should also be familiar with the list of emergency contacts provided below:

Emergency Ambulance & Fire	995
Non-Emergency Ambulance	1777
Police Emergency	999
Police Hotline	1800 255 0000
Fire Hazard Reporting	1800 255 0000

2.7 Post-Fire Emergency

The security supervisor must ensure the following is completed post-fire:

a.   Check with SCDF & SPF whether the scene examination and documentation have been completed;

b.   Check with SCDF/HDB/BCA whether the premises are safe to enter;

c.   Check the premises for any damages;

d.   Cordon off affected area;

e.   Check on guests / visitors and occupants of the building;

f.   Incident report

Security personnel should check the premises, especially the affected area, for any damages and prevent further damages by weather, theft, or vandalism. Security personnel should also check with the SCDF & SPF whether the scene examination and documentation have been completed before allowing the occupants to return to the building or affected area.

The security supervisor must ensure the affected area is cordoned off to prevent further damages or tampering of evidence. Security personnel must not leave the affected area unsecured.

Security personnel must also conduct checks on guests, visitors and occupants to ensure that any persons with injuries have been treated by a medical professional. Security personnel who have undergone training in first aid may render assistance to those that are injured.

An incident report must also be submitted by the security supervisor to the respective security agency and the person in charge of the premises.

3.   **Key Considerations in developing a SOP for Security Personnel handling a Fire Situation**

Security agencies should draft the SOP based on the type of premises that security personnel are deployed at. The SOP must include details on what security personnel are required to do in the event of a fire.

Security agencies should conduct a <u>risk assessment</u> to plan out the evacuation route, as this will enable security personnel to advise the occupants and to direct them to a safe location in the event of a fire.

The SOP should include what security personnel should do in the event of the following:

a. False Alarm

b. Real Fire

c. Fire Exercise

d. Post Fire

4. Virtual Patrolling

Security agencies with virtual patrolling at sites must consider the approaches to take when drafting their SOP, where technology is used to augment security services. Security agencies need to ensure that their security personnel arrive at the incident site as soon as possible, as they are required to interface with the arriving SCDF crew.

5. <u>Different Risks and Threats from Different Premises</u>

There are many categories of buildings, each with its own different layouts, fire hazards and risks. Buildings owners and security agencies must take into consideration the risks and threats posed, based on the category of the building before drafting the SOP.

The <u>different categories of buildings</u> are listed below, and more details can be found in **<u>Annex B</u>**.

a. High Rise Commercial Buildings

b. Low Rise Commercial Buildings

c. Residential

d. Industrial

6. <u>Key Stakeholders Involved in Handling a Fire Emergency</u>

The following key stakeholders are involved in handling a fire emergency:

a. Building Owner / FSM / Security personnel

b. DECAM Company

c. SCDF

d. SPF

7. **Security Personnel / Building Owner / FSM**

As security personnel are frontline staff and are amongst the first responders to any emergency, their alertness to a fire situation could help save lives and property. In the event of a fire, security personnel would be the first to respond to the situation on the ground. Security personnel should inform the person in charge of the premises, and both parties should follow the SOP to handle the fire emergency.

Upon arrival of SCDF, security personnel must direct the SCDF officer to the Fire Command Centre and provide them with the details of the fire emergency.

7.1 DECAM monitoring

Building owners must ensure that the electrical fire alarm system that is installed in a building or premises must be connected to the SCDF Operations Centre through an approved alarm monitoring company when the building or premises is:

a. A health care occupancy, hotel, or other similar occupancies,

b. An oil refinery, oil depot, general warehouse, chemical plant or other high hazard factory or premises,

c. A theatre, cinema, or concert hall

Note: It is the responsibility of the owner(s) or occupier of the premises to check with the SCDF whether their building(s) or facility require independent DECAM monitoring.

In the event of a fire, the FSM must ensure the following:

a. SCDF has been notified of the fire;

b. The CERT team has been mobilised to respond to the alarm;

c. Obtain the floor evacuation status reports from the fire wardens at the assembly point;

d. Await the arrival of the responding crew from the SCDF at the main entrance of the building and report to the officer-in-charge the status of the evacuation.

The FSM should also notify the Commissioner immediately upon the occurrence of any fire incident in the premises.

