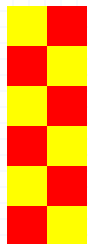




# **SCDF**

The Life Saving Force

*... for a safer Singapore*



## **FSM Seminar 2025**

# Common Fire Safety Enforcement Findings

**CPT Ling Hsih Hwa**

Staff Officer, Enforcement Branch

Fire Safety Department

Singapore Civil Defence Force



# Scope

- Introduction
- Enforcement Statistics
- Enforcement Framework
- Common Fire Hazards & Fire Safety Offences
- Managing Fire Safety using Technology
- Conclusion



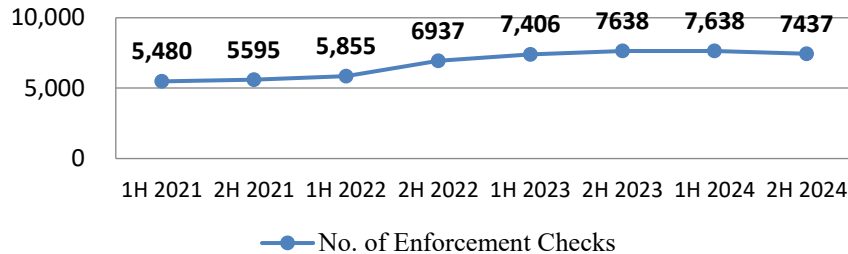
# Introduction

- **SCDF regulates fire safety to attain a fire-safe built environment by:**
  - ✓ Formulating fire safety policies – E.g. Fire Safety Act (FSA), Code of Practice for Fire Precautions in Buildings (Fire Code)
  - ✓ Implementing fire safety requirements – E.g. Fire Safety Certificate (FSC), Petroleum and Flammable Materials License (P&FM), Temporary Permit
  - ✓ Partnering the industry players to improve on regulatory systems – E.g. Fire Safety Managers (FSM), Building Owners
  - ✓ Maintaining an effective regulatory regime – E.g. Regular Inspections, Enforcement Actions

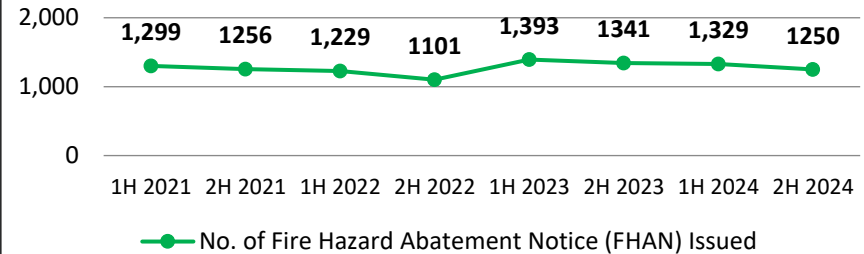


# Enforcement Statistics

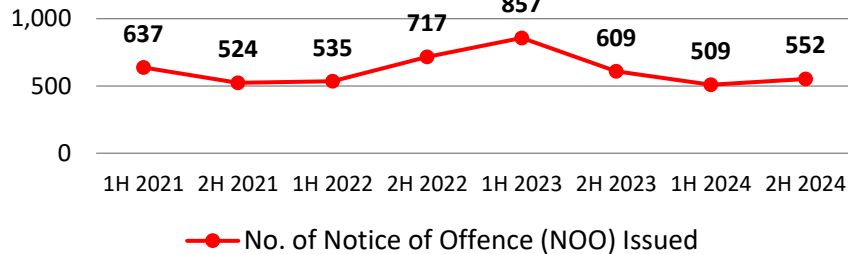
No. of Enforcement Checks



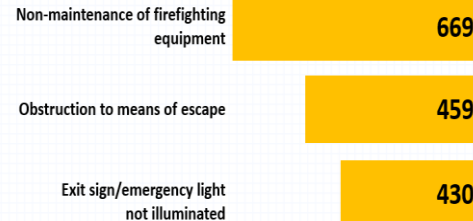
No. of Fire Hazard Abatement Notice (FHAN) Issued



