EXECUTIVE SUMMARY

The number of Emergency Medical Services (EMS) calls continued to increase in 2018. The Singapore Civil Defence Force (SCDF) responded to 187,607 EMS calls last year, which translates to about 500 calls a day. This was an increase of 2.8% from 2017, and continues the upward trend since 1998. The number of non-emergency calls saw an 8.7% decline, partly due to SCDF’s intensive public education campaign on the EMS tiered response framework. However, non-emergency and false alarm calls remain a concern as they still made up 9.6% of EMS calls in 2018. SCDF will continue to raise public awareness of the difference between emergency and non-emergency cases.

2. The overall number of fire incidents remained stable in 2018. Rubbish fires continued to form the bulk of fires occurring at residential premises. The increase in the number of fires involving electric bicycles and scooters is a concern. SCDF is working closely with our partners and stakeholders to raise public awareness on preventing such fires.

3. SCDF conducted 14,537 fire safety enforcement checks in 2018 and issued 2,453 Notices of Fire Safety Offences and 2,462 Fire Hazard Abatement Notices. SCDF encourages the public to report fire safety hazards that they may come across.
Overview

SCDF responded to 187,607 EMS calls in 2018. This was an increase of 2.8% or 5,105, from 182,502 in 2017. Emergency calls increased by 3.7% to 169,653 in 2018, from 163,563 in 2017. Non-emergency calls decreased by 8.7% to 10,398 in 2018, from 11,384 in 2017. The number of false alarm calls remained stable at 7,556 calls.

2. Of the 169,653 emergency calls received in 2018, 75.8% were medical-related (e.g. chest pain, breathlessness, unconsciousness and cardiac arrest); 18.1% were trauma cases (e.g. industrial accidents, falls and assaults); and the remaining 6.1% were related to road traffic accidents. The number of calls involving the elderly (aged 65 and above) remained the highest among all age categories, at 42.9%.

Area of Concern: Non-emergency and False Alarm Calls

3. Non-emergency\(^1\) and false alarm\(^2\) calls made up 9.6% (17,954 calls) of all EMS calls in 2018. This means that on average, SCDF responded to around 50 non-emergency and false alarm calls each day. SCDF will continue to raise public awareness of the difference between non-emergency and emergency medical cases, and remind members of the public to call 995 only in an emergency.

4. Non-emergency medical cases do not require EMS assistance and also do not need to be conveyed to hospitals. Such cases will be advised to seek treatment from their family doctor or general practitioner at nearby clinics. For non-emergency cases who insist on going to a hospital, they will be advised to make their own arrangements, or call 1777 for a non-emergency ambulance for conveyance at a fee. This will ensure that SCDF’s resources are only utilised for emergency cases.

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\(^1\) Non-emergency calls are cases where urgent medical assistance by SCDF is not required and where the patient could seek non-urgent medical help at the nearest clinic instead.

\(^2\) False alarm calls include incidents where no patients were found at the incident scene.
Update on SCDF’s EMS Tiered Response Framework (Phase 1)

5. Since the introduction of the tiered EMS response framework on 1 April 2017, SCDF 995 Operations Centre specialists have been triaging EMS calls according to the severity of each case, with priority given to life-threatening cases. Triaging these calls allows the appropriate resources to be dispatched:

   a) Emergency Medical Technicians Responding to Medical Emergencies
      In 2018, Emergency Medical Technicians (EMTs) on fire bikes responded to 16,897 life-threatening cases, while SCDF’s fleet of six Fire Medical Vehicles (FMVs)\(^3\) responded to 312 fire and rescue incidents.

   b) Faster Response to Life-Threatening Cases
      Life-threatening cases such as cardiac arrests are critically time-sensitive and require enhanced SCDF medical support. To ensure a faster response, SCDF deploys a fire bike and an ambulance simultaneously for such cases. In 2018, SCDF was able to respond to 82% of life-threatening cases within eight minutes due to the faster arrival of the fire bikes, as compared to 73.4% based on ambulance response time.

6. Phase Two of the EMS response framework will commence from April 2019. More details can be found in Annex A.

Update on the Exemption of SCDF Ambulances from the Road Traffic Act

7. From 1 December 2017, SCDF ambulances have been formally exempted from Section 120(3) of the Road Traffic Act. This exemption allows SCDF ambulance drivers to proceed past red traffic lights and make U-turns at non-designated junctions when responding to life-threatening medical emergencies.