7.2. DECAM Company

Upon activation of the fire alarm, the DECAM panel at the premises will send a signal to the DECAM company's Central Monitoring Centre. Upon receiving the signal, the DECAM company will follow through a signal treatment SOP process to alert SCDF.

7.3. Singapore Civil Defence Force (SCDF)

Upon the activation of the fire alarm, SCDF will be notified immediately. SCDF will arrive at the scene and contain the fire situation. Civil defence officers will also be directed to the affected area and briefed by the security supervisor on the details of the fire situation. Civil defence officers will also render medical attention to occupants and visitors / guests that have sustained any injuries.

Security personnel are also required to check with civil defence officers before allowing the occupants to return to the building.

7.4. Singapore Police Force (SPF)

The SPF will be called in to render assistance on site during the fire situation. SPF together with the SCDF will be the first responders on the scene. SPF officers may be required to cordon off the roads leading to the premises. SPF officers together with civil defence officers will conduct a scene examination and documentation before allowing occupants to return to the building.

8. Safety Considerations

As security personnel are frontline staff, it is important for security personnel to know how to identify potential emergencies and be familiar with the Emergency Response Plan (ERP) shared with them by their security agencies. A fire emergency would require urgent intervention to prevent the situation from worsening or becoming more dangerous, and security personnel will be the first responders before the arrival of the SCDF.

Security personnel should not attempt to extinguish or control the fire if the fire cannot be contained, is spreading quickly, or liable to cause harm or injury, or potential danger to their own lives. They should follow the SOP and assist occupants, visitors and guests to evacuate the building or facility quickly.

9. **Raising of Fire Alarm**

    a. Break glass alarm system – This consists of "break glass" call points located at strategic locations on every floor of the building or facility. The alarm can be triggered by eyewitnesses and there will be a continuous ringing throughout the building when the glass is broken.

    b. Automatic heat detector system – Heat detectors respond to the converted thermal energy of fire. The heat detectors will respond when the detecting elements reads a pre-determined temperature.

    c. Automatic smoke detector system – The smoke detector device detects smoke in its proximity, the alarm will be activated and will trigger the alarm signal throughout the building.

    d. Sprinkler system – When sprinkler activates, the flow switch will trigger the alarm signal throughout the building or facility.

    e. Eyewitness – Person(s) witnessing a fire may shout "Fire" to alert anyone in the immediate vicinity and then activate the nearest push-glass **fire alarm** call-point (small red box, close to major exits).

10. **Different Risks and Threats from Different Premises**

    10.1 High Rise Buildings

    High rise buildings pose many threats and risks as there may be difficulty evacuating the occupants of the building due to the high occupancy rate. Security agencies and building owners have to take this into consideration when drafting an SOP for high rise buildings.

    In high rise buildings, a significant change in the principle of evacuation is observed. Due to the high occupancy rate, it is highly likely that simultaneous evacuation of all floors in high rise buildings would result in undue delay.

    Hence, in such buildings, the concept of evacuation to be adopted is "two-stage alarm" and "phased evacuation". The fire alarm when first activated would ring on all floors. This would serve as an "alert signal". A second alarm will confirm the emergency and the "phased evacuation" will be initiated.

    The first phase will feature the evacuation of occupants situated on the "emergency floor", 2 floors above it and 2 floors below it. Those occupants would commence evacuation on being instructed through the announcement selectively made to these floors. Remaining floors are also advised to stand by for further instructions.

    Once the fire wardens on the evacuating floors have reported "all clear" to the Fire Command Centre through their respective floor intercom system, the second phase of evacuation then commences. This would include all the floors above the "emergency floor". In the event when there is no fire warden available, security personnel should be directed to assume the role. Fire wardens must be familiar with the ERP and means of escape of the building.

    In the third and final phase, the floors below "the emergency floor" will be evacuated. (Note: Apart from the first phase which would only involve 5 floors, evacuation of the rest of the phases should, as a rule of thumb, not involve more than 20 floors at any one time). Circumstances will dictate whether the building should be completely evacuated through the various phases in a real emergency.

    To facilitate phased evacuation being conducted in high rise buildings, **it is a requirement for an approved 2-way voice communication system to be provided in addition to the fire alarm system**.

    High rise buildings (9 storeys of more) are also required to have an FSM and a CERT. The FSM Scheme aims to ensure and enhance the fire safety standard within buildings. Through the FSM, fire safety activities and fire prevention measures are also implemented to promote fire safety awareness among the building occupants.