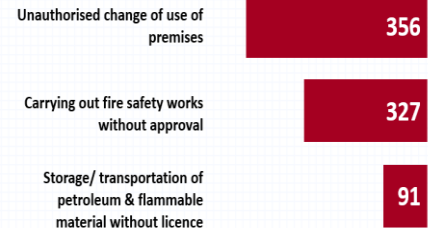
No. of Notice of Offence (NOO) Issued



Top 3 Types of FHANs Issued 2024



Top 3 Types of NOOs (FSO) Issued 2024

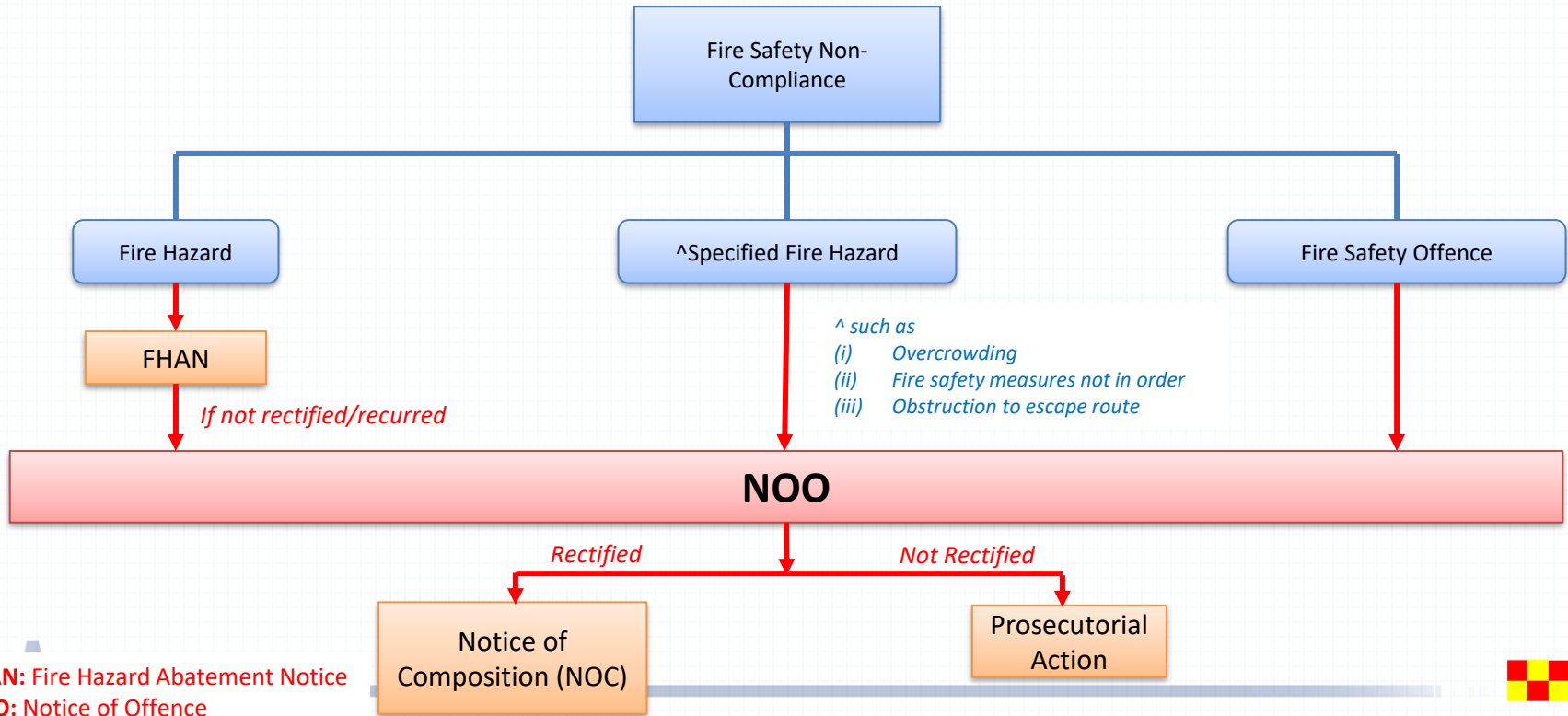


# Enforcement Framework

- **To create a fire-safe environment by enforcing the FSA and achieved through:**
  - ✓ Scheduled fire safety enforcement checks
  - ✓ Responding to public feedbacks
  - ✓ Concerted joint efforts by SCDF and building managements / owners / FSMs / CERTs



