

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 Hospital building of (-----
-----)-Regarding.

Ref : Your application dt: dd-mm-yyyy

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

1) The Building :

The building is a Air Conditioned Hospital building (Basement + Mezzanine + Ground + 08 upper floors)

2) Root causes of Fire:

- (a) Electrical Short Circuit.
- (b) Oxygen Cylinders
- (c) 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 Oxygen Cylinder Safety:

- a) Appliances containing an open flame (heaters, fireplaces etc) must not be used in any room containing Medical Oxygen.
- b) Never permit any form of lubricant (oil, grease, baby oil, lubricating gel etc.) to come into contact with oxygen fittings or hoses.
- c) Compressed Medical Oxygen (Gas) cylinders are not to be placed near any heat sources.
- d) Smoking shall not be permitted in any room containing Medical Oxygen.

iii) Ensure Kitchen Safety:

- a) Piped LPG.
- b) Flameless cooking or electrical cooking.
- c) Kitchen shall be separated from other areas with minimum one hour fire rated wall.
- d) Smoke Exhausts.
- e) Periodic checking of LPG pipes and stoves by authorized Mechanic.

iv) Ensure Exits:

- a) 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.

v) Smoke Management:

In most of the fire accidents, it is smoke that suffocate and kills. Therefore, we are mandating smoke management.

- a) **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.
- b) “**Breathing Balcony**” should be of adequate width to accommodate all the occupants in standing position of that floor.
- c) 3.00 Mtrs. wide “**Breathing Balcony**” is proposed with Fire rated doors in all the upper floors i.e. from 2nd Floor to 8th Floor as 1st floor has direct access to ground. It is adequate for this building.
- d) Smoke extraction system is proposed in all the floors 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 from floor to floor to prevent smoke spreading.
- e) Tube jet fans are proposed in both the cellar floors for smoke extraction.
- f) In case of fire, smoke should not enter the staircases but there should be **Alarm** in all floors and announcements to the occupants “**not to panic....and evacuate safely through staircases**”.... giving priority to old and disabled people.

vi) 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) Fire Fighting Tools:

These tools to be useful to the occupants of the building during “**Golden hour**” to put off initial fires without any training, before the fire engine arrives.

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's 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 compartment zone in a clearly marked, visible and accessible location.
- Based on room volume, Aerosol extinguishers quantity should be derived.

b) Co2 Extinguishers:

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

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

- a. In case of fire, alarm gets sounded in all parts of the building and public announcement of “**not to panic.... and evacuate safely through staircase**”.. is made. The Occupants can run/walk to nearby “**Breathing Balcony**” @ every floor and can breath fresh air. The Patients also can be accommodated on stretchers in “**Breathing Balcony**”. 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. Building Ventilation system will exchange air 8 times / min up on detection of smoke/heat.
- c. The Aerosol Extinguisher available in the room extinguishes the fire. And Aerosol available in other rooms may also be utilized to put off the fire by simply throwing them in to the room where fire broke out. So, throwing multiple Aerosol extinguishers would effectively put off the fire.
- d. The pressure water can be used to put off initial fire during “**Golden Hour**” using ISI certified 5 HP pumps. These pumps can be easily handled by any staff/workers without any special training.

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- e. The origin of fire in Hospital 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 initial small 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.

- 6) As a Policy, no retrospective application of rules shall be made for this building as long as they comply with that NOC requirements till the life of the building.
- 7) 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 District Medical and Health Officer, Visakhapatnam District.