    Security personnel must also ensure that all lifts in operation are brought to the ground level and deactivate it while waiting for the arrival of the SCDF. Security personnel are to advice the occupants to use the exit stairs to evacuate the building.

10.2 Low Rise Buildings

Evacuation may seem to be a smoother process for a low-rise building, there are still risks and threats that a low-rise building pose. Low-rise buildings are usually more compact, and occupants are placed near to each other. This might cause some delays when it comes to evacuation. Building owners and security agencies must ensure that their SOP for low-rise buildings involve an organised route of escape for occupants. Regular fire exercises should also be implemented to ensure a smooth evacuation in the event of a fire.

Occupants in Low-rise buildings (height less than or equal to 24m) without Emergency Voice Communications System ("**EVCS**") will be expected to effect immediate evacuation of the building on hearing the fire alarm.

The evacuation concept for low-rise buildings with EVCS capabilities but with atrium spaces is the "2-stage alarm" and "total evacuation". The sounding of the fire alarm (lasting not less than 1 minute) should be treated as an alert signal and occupants should standby for evacuation. Upon confirmation of a fire situation, the second continuous alarm is sounded, and immediate evacuation should be effected.

10.3 Residential

There are many common fire threats and risks in residential buildings, such as house fires due to unattended cooking or discarded items.

There were 935 fire incidents in residential buildings (private and public) in 2022, a decrease of 7.4% from 1,010 cases in 2021. The top two types of fires in residential buildings are reflected in **Chart 2**. The breakdown of the causes of fires in residential buildings is illustrated in **Chart 3**.
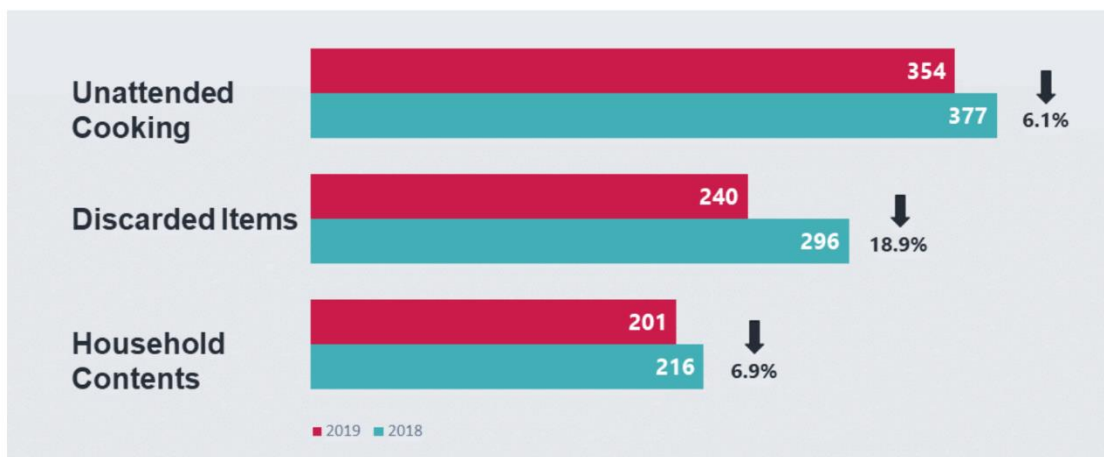
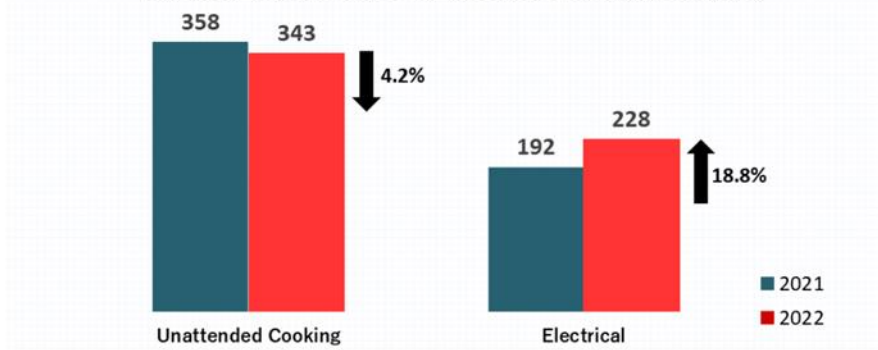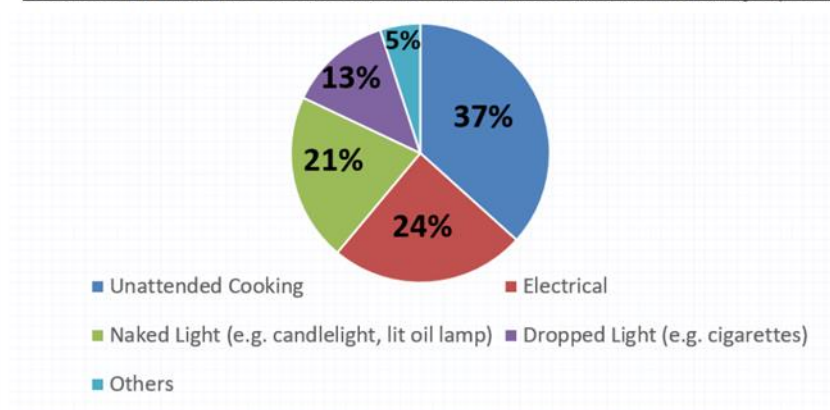Chart 2: Top two types of fires in residential buildings