# Enforcement Framework



**FHAN:** Fire Hazard Abatement Notice  
**NOO:** Notice of Offence  
**NOC:** Notice of Composition



# Common Fire Hazards



# Fire Hazards

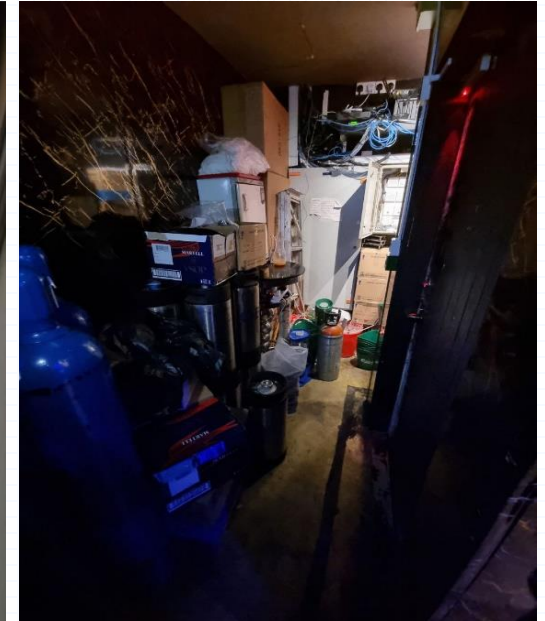
- Any matter or circumstances which materially increase the likelihood of fire or the danger to life or property that would result from the outbreak of fire which includes:
  - ✓ Obstruction to means of escape
  - ✓ Obstruction to fire safety measures
  - ✓ Non-maintenance of fire safety measures
  - ✓ Storage/placement of combustible material at inappropriate locations (e.g. rising main compartments)
  - ✓ Missing/removal of fire safety measures