8. In a medical emergency, every second saved has the potential to improve the patient’s survival chances and health outcome. There have been no accidents involving the SCDF ambulances which had exercised this right since the exemption took effect. Motorists have cooperated by giving way to the ambulances.

9. With the positive outcomes thus far, and in tandem with the upcoming implementation of Phase Two of the EMS tiered response framework, SCDF is working towards extending the Exemption Order to include other SCDF emergency vehicles that respond to life-threatening medical emergencies from 1 April 2019. These will include fire engines, red rhinos and FMVs.

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\(^3\) The Fire Medical Vehicle (FMV) is a hybrid of a fire appliance and an ambulance, combining firefighting and medical intervention capabilities into one vehicle. It is helmed by a Fire and Rescue Specialist who is also a trained EMT.
Overview

SCDF responded to 3,885 fire calls in 2018, a slight increase of 0.4% or 14 incidents, from 3,871 in 2017. While the number of fires at residential premises fell, the number of fires in non-residential premises and at non-building places increased.

2. Dropped light\(^4\) cases remained the leading cause of fires, accounting for 1,973 cases (50.8%) of all fires in 2018. Fires caused by electrical origin was the second highest, with 664 cases (17.1%).

3. There were 90 fire injuries in 2018, an increase from 60 in 2017. 46 (51.1%) of them were smoke inhalation cases, while the remaining 44 (48.9%) suffered burns. The majority of the fire injuries were caused by fires in residential buildings.

4. There were four fire fatalities in 2018, as compared to three in 2017. The fatalities were related to the following residential fire incidents:

   a) Blk 18 Bedok South Road on 30 April 2018;
   b) Blk 157 Tampines Street 12 on 27 May 2018;
   c) Blk 163B Punggol Central on 15 October 2018; and
   d) Blk 165 Gangsa Road on 30 November 2018.

5. SCDF has intensified its public education efforts on fire prevention through the distribution of leaflets at residential premises, as well as via social media posts and online videos.

Fires in Residential Premises

6. A total of 2,411 fire incidents occurred in residential premises (private and public) in 2018. This was a decrease of 9.3%, from 2,657 in 2017. The top three types of fire in residential premises are in Chart 1.

\(^4\) Dropped light refers to the indiscriminate disposal of lighted materials such as lighted cigarette butts that were not completely extinguished, embers from charcoal and lighted incense sticks.
7. Fires related to discarded items and unattended cooking decreased. SCDF will continue to raise public awareness of the prevention of such fires through public advisories on its social media platforms. SCDF will also continue its efforts to educate members of the public not to discard items at the common areas such as lift lobbies, common corridors and staircase landings, as well as not to leave their cooking unattended.

8. Rubbish fires fell to a 10-year low in 2018 (see Chart 2 below). However, such fires continued to form the bulk of residential fires (48.7%) and constituted a third of total fires in Singapore. This translates to about 100 calls per month.

Chart 2: Rubbish fires in residential premises over the last 10 years (2009 – 2018)

9. Rubbish fires are small and pose no risk of spreading or threatening human life. Such fires can be easily put out by members of the public. In fact, since 2016, about 25% of these rubbish fires had been put out by alert members of the public prior to SCDF’s arrival at the scene. To ensure optimisation of resources to focus on major fire and life-threatening emergencies, SCDF plans to further empower members of the public to respond to rubbish fires.

10. In 2018, SCDF launched the Community First Responder (Fire) scheme as part of the SCDF myResponder app. This initiative alerts members of the public to minor rubbish chute and bin fires within their immediate vicinity. To date, about 15,000 responders have registered to be notified of such minor fires via the myResponder app. So far, SCDF has sent out alerts for 1,037 rubbish fire incidents, for which 370 individuals had responded to help extinguish them.
On 10 April 2018, Mr Muhammad Fadhullah received a notification from the myResponder app on his phone, alerting him to a rubbish bin fire at Blk 671 Woodlands Drive 71. He immediately rushed to the incident location and extinguished the fire using a hosereel from a nearby carpark before SCDF’s arrival. For his quick-thinking and stepping forward to help, he received the SCDF Community First Responder Award (CFRA).

11. Empowering Community First Responders to respond to such incidents will free up SCDF resources to attend to life-threatening and other higher-priority cases.

Fires in Non-Residential Premises

12. In 2018, SCDF responded to 515 fire incidents in non-residential premises (commercial, industrial, social and communal). This was an increase of 10.3% from 467 in 2017. The breakdown of fires in non-residential premises is in Chart 3.