Chart 3: Breakdown of the causes of fires in residential buildings (2022)

Source: EMERGENCY MEDICAL SERVICES, FIRE & ENFORCEMENT STATISTICS 2022

Fires resulting from the overheating of food due to unattended cooking, formed the largest component of fires in residential buildings. There was a slight decrease of 4.2% from 2021, to 343 cases in 2022.

The number of electrical fires rose by 18.8% to 228 cases in 2022. The majority of these fires were caused by electrical faults in wirings or electrical appliances, or due to the overloading of electrical sockets.

There was a substantial decrease in fires involving discarded items by 31.7%, from 145 in 2021 to 99 cases in 2022. These fire incidents typically occur in common areas, such as lift lobbies, staircase landings and common corridors.

Building owners must accommodate for refuge floors in super high-rise residential buildings. Refuge floors are special floors that serve as a safe holding area so that residents do not have to travel many floors down to get out of the building in case of a fire. The prevailing Fire Code stipulates that Refuge floors need to be provided at every 20 storeys in a super high-rise residential building. At least 50 per cent of the gross floor area of a refuge floor must be designated as holding area for temporary assembly of occupants during fire emergency. A refuge floor can be identified by a sign "Fire Emergency Holding Area" that is displayed on the wall inside the staircase and immediately outside the staircase at the refuge floor.

As the refuge floors are linked to all blocks of a super high rise residential building, they are easily accessible to all residents and serve as escape routes for those evacuating from an affected block to the unaffected blocks.

All high-rise buildings above 8 storeys or 24m in habitable height are also required to be provided with a fire lift. Super high-rise residential units should have at least two fire lifts. A two-way voice communication system should also be installed at the refuge floor and fire lift.

However, in the event of a fire, occupants are advised to evacuate via the exit staircase and not to use the lift.

10.4 Industrial

In 2022, SCDF responded to 434 fires in non-residential buildings, an increase of 4.6% from the 415 fires in 2021. The breakdown of fires in non-residential buildings is in **Chart 4**.

Chart 4: Breakdown of fires in non-residential buildings
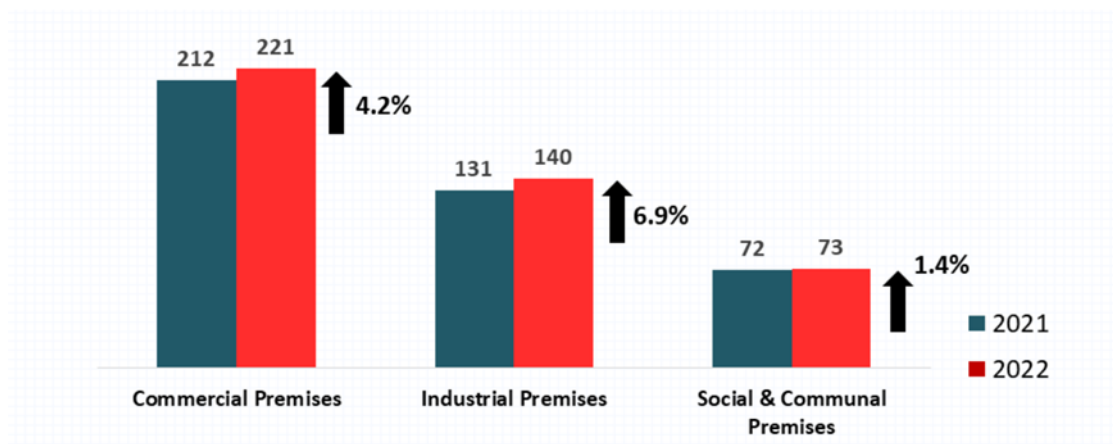
With the increased number of fire risks at industrial buildings, the Civil Defence related programmes have been created to specifically cater to the industrial and commercial sectors in Singapore. These programmes aim to promote fire safety prevention and emergency preparedness within commercial and industrial companies, especially those that handle hazardous materials.