# Fire Hazards

## Obstruction to Means of Escape



# Fire Hazards

## Obstruction to Fire Safety Provisions



Obstruction to breaching inlet and hosereel



Obstruction to exit door



Obstruction to fireman access panel



Obstruction to hosereel



Obstruction to sprinklers head

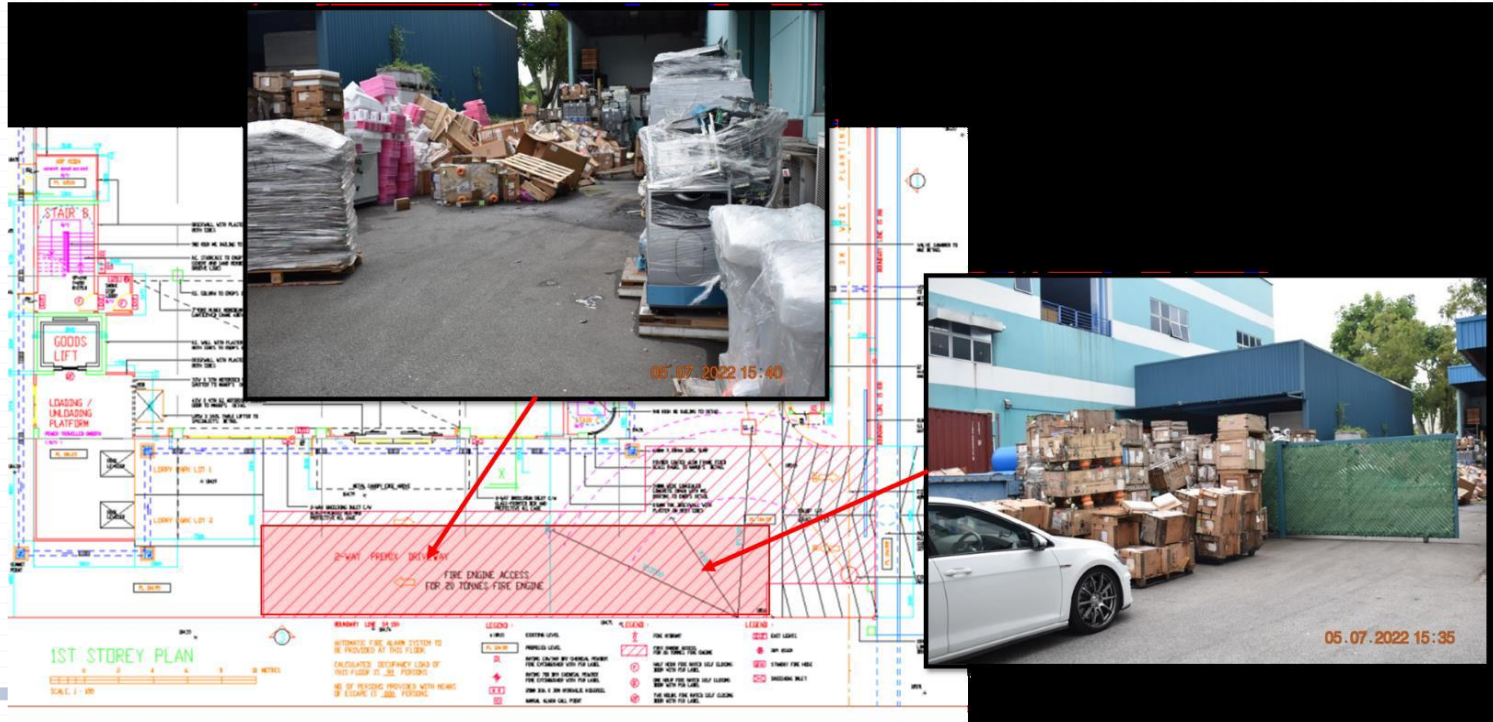


Obstruction to hydrant



# Fire Hazards

## Obstruction to Fire Engine Access/Accessway





# Fire Hazards

## Non-Maintenance of Fire Safety Measures



Exit Light not in proper working order



Hosereel nozzle missing



Fire Extinguisher not serviced



Emergency Light not in proper working order



Fire Alarm Panel not in proper working order



# Common Fire Safety Offences



# Fire Safety Offences

- Contravention to requirements in Fire Safety Act and its regulations such as:
  - ✓ Change of use of premises
  - ✓ Carrying out fire safety works without approval of plans
  - ✓ Storage of Petroleum and Flammable Material (P&FM) without a valid storage license



# Fire Safety Offences

## Change of Use (“COU”) of Carpark to Storage and Unauthorised FSW



- A change of use of premises typically involves altering the purpose of a space from one occupancy classification to another (e.g., from office to retail, or residential to commercial, etc.).
- This extends to changing the use of parts of premises to other uses such as storage areas – this often requires reassessment by a Qualified Person (“QP”) of fire safety requirements e.g., firefighting provisions, etc.

# Fire Safety Offences

## COU from Fire Engine Accessway to Basketball Court and Storage Area

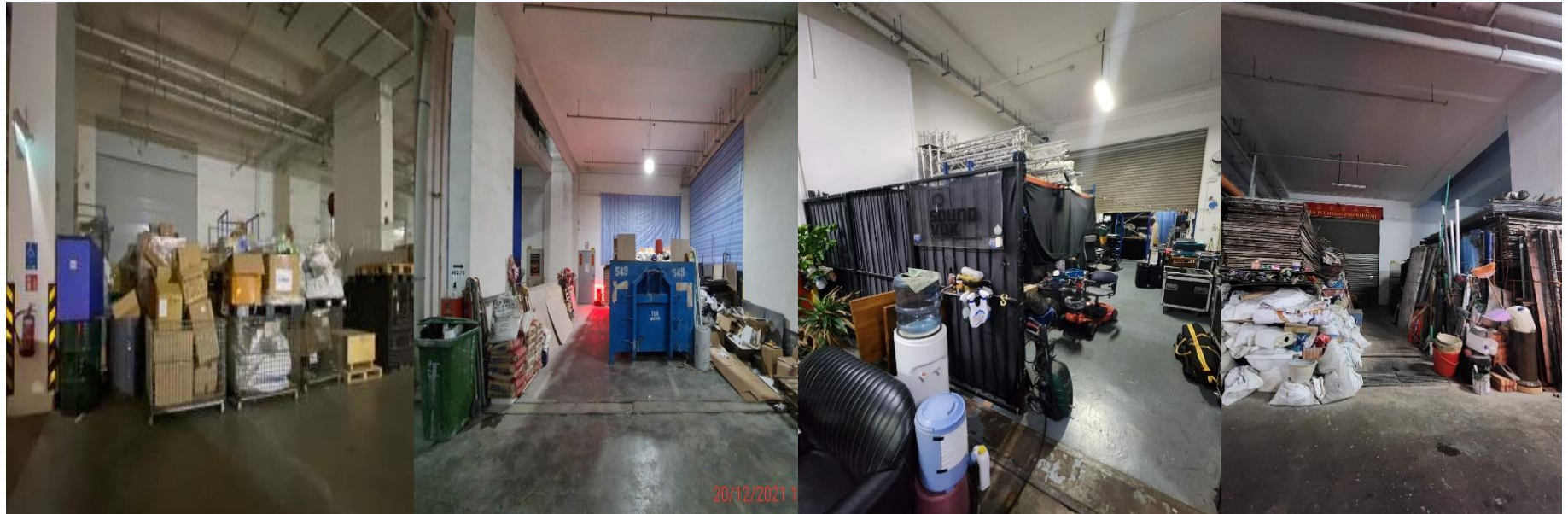


- To regularise the COU, a QP must be engaged to advise on the relevant fire safety requirements and submit plans to SCDF for approval. A suitable QP (i.e., Registered Architect or Professional Engineer) can be source from the following lists of Registered Architects and Professional Engineers (<https://www.boa.gov.sg/find-architects/register-of-architects/> & [https://www.peb.gov.sg/pe\\_general\\_pe.aspx](https://www.peb.gov.sg/pe_general_pe.aspx)).
- After the Fire Safety Works (“FSWs”) are completed as per submitted plan, Registered Inspector (“RI”) must be engaged to inspect and certify that the FSWs have been carried out in accordance with the approved plans, the Fire Code and the provisions of Fire Safety Act before applying for a Fire Safety Certificate (“FSC”).



