

Government of Andhra Pradesh
A.P. State Disaster Response and Fire Services Department
Provisional Fire No Objection Certificate

File No: -----/---/MSB/2024

Date: DD-MM-YYYY

Sir/Madam,

Sub: Andhra Pradesh State Disaster Response and Fire Services Department-Issue of Provisional No Objection Certificate to proposed construction of building of (-----)-Regarding.

Ref: Your application dt.dd-mm-yyyy

You are hereby issued Provisional NOC for building subject to the following reasonable fire prevention and Safety methods.

1) The building:

Mall cum Multiplex (3 screens) with 5 floors and 3 levels of cellar.

2) Root causes of Fire:

- (a) Electrical Short Circuit.
- (b) Kitchen with Gas Cylinders.

3) Therefore, the following prevention precautionary measures are recommended.

i) Ensure Electrical Safety:

- a) Install MCBs (Miniature Circuit Breakers)
- b) Proper grounding and lightening protection.
- c) Use of FRLS cables.
- d) Install Co₂/clean agent flooding system in all electrical panels.

ii) Ensure Kitchen Safety:

- a) Piped LPG.
- b) Flameless cooking or electrical cooking.
- c) Smoke Exhaust
- d) Periodic checking of LPG pipes and stoves by authorized Mechanic.

iii) Ensure Exits:

Minimum two Staircases widely separated from each other for all floors. They should be pressurized and automatically closed type to provide “**Smoke free**” passage to all occupants of the building in case of any accident and they are to be connected to “**Breathing Balcony**” on every floor.

iv) Smoke Management:

In most of the fire accidents, it is smoke that suffocate and kills. The Malls buildings are air conditioned and there is no vent for smoke to escape. Therefore, we are mandating smoke management which is ensured through “**Smoke Test**”.

- a) “**Smoke Test**” tests to ensure the staircases free from smoke for about 2 hours to enable all occupants and staff to evacuate from the building in case of any fire accident.
- b) Make sure air conditioner ducts don't compound the problem by carrying smoke to all parts of the building.

- c) **Smoke Extraction System:** Smoke extraction systems to be installed in all floors, in theatres and in cellar so that any smoke generated is replaced with fresh air at least 8 times per minute in case of fire, as opposed to normal air exchange rate of 2 to 4 times per minute. The Air conditioners should not be inter connected to prevent smoke spreading from one floor to another.
 - d) **Breathing Balcony:** Breathing Balconies are designed to provide occupants with access to fresh air during a fire. They are seamlessly connected to two Staircases (Pressurized with automatic closing doors to remain smoke free) to safely get out of the building.
 - e) **“Breathing Balcony”** should be of adequate width to accommodate all the occupants in standing position of that floor.
 - f) The width of Breathing Balcony in theatres floor is 4.20 Mtrs., to accommodate 800 people given 750 seating capacity of theatres.
 - g) Other floor is equipped with a 1.50 meter wide **Breathing Balcony** that provides natural ventilation.
 - h) In the event of a fire on any floor, occupants can safely evacuate to the **Breathing Balcony**, which is protected by fire-resistant doors and walls.
 - i) In case of fire, smoke should not enter the staircases but there should be an Alarm in all floors and announcements to the occupants **“not to panic.... and evacuate safely through staircases”**.... giving priority to old and disabled people.
- v) **Lifts, Lift Lobby, Staircase Lobby:**
- a) Pressurized to ensure smoke-free operation during fire emergencies, facilitating safe evacuation.
 - b) All staircases, lobbies, fire pathway or escape routes should be lit with LED lights with 120 minutes UPS backup with clearly visible signages.
 - c) In case of glass façade, 10 % of glass should be easily openable and should be visibly marked.

4) **Firefighting Tools:**

These tools to be useful to the occupants of the building during **“Golden Hour”** to put off initial fires without any training.

