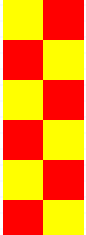




SCDF

The Life Saving Force

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Fire Safety Requirements For Sea Based Farms



Scope

- Background
- Fire safety requirements for sea based farm buildings



Background - What were done?

- Workgroup formed and discussions held to study and formulate guidelines (SFA, BCA, SIA, ACES, IES)
- Presented at SCDF Management, Fire Code Review Committee, Fire Safety Standing Committee
- Fish farm shall be based on Purpose Group 6 (Factory)
- Guidelines tweaked and formulated to suit sea based farm buildings
- Outreach/ engagements and consultations with sea based farm operators since late 2022



Fire safety requirements for sea based farm buildings



CI 9.6.8 – Sea Based Buildings

General

- Fire safety requirements will be applicable for sea based farm buildings if :-
 - ✓ More than 1 storey; or
 - ✓ Open to public access
- If meets any 1 of the above, plan submission to SCDF complying to the Fire Code is required.



CI 9.6.8 – Sea Based Buildings

Evacuee holding area

- To serve as temporary holding area for occupants
- Area required: based on 0.3sqm/pax
- Designated areas which are open to sky area, at least 3m from any unprotected opening or separated from other areas by 1 hr fire rated wall.
- Multi-storey structure: assembly area to be located at ground floor (1st level) at designated areas which are open to sky.



CI 9.6.8 – Sea Based Buildings

Means of escape

- Single or Multi Storey
 - Public access/ without public access (with stay in or without stay in)
 - 1 way – 15m
 - 2 way – 30m
- Travel distance shall measure up to:
 - Single storey structure: open to sky area
 - Multi storey structure: door to exit staircase



CI 9.6.8 – Sea Based Buildings

Exit staircase

- Multi storey fish farm
 - 1 exit staircase (Without stay in – Based on CI 9.6.1.a.1, AFA<200sqm)
 - 2 exit staircases (Stay in)
- Minimum width of 1m
- Internal staircase – Enclosed with fire rated walls and fire rated doors
- External staircase is recommended so materials can be non-comb e.g. steel etc. and need not be enclosed with fire rated walls and doors



CI 9.6.8 – Sea Based Buildings

Structural fire precaution

- For single storey sea based farm buildings, supporting beams and columns, i.e. EOS shall be of non combustible materials.
- For sea based farm buildings more than 1 storey, fire resistance rating shall be required for supporting columns, beams and floor (2nd floor onwards)
- There shall not be any requirement for ground level flooring



CI 9.6.8 – Sea Based Buildings

Marine fire vessel accessibility

- To support Marine Fire Fighting operations
- Unobstructed access to assembly area
- Depth of minimally 3 meters
- Berthing facilities for RFV (Rapid Response Fire Vessel)
 - Internal Firefighting
 - Rescue & Evacuation



CI 9.6.8 – Sea Based Buildings

Fire protection systems

- Hydraulic hose reel(s) conforming to the requirements in SS 575 shall be provided to every storey of the building
- Fire extinguishers complying with CI.6.1 shall be provided to every storey of the building
- Every part of the sea-based building shall be installed with a fire alarm system in accordance with Table 6.3A



CI 9.6.8 – Sea Based Buildings

Exit signs and emergency lightings

- Exit and exit directional signs shall be provided in accordance with Cl.8.1.7; and
- Emergency lightings shall be provided in accordance with Cl.8.1.3 and Cl.8.1.4.



CI 9.6.8 – Sea Based Buildings

Solar Photo-Voltaic (PV) installation

Roof-mounted modules shall comply with CI.10.2 in terms of:

- means of access;
- fire performance of PV modules;
- design and installation criteria; and
- emergency disconnection.



CI 9.6.8 – Sea Based Buildings

Storage of flammable liquids

- Storage of flammable liquids shall be located at the first storey.
- For the maximum capacity of flammable liquids, it shall be in accordance with SS 532 Table 1 - Minor Storage.



Conclusion

- Similar to land based farms, with the nation's drive to expand and sustain farming yield from 10% to 30% by 2030, there might be an increase for sea-based farm buildings.
- Acknowledging the unique operating features and environment terrain, the new fire safety requirement for sea based farm buildings is timely and appropriate.



Thank You