# Fire Safety Offences

## COU of Vehicle Parking Area to Storage Area



# Fire Safety Offences

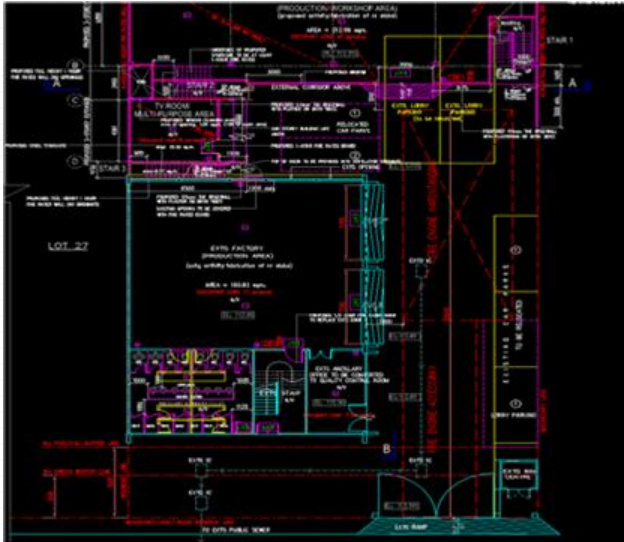
## COU of Vehicle Parking Area to Hold Events



- Unauthorised COU at carpark to hold religious events
- Renders existing fire safety provisions (e.g., hosereel, escape provisions) inadequate

# Fire Safety Offences

## COU of Premises to Dormitory



# Fire Safety Offences

## Installation and Maintenance of Kitchen Exhaust Ducting (“KED”)



- Prior to the commencement of fire safety works, a QP must be engaged to assess the feasibility of the KED in complying with the prevailing Fire Code requirements (e.g., Clause 7.1.13c for Access Panels Requirement and Maintenance Labels) before submitting a plan to SCDF for approval.
- Registered Inspector (“RI”) must be engaged to inspect the complete works before applying for a Fire Safety Certificate (“FSC”).
- The KED must be maintained annually.





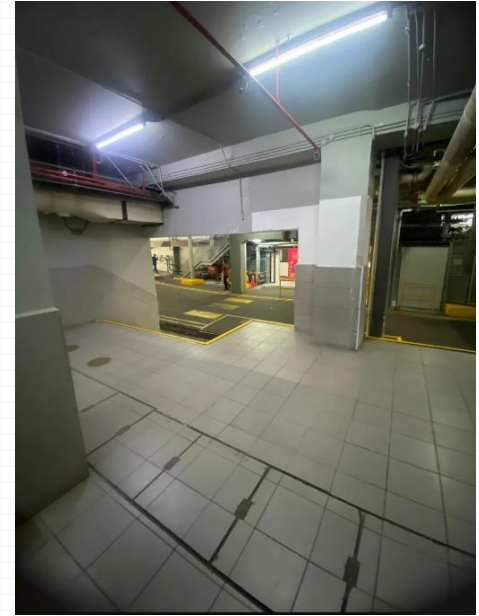
# Fire Safety Offences

## Erection of Partitions

- QP's assessment is necessary to address various key considerations such as:
  - ✓ Maintaining clear escape routes
  - ✓ Ensuring fire detection and suppression systems remain effective
  - ✓ Not obstructing sprinkler coverage or smoke detection
  - ✓ Adhering to maximum travel distances to exits



Before



After



# Fire Safety Offences

## Commencing/Permitting/Authorising the Installation of Mezzanine Before Seeking Approval from SCDF

- According to Clause 1.4.100 of the Fire Code, fire safety works like racking systems, platforms, and mezzanines accessible by occupants are considered a floor/storey.
- Before commencement of such works, a Qualified Person to assess the feasibility of such works in complying with the Fire Code requirements before submitting a plan to SCDF for approval.
- A Registered Inspector must inspect the completed works before applying for a Fire Safety Certificate



# Fire Safety Offences

## Unauthorised Dispensing of P&FM

- Under Fire Safety (Petroleum & Flammable Materials/P&FM) Regulation, P&FM dispensing activities are only allowed at P&FM-licensed premises.
- Dispensing activities are considered 'illegal' at public car parks and/or other publicly-accessible areas.
- SCDF is working with regulatory agencies, e.g. URA, JTC, Customs, etc., to step up enforcement checks at various locations.
- For first-time offenders, errant party will be issued with a composition fine of \$2,500.
- Prosecutorial action may be taken for repeated offenders.