Industrial premises that have a have a floor area or site area of 5,000 square metres or more, or have an occupancy load of 1,000 persons or more are required to appoint an FSM and form a CERT.

In the event of a fire, and upon hearing the fire alarm, members of the CERT shall ascertain the location of the fire from the main fire alarm panel and proceed to that location. The CERT shall attempt to extinguish or contain the fire or hazard based on SOP written in the ERP before the arrival of the SCDF.

Upon hearing the fire alarm, occupants should lock important files, cash, shut down machinery etc and immediately evacuate, guided by their respective Fire Wardens.

11. SCDF 's requirements and expectations

Building owners must ensure that they have put in place Fire Preventive Measures to prevent a fire situation in their buildings or facilities. However, in the event of a fire, building owners must ensure their site(s) have proper evacuation plans.

Building owners must ensure their buildings have the following:

a.   Fire Certificate;

b.   Fire Escape Plan;

c.   Evacuation Plan

Fire Certificate
According to section 20 of the Fire Safety Act, building owners or occupiers of any public building such as offices, hospitals, shopping complexes, industrial buildings and private residential buildings are required to obtain a Fire Certificate if their building falls within the following criteria:

a.   Public Building that has an occupant load or more than 200 persons;

b.   Industrial Building that has an occupant load of at least 1, 000 persons or site area of at least 5,000 square metres, or exceeds 24 metres in height;

c.   Private Residential Building that exceeds 24 metres in height

Fire Escape Plan
Building owners must ensure that their buildings have means of escape in the event of a fire. Required exits must be kept readily accessible, unobstructed, and doors must always be openable during the occupancy of the building. A fire escape layout plan should be placed in all common lobbies and lift lobbies to ensure that it easily viewable by the occupants and the public.

The fire escape plan should display the layout at each level, with the escape routes and emergency exits for the purpose of an evacuation.

The information on the fire escape plan are only for firefighting and evacuation purposes and should include the following:

a.   Location of Fire Lifts

b.   Location of Evacuation Lifts

c.   Location of Hose Reels

d.   Location of Fire Extinguishers

e.   Manual Alarm Call Points

Evacuation Plan

A proper evacuation plan is crucial and building owners must ensure that it is implemented. In the event of a fire, a proper evacuation plan could save lives.

There are 3 models of evacuation, depending on the height of the premise. In deriving these evacuation models, four fundamental principles are adhered to:

a. Occupants believed to be in the greatest potential danger are to evacuate first;

b. Should the scale of the emergency increase, evacuations can be expanded to include additional floors, or if need be, the entire building;

c. The provision of an EVCS, will allow buildings to adopt a 2-stage alarm;

d. The provision/adequacy of compartments, fire, and smoke protection systems in addition to EVCS with feature for zone evacuation, allow premises to adopt a phased-evacuation strategy

Assembly Area(s)

To ensure the safety of the occupants and public after an evacuation, the building owner must identify at least 2 or 3 locations outside the said building premises to serve as the assembly area ("**AA**").

The building owner must take the following into consideration when identifying an AA:

a. The area shall be familiar and readily accessible to the building evacuees;

b. It should be able to accommodate the full occupant load (or evacuees) of the said building;

c. It shall be far enough to avoid falling debris, collapsing structures, and/or spread of the fire/incident;

d. A distance at least equal to the height of the building, and no less than 20m away is recommended for locating the AA, or alternately, it can be in a protected area shielded from the burning building;

e. The AA should not interfere with the firefighting/response operations and/or its responding forces.