Chart 3: Breakdown of fires at non-residential premises

<table>
<thead>
<tr>
<th>Premises</th>
<th>2018</th>
<th>2017</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Premises</td>
<td>259</td>
<td>233</td>
<td>11.2%</td>
</tr>
<tr>
<td>Industrial Premises</td>
<td>170</td>
<td>139</td>
<td>22.3%</td>
</tr>
<tr>
<td>Social/Communal Premises</td>
<td>86</td>
<td>95</td>
<td>9.5%</td>
</tr>
</tbody>
</table>

13. For commercial premises, there was a 39.2% increase in the number of fire incidents in shopping complexes and supermarkets, to 71 cases in 2018, from 51 cases in 2017. For industrial premises, the biggest increase was for fires in warehouses – such fires rose by 48.7% to 58 cases in 2018, from 39 cases in 2017.

14. SCDF will continue to collaborate with the National Fire and Civil Emergency Preparedness Council (NFEC), building owners and fire safety managers (FSMs) to ensure that their premises remain fire-safe. One such platform was the NFEC Fire Safety Seminar held on 21 August 2018 and attended by 1,000 practitioners and FSMs. SCDF will also step up enforcement checks at commercial premises and shopping complexes to ensure that there are no fire safety infringements.
Fires in Non-Building Places

15. There was a total of 959 fire incidents in non-building premises (e.g. vegetation, rubbish in open spaces and vehicles) in 2018. This increase of 28.4% from 747 cases in 2017 was largely due to vegetation fires. The top three types of fire in non-building places are in Chart 4.

Chart 4: Top three types of fire in non-building places

16. The number of vegetation fires increased by 59.8% to 588 in 2018, from 368 in 2017. This was largely due to vegetation fires caused by dry weather in February 2018, which saw 213 vegetation fires as compared to 17 vegetation fires in February 2017.

17. SCDF will continue its efforts to reduce the number of vegetation fires through the Wildfire Task Force Committee which comprises members from related agencies such as the Singapore Land Authority, the National Environment Agency, the National Parks Board and PUB. SCDF has been working closely with these agencies to step up preventive measures, such as maintaining fire breaks and trimming overgrown vegetation at high-risk areas. Patrols at fire hot spots will also be stepped up during the dry periods to detect possible fire risks and promptly mitigate any fire occurrences.

18. The number of vehicle fires increased by 20.1% to 221 in 2018, from 184 cases in 2017. SCDF produced leaflets on “Tips on Preventing and Handling a Vehicle Fire”, which are distributed at the Land Transport Authority’s (LTA) service touchpoints, vehicle inspection centres and petrol kiosks. SCDF will continue to leverage its social media platforms to share such advisories.

Area of Concern: Fires Involving Power-Assisted Bicycles and Personal Mobility Devices

19. In 2018, there were a total of 74 fires involving Power-Assisted Bicycles (PABs) and Personal Mobility Devices (PMDs), a considerable increase of 51% from 49 cases in 2017. A breakdown of fire incidents involving PABs and PMDs is in Chart 5.
20. Most of the PAB and PMD fires involved lithium ion batteries, and occurred during battery charging or shortly after. SCDF urges members of the public to be more vigilant as these fires can result in casualties and serious damage to property.

21. SCDF will continue to profile such fires on its social media platforms and in the mainstream media. SCDF and grassroots leaders have also conducted post-fire public education house visits and distributed leaflets to educate residents on fire safety and prevention.

**Fire Safety Tips on Preventing Battery Fires:**
- Do not leave batteries or devices to charge unattended overnight or over a prolonged period.
- Ensure that your device complies with LTA’s guidelines under the Active Mobility Act, and only purchase devices from reputable sources.
- Do not tamper with, modify or attempt to repair a device on your own.
- While charging PABs or PMDs:
  - Charge in a cool room and away from heat.
  - Place them on hard, open and flat surfaces.
  - Do not place near combustible materials.
  - Do not place near an entrance/exit or in the way of your escape.
On 25 December 2018, SCDF responded to a residential unit fire at Block 155 Mei Ling Street. The fire involved an electric scooter placed near the door, and four occupants were injured. Investigations revealed that the cause of fire was of electrical origin.

*Close-up view of the burnt electric scooter*  
*Fire and smoke damages sustained in the living room*
Overview

SCDF conducted 14,537 enforcement checks in 2018 and issued 2,462 Fire Hazard Abatement Notices (FHANs) and 2,453 Notices of Fire Safety Offences (NFSOs).