# Fire Safety Offences

## Storage of P&FM without Storage Licence

- All storage of P&FM (Petroleum and Flammable Material), regardless of quantity stored, have to comply with the fire safety requirements.
- All storage of P&FM must be indicated in building plans submitted to SCDF for approval.
- Storage licence is required if the quantity stored is above the exemption quantity.

### P&FM Mixtures

Mixed storage or keeping of any petroleum and flammable material, or more than one flammable material, in separate containers or compartments within any premises shall be exempted from the requirement of a licence if:

i. Where all the substances are solids, their aggregate weight does not exceed 20 kg;

- Eg. If you store several kinds of petroleum/flammable materials of which all are solids, for instance, aluminum powder, calcium carbide and calcium silicate, you are required to have a storage licence if the overall quantity of all such solids together exceeds 20 kg.

ii. Where all the substances are liquids, their aggregate volume does not exceed 40 L:

- Eg. If you store several kinds of petroleum/flammable materials of which all are liquids, for instance, butanol, chlorobutane and acetone, you are required to have a storage licence if the overall quantity of all such liquids together exceeds 40 L.

iii. Where all the substances are gaseous, their aggregate weight does not exceed 10 kg; or

- Eg. If you store several kinds of petroleum/flammable materials of which all are gases, you are required to have a storage licence if the overall quantity of all such gases together exceeds 10 kg.

iv. Where the substances are in mixed states, their aggregate weight does not exceed 20 kg.

- Eg. If you store several kinds of petroleum/flammable materials of which consist of solids, liquids and gases, for instance, calcium carbide, acetone and acetylene, you are required to have a storage licence if the overall quantity of all such solids, liquids and gases together exceeds 20 kg.



# Fire Safety Offences

## Flammable Materials

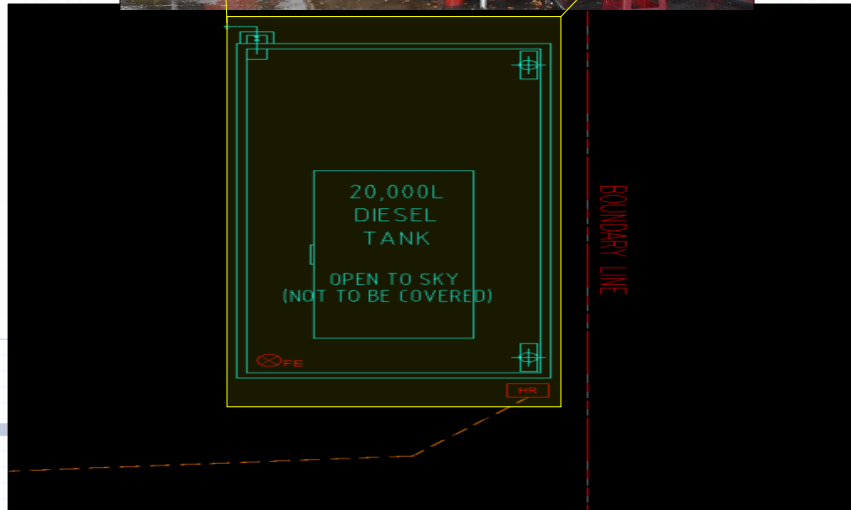
The exemption quantities for the 366 classes of Flammable Materials are in the following folder.

Click on the link to download [the Exemption quantities for flammable materials](#).  
(58.50 KB)

Flammable Materials (FM)	Exemption Quantity
Flammable Solid	20kg
Flammable Liquid	40L
Flammable Gas	10kg
Mixed storage of P&FM (different state)	20kg
FM listed under Chemical Weapon Convention	0 (any amount needs a licence)



# Fire Safety Offences



Type of Petroleum Usage	Class I Petroleum	Class II Petroleum	Class III Petroleum
For use in any business other than in a factory	Not more than 20L	Not more than 200L	Not more than 1,500L
For use in a factory	Not more than 400L	Not more than 1,000L	
Examples	<ul style="list-style-type: none"> <li>Petrol</li> </ul>	<ul style="list-style-type: none"> <li>Thinner</li> <li>Kerosene</li> </ul>	<ul style="list-style-type: none"> <li>Diesel</li> </ul>



# Fire Safety Offences

## P&FM Storage Licence Application

1. Engage a Qualified Person (QP) to prepare and submit plan to SCDF.
2. Submit plan(s) that incorporate with the fire safety works in accordance with the Fire Code and other accepted codes.
3. A registered inspector (RI) will apply Fire Safety Certificate (FSC) after he has certified that fire safety works are completed and in accordance with the approved building plans.
4. The applicant can apply for P&FM storage licence on-line via GoBusiness Portal.

