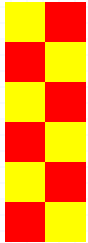




SCDF

The Life Saving Force

... for a safer Singapore



Sharing on SCDF's Requirements

MAJ Izwan (Senior Consultant)
Consultation & Fire Safety Engineering Branch
Fire Safety Department



Scope

- SCDF's Plan Submission Process
- Fire Safety Requirements for Farm buildings
- Waivers and Consultation with SCDF

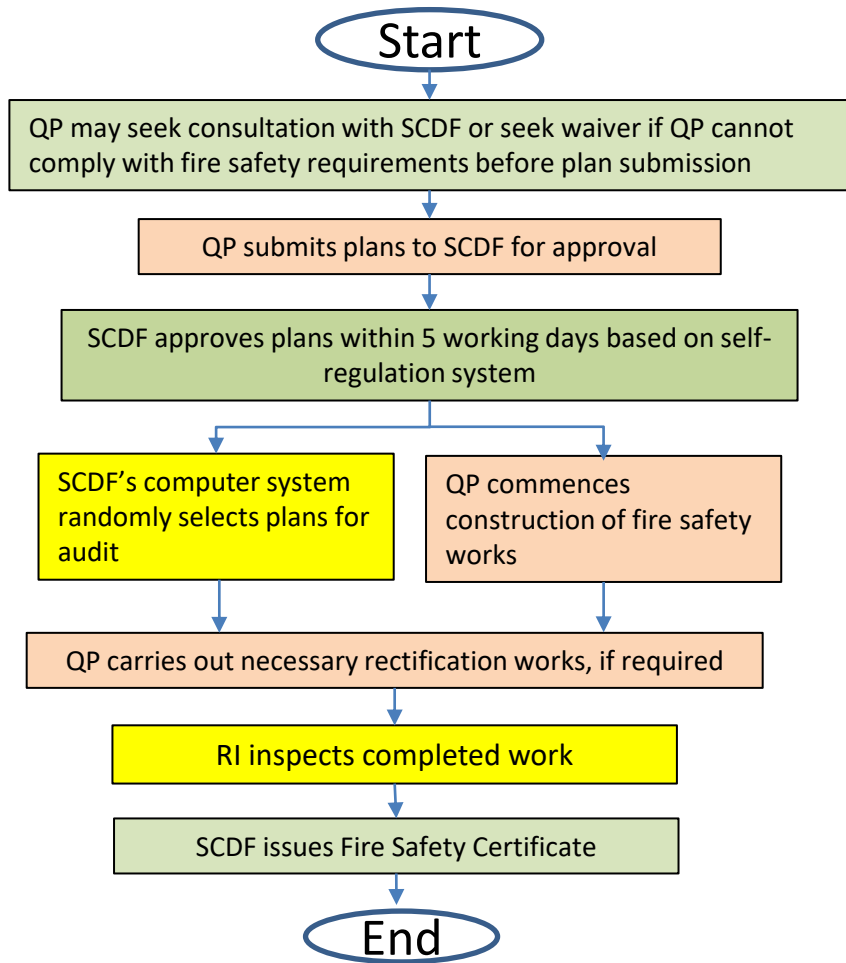


Plan Submission to SCDF

- Owner to engage a Qualified person (QP) to prepare and submit plans to SCDF. The plan submitted by the QP is based on their declaration to the Fire Code.
- A QP is an architect registered with the Board of Architects (BOA) or a Professional Engineer registered with the Professional Engineer Board (PEB); and has a valid practicing certificate issued by the BOA or PEB, respectively.
- QP is responsible for the preparation of plans in compliance to Fire Code for submission to SCDF. He shall supervise all fire safety works of which the plans has been prepared by him.
- Plans submitted will be subjected selective audit by SCDF and at project completion Registered Inspector (RI) will inspect every project and report any non-compliance to SCDF.



Approval Process for Prescriptive Plan Submissions



▪ Consultation Services

- ✓ Walk-in
- ✓ Written
- ✓ Email

▪ Waiver

- ✓ Avenue for QP/owner to propose alternatives in lieu of prescriptive requirements
- ✓ Waiver assessed by waiver committee weekly
- ✓ Waiver appeal is available for disapproved waivers and will be assessed by waiver appeal committee with observers from professional institutions

▪ Performance-Based waivers

- ✓ Another avenue to prescriptive requirements
- ✓ Fire engineering assessment can be done on the specific clause the waiver is applied for

TFP/FSC Certification

- A Fire Safety Certificate (FSC) is a certificate issued by SCDF to the building owner for completed building which has complied fully with the Fire Code for occupation.
- Owner may also apply and obtain Temporary Fire Permit (TFP) for a limited period to occupy a completed building which has minor non-compliances, prior to obtaining the FSC.
- Owner shall engage RI to inspect and certify the fire safety works of his building before applying for TFP/FSC.