The following be made available at easily accessible, visible, marked locations at all floors.

a) **Aerosol Extinguishers:**

- Aerosol is highly effective in suppressing the fire in any closed room.
- Aerosol fire suppression systems contain a solid chemical compound extinguishing agent, which disrupts the fire chemical chain reaction by removing the oxidants from the burning process. It may be used without any training and is maintenance free.
- Pressure less Aerosol fire extinguishers are to be provided in each floor in a clearly marked, visible and accessible location.
- Based on floor volume, the Aerosol extinguishers quantity should be derived.

b) Co2 Extinguishers:

- 4.5 Kg Co2 Fire Extinguishers are to be provided for every 100 Sqm in every floor in clearly marked, visible and accessible location.

c) Water Availability:

- 5 HP Plunger pumps with wheels are to be provided in each floor, connected to gravity water pipeline properly put in a visible, marked and in an accessible box. These pumps to be energized by normal electrical power and emergency power backup.
- 8 HP plunger pumps with wheels are to be provided in cellar floors.
- No dedicated fire tank is required. Domestic Overhead tank can be used for both Fire Fighting & domestic usage purpose by letting fire pipe outlet @ bottom and normal water use pipeline @ middle to ensure minimum water availability for firefighting.
- Keep DCP 50 Kg Trolley @ one per cellar to handle any fires in cellars as the sale of EV Vehicles are getting increased in the market and water is not the right medium to put off EV vehicle fires.
- **Utility corridor** with CPVC water pipeline having tapping points be run along the periphery of the building and in cellars so as to meet any emergency and to refill fire engines with 8 HP mobile pumps.

5) Other Preventive measures:

- a) Use fire retardant paint to spray all carpets, furniture in theatre so that fire doesn't spread in theatre at all.
- b) Regular Mock Drills, SOPS to maintain all equipment's in working condition.

6) How the above fire safety design is helpful in case of Fire accident?

In case of any fire accident, there will be public announcement saying "**not to panic.... and evacuate safely through staircases**" giving priority to old, ladies and disabled people.

- a. Movie audience can walk to the adjacent "**Breathing Balcony**" on the same floor to breath fresh air. The occupants in other floors can walk to nearby "**Breathing Balcony**" @ every floor and can breath fresh air. The Balcony is protected by fire rated doors. Besides the Balcony is connected to pressurised staircases which will provide smoke-free passage to exit from the building during fire.
- b. The compliance to "**Smoke Test**" would ensure that smoke doesn't enter the theatres, staircases and lifts.
- c. Building Ventilation systems will exchange the air in theatres at the rate of 8 to 12 times/min upon detection of smoke/heat.
- d. In case of fire, the Aerosol Extinguisher will extinguish the fire. And those available in the other rooms may also be utilized to put off the fire by simply throwing them into the room where fire broke out. So, throwing multiple Aerosol extinguishers would effectively put off the fire.

- e. The pressure water can be used to put off initial fire during “**Golden Hour**” using ISI certified 5 HP pumps which are reliable, easy to maintain and affordable. These pumps can be easily handled by any staff/workers without any special training.
- f. The origin of fire in Malls buildings is mostly due to electrical short circuits and the preventive measure such as MCBs in each floor, Fire resistant cables will prevent such fires from happening in the first place. The fire retardant paint in theatres will stop any fire from spreading. The initial fires can also be put off by available Co₂ extinguishers.

Therefore, this building meets the “**reasonable fire safety criteria**” and hence the provisional NOC is issued.

- 7) As a Policy, no retrospective application of rules shall be made for building as long as they comply with that NOC requirements till the life of the building.
- 8) If you experience any undue hardship or practical difficulty in implementing any of the above suggested requirements, please don't hesitate to meet in person without appointment (9441236448), as ensuring fire safety with better and affordable technology is a continuous learning and collaborative endeavor.

Yours Sincerely,

Director General
State Disaster Response and Fire Services,
Andhra Pradesh, Vijayawada.

To
The management of (-----).
Copy to the Commissioner, GVMC, Visakhapatnam.