 SINGAPORE CIVIL DEFENCE FORCE	
REPUBLIC OF SINGAPORE SINGAPORE CIVIL DEFENCE FORCE	
FIRE SAFETY ACT (CHAPTER 109A)	
SECTION 29 (3) (a)	
FIRE SAFETY CERTIFICATE	
Attn:	
DESCRIPTION OF PROJECT:	
PROPOSED PETROLEUM STORAGE AND MANIFEST SYSTEM TO THE EXISTING EATING HOUSE AT	
APPROVED PLAN NUMBER(S):	
This is to certify that the fire safety works in the above project have been satisfactorily completed in accordance with the requirements of the Fire Safety Act.	
Nur Hazwan Bin Amin for Commissioner Singapore Civil Defence Force	
Date:	
SCDF - A member of the Home Team	
HQ SINGAPORE CIVIL DEFENCE FORCE, #1 LEE AVENUE 4, SINGAPORE 400027 TEL: 6945 3778 FAX: 6945 1460 EMAIL: <a href="mailto:na_hazwan_amin@scdf.gov.sg">na_hazwan_amin@scdf.gov.sg</a>	

File Ref No. : FMS/0276/23 Submission No. : SUB2023051929	
Lic No : FS21342023	
REPUBLIC OF SINGAPORE SINGAPORE CIVIL DEFENCE FORCE	
THE FIRE SAFETY ACT 1993 (PART 6)	
CONTROL OF PETROLEUM AND FLAMMABLE MATERIALS	
PETROLEUM & FLAMMABLE MATERIALS STORAGE LICENCE	
Licensee (Name and Address)	
Licence to store petroleum & flammable materials and respective quantity :	
1. Petroleum - 1200 Litres	
Premises authorised for storage of petroleum and flammable materials :	
Period of Licence 28-AUG-2023 TO 31-JUL-2025	Licence fee 494.0
This licence is granted subject to Act and the Regulations relating to the said purpose now and from time to time hereafter in force.	
NG HUANCHAO for COMMISSIONER SINGAPORE CIVIL DEFENCE FORCE (This is a computer generated letter. No signature is required)	28-Aug-2023 Date of issue
**Please note that the licence will be revoked if serious non-compliance of technical requirements are found during subsequent inspections.	

# Case Study 1

## COU of Premises to Dormitory



Was it overcrowded?

Was there adequate escape provisions?

S/N	Offence Description	Fire Incident Description	Enforcement Action
1	Change the use from terrace factory to accommodation	Fire involved 3 units at a warehouse in an industrial park	Court

# Case Study 2

## Commencing/Permitting/Authorising the Installation of Mezzanine Before Seeking Approval from SCDF

What happens if the fire occurs here?



S/N	Offence Description	Fire Incident Description	Enforcement Action
1	Commence/carry out fire safety works without approval of plans (mezzanine)	Fire involved 3 units at a warehouse in an industrial park	Court

# Case Study 2

## Commencing/Permitting/Authorising the Installation of Mezzanine Before Seeking Approval from SCDF

What happens if the fire occurs here?



- Examples of Fire Code requirements for mezzanines include:
  - ✓ Adequate fire-resistant construction
  - ✓ Proper access and egress routes
  - ✓ Fire protection systems extended to cover the new area
  - ✓ Compliance with height and area limitations as per the Fire Code
  - ✓ Shall only be used for store/ancillary office



# Engagement of Qualified Person (QP) & Registered Inspector (RI)

- Legal requirement: Mandated by the Fire Safety Act that building owners are to engage a QPs before carrying out any fire safety works.
- Technical expertise: QPs possess specialized knowledge to assess fire safety impacts of building A&A (additions and alterations).
- Plan submission: QPs are authorized to prepare and submit detailed fire safety plans to SCDF for approval.
- Site supervision: QPs ensure all fire safety works are erected in accordance with the approved plans.
- Temporary Fire Permit/Fire Safety Certificate (TFP/FSC) Application: Registered Inspector (RI) must be engaged to inspect and certify the completed fire safety works before submitting their application for TFP/FSC to SCDF.