Registered Inspector (RI)

- A RI is a QP who is registered under the Fire Safety Act to be qualified and competent to inspect fire safety works in buildings to ascertain the degree of compliance of fire safety requirements.
- The QP and RI must be independent party and shall have no conflicting professional or financial interest in the project.



Why fire protection is required for farm buildings

- Although the fire load content within nurseries/farms is relatively low, there are still some plastic usages. Some examples of such plastic materials being used are growing trays/planters, PVC water pipes, plastic nets or coverings.
- Nursery/farm buildings naturally requires large open space and these structures are typically close to one another, as such there is a potential risk of fire spread.
- It is essential that appropriate fire safety measures are provided to ensure nurseries/farms are safe to occupy and to facilitate fire-fighting operations.



In 2017, Greenhouse fire in Pennsylvania, USA. The roof of the building collapse.



In 2012, 500,000 chickens died in a fire at Chicken Egg farm at Denver, USA.



Fire Safety Requirements for Farms

- Revised requirements effected since 1 Dec 2020.
- Fire Code Clause 9.6.4

Date : 1 Dec 2020

Our Ref: CD/FSSD/12/02/03/01

AMENDMENTS TO FIRE CODE 2018 - 7th BATCH OF AMENDMENTS

9.6.4 Farm buildings

a. General

This set of fire safety requirements shall be applicable to farm buildings that meet the following criteria:

- (1) the habitable height of the building shall not be more than 10m;
- (2) the building shall be used for the sole purpose of farming (e.g., growing of crops, fish harvesting and egg production) and not involve activities such as packaging, storage and retail;

1. Occupant Load factor
2. Width of Corridor
3. Travel distance
4. Fire engine accessway
5. Compartmentation size
6. Sprinkler system
7. Smoke Control System
8. Set back due to unprotected opening
9. Emergency voice communication system (EVC) and Fire Command Centre (FCC)
10. External wall construction

Fire Code 2018 Cl. 9.6.4

This set of fire safety requirements will be applicable to farm buildings that meet the following criteria:

1. the habitable height of the building **shall not be more than 10m**;
2. the building shall be used for the **sole purpose of farming** (e.g. growing of crops, fish harvesting and egg production) and not involve activities such as packaging, storage and retail;
3. other usages such as packaging, storage, retail, office and non-farming related production can be co-located within the building, provided they are compartmented and comply fully with the respective requirements stipulated in this Code; and
4. the total computed Fire Load Energy Density (FLED) within the compartment that is used solely for farming shall not exceed 200 MJ/m².



Fire Load Energy Density (FLED) < 200MJ/m²

- The total computed FLED is the sum of all the energy available for release when the combustible materials are burned, divided by the total floor area of the compartment -> Fire Load within the farm/greenhouse
- Owner to share with QP on the relevant information regarding any combustible materials within the farm/greenhouse.
 - i. total weight of the combustible materials
 - ii. calorific value
- Calorific value can be found in product datasheet from the supplier, otherwise QP may refer to international references e.g. SFPE handbook



Waiver submission

- Farm owner and QP are encouraged to consult SCDF early for advise and to clarify on the fire safety requirements.
- If waiver is required, application shall be submitted by QP early before submission of plans. Owner and QP may discuss with SCDF on the issues prior to submission.
- Once submitted, the waiver will be assigned to the processing officer whom will contact the QP when he or she needs further clarification regarding the case.
- QP will have to provide justifications for the deviation(s) and mitigation measures to support the waiver. The waiver will be subjected to the waiver's committee assessment and approval.



Consultations with SCDF

- SCDF provides 3 types of fire safety consultations (i.e. face-to-face, online and email) to Qualified Persons (QPs), owners and MOPs.
- Owner and QP may seek clarifications with SCDF on the Fire Code's requirements.



Consultations with SCDF

- Physical and online consultation will be available only by appointment.
- To make a consultation appointment, please call our Customer Service Officer at **1800 286 5555** (SCDF General Enquiry Hotline) or email to SCDF_CSC@scdf.gov.sg.
- Physical consultation is at HQ SCDF, and each consultation is limited to 20 minutes duration per appointment.
- Alternatively, write in to our email @ SCDF_QP_Consultant@scdf.gov.sg



Conclusion

- Important for QPs to submit plans in accordance with the prevailing fire safety requirements
 - To avoid downstream problems
 - Plan Audit
 - Inspection
 - Rectification works
 - To avoid delay in project
 - Issuance of Temporary Fire Permit/Fire Safety Certificate



Thank you