2. The most common fire hazard in 2018 was the non-functioning of exit sign/emergency lights, which contributed to 26.3% of the total FHANs issued.

3. The most common fire safety violation was the unauthorised change of use of premises, which accounted for 43.5% of the total NFSOs issued in 2018.

4. 150 cases of fire safety violations were prosecuted in Court in 2018. The majority of the offences were due to unauthorised change of use of premises (74 cases or 49.3%), followed by unauthorised fire safety works (51 cases or 34%). Examples of fire safety violations and the penalties meted are as follows:
   a) A company was fined $3,000 for unauthorised change of use (changed part of the premises to workers’ accommodation without approval);
   b) A company was fined $4,500 as it had carried out unauthorised fire safety works (involving the erection of a non-approved structure).

5. SCDF views fire safety infringements seriously and will not hesitate to take firm action against those who do not make prompt rectifications despite warnings and fines. SCDF’s enforcement powers against fire safety offenders are in Annex B.

Fire Safety Feedback

6. Members of the public are encouraged to report fire hazards. The public can do so by submitting photographs and a brief description of the fire hazard using the mySCDF mobile application, by calling the fire hazard reporting line at 1800-280-0000, or by sending an email to SCDF_Fire_Safety_Feedback@scdf.gov.sg.

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5 Under the Fire Safety Act, a FHAN is a warning given to building owners and management to remove fire hazards.
6 An NFSO is issued when the contravention is of a serious nature and warrants a heavier penalty.
SCDF’s EMS Tiered Response Framework (Phase 2)

Phase Two of the EMS tiered response framework will commence in April 2019. It entails the following three key components:

1. **Life-threatening** cases are critically time-sensitive and will receive enhanced SCDF medical support and a faster response.

   To further improve the treatment of victims who suffer out-of-hospital cardiac arrest, SCDF will be implementing high-performance cardiopulmonary resuscitation (CPR) to improve the chances of survival.

   In such cases, more emergency responders will be dispatched to render prompt medical treatment and perform concerted high performance CPR on victims. SCDF will deploy additional EMTs in red rhino/fire engine/FMVs, in addition to sending an emergency ambulance and a fire bike.

   High performance CPR requires EMTs to work in precise unison with the ambulance EMS crew as a team to carry out procedures which will greatly improve the chances of the victim’s survival. These include a focus on cutting down unnecessary pauses in chest compressions, as well as ensuring that chest compressions are done to the ideal depth, at an appropriate rate and with controlled ventilation.

   As high performance CPR requires more in-depth medical skills, SCDF has started enhanced training for its EMTs. Such high performance CPR capabilities will be rolled out progressively over the next three years.

2. **Minor emergencies**, such as cuts with bleeding and minor accidents with bruises or swelling, are less time-sensitive. The response time for such cases will be longer than for life-threatening cases.

3. **Non-emergency** cases do not require EMS assistance, and there is also no need to convey these cases to hospitals. Such cases will be advised to seek treatment from their family doctor or general practitioner at nearby clinics. For non-emergency cases who insist on going to a hospital, they will be advised to make their own arrangements or call 1777 for a non-emergency ambulance at a fee.
### SCDF’s Enforcement Powers against Fire Safety Offenders

<table>
<thead>
<tr>
<th>Enforcement Action</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire Hazard Abatement Notice (FHAN)</td>
<td>Under the Fire Safety Act, the FHAN is a warning given to building owners and management to remove fire hazards.</td>
</tr>
<tr>
<td>Notice of Composition (NOC)</td>
<td>Offenders who fail to rectify the violations after being issued with FHANs will be served with an NOC of up to $5,000.</td>
</tr>
<tr>
<td>Notice of Fire Safety Offence (NFSO)</td>
<td>An NFSO is issued when the contravention is of a serious nature and warrants a heavier penalty, e.g. unauthorised works that may pose fire safety risks. It carries a composition fine of up to $5,000.</td>
</tr>
<tr>
<td>Court Action</td>
<td>Court action will be taken for serious cases. For general fire safety violations, the maximum penalty can be up to $10,000 and/or jail term not exceeding 6 months. For carrying out unauthorised fire safety works, the person responsible (e.g. owner, building management, MCST) can be fined up to $200,000 and/or jailed for a term not exceeding 24 months. In extreme cases, SCDF can exercise its powers to require a temporary closure of the premises.</td>
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