# Engagement of Qualified Person (QP) & Registered Inspector (RI)

Examples:

## **Erection of mezzanine floor:**

- ✓ Adding a mezzanine changes the building's layout and occupant load
- ✓ Ensure the means of escape is appropriate and sufficient from the mezzanine
- ✓ Assessing the need to extend fire protection system (e.g. sprinkler or detectors) to the area underneath the mezzanine
- ✓ Verifying that fire alarms are audible and adequacy of visual alarm on the mezzanine
- ✓ Ensure the means of escape provision are adequate for the increased number of occupants
- ✓ Ensuring the mezzanine construction (floor and supporting structure) meets the required fire resistance ratings





# Engagement of Qualified Person (QP) & Registered Inspector (RI)

Examples:

## **Conversion of vehicle parking area to storage**

- ✓ Assess the new risk and determine the necessary changes such as
  - Upgrading fire detection system
  - Installing or extending sprinkler coverage
  - Ensuring adequate fire compartmentation is provided
  - Adequacy of smoke control system (if located at basement)
- These points highlight why QPs are crucial for maintaining fire safety standards in building modifications.
- In both cases, the QP's expertise is crucial in identifying all relevant fire safety implications of the changes, ensuring compliance with current regulations, and maintaining the overall fire safety integrity of the building.



# Case Study 3

## Invoking the Continuing of Offence provision against building owner for occupying a building without a Fire Certificate

- CLA Construction Pte Ltd occupies multiple blocks at 21 & 23 Kian Teck Road.
- Company was fined \$2,000 on 3 September 2024 for operating without Fire Certificate.
- FSD and AGC invoked continuing of offence provision, resulting in \$21,000 fine for 210 days of non-compliance.



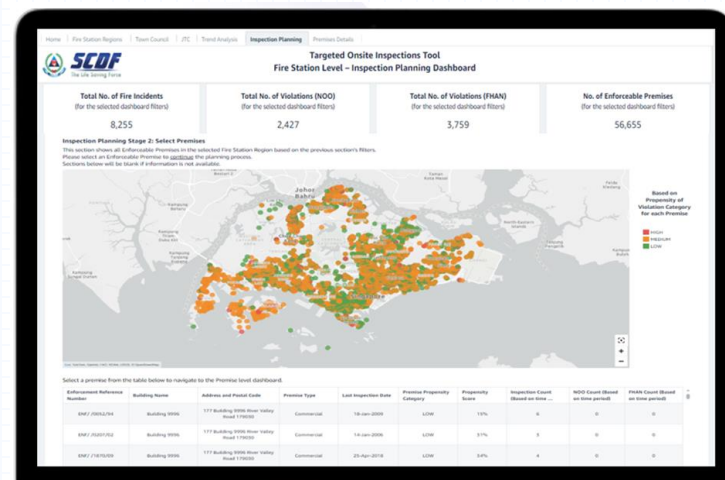
# Managing Fire Safety using Technology



# Managing Fire Safety Using Technology

## Targeted On-Site Inspection Tool (TOIT)

- Implemented in April 2025, SCDF employs data-driven insights through the TOIT which uses data analytics and predictive Artificial Intelligence (AI) to assess premises risk levels.
- The system analyses historical enforcement records and fire incidents to generate risk assessments.
- Contribute to a premises' propensity score\* (risk level profiling).
- TOIT allows for strategic management, more effective allocation of resources and enforcement efforts.



\*Propensity score refers to likelihood of encountering fire safety violation during inspection. Higher score, higher likelihood a violation is observed.

# Conclusion

- Building owners/management and FSMs play pivotal roles in ensuring fire safety compliance for safety of all building occupants.
- Building owners/management and FSMs should conduct regular inspections of their development to detect and rectify any fire hazard at the common area.
- Through regular inspections, building owners/management and FSMs can engage occupants to educate them on the importance of adhering to their by-laws/rules and fire safety guidelines timely without allowing their items to build up to a stage where occupants will have stronger resistance to take corrective actions.
- Simple visual checks and testing of fire safety measures can be carried out so that prompt actions can be taken when faults are detected.



# Conclusion

- Building owners/management and FSMs can give reminders and time for occupants to rectify. The management should invoke the appropriate levers under their by-laws/rules if occupants do not co-operate.
- Building owners/management and FSMs can explore risk-based inspections where there could be increased inspections at industrial properties within certain districts/buildings/floors with more breaches.
- To track the tenants with high propensity of infringing on the fire safety requirements and take prompt actions
- Building owners/management and FSMs can consider introducing more measures upstream, in terms of contractual requirements, to minimize non-compliances such as a 3-strike rule where tenants' renewal will be implicated if they flouted the requirements 3 times.
- Building owners/management FSMs can seek SCDF's advice or assistance for any fire safety matters.



# Thank You



END