

GOVERNMENT OF NATIONAL CAPITAL TERRITORY OF DELHI
HEADQUARTERS: DELHI FIRE SERVICE
Connaught Place: New Delhi-110001

No. F.6/DFS/MS/2019/BP/ 188

Dated : 16/05/19

To,

The Executive Engineer (Bldg.) HQ
South Delhi Municipal Corporation,
9th floor, Civic centre, Minto Road
New Delhi 110002

Subject: Approval from fire safety point of view in r/o addition/alteration in a Motel Building at Khasra No. 5 min, 6,7min,8,9,10,11,14 min, village Shahoorpur, New Delhi

Sir,

Please refer to ID No. 10062801 dated 09.05.2019 on the above cited subject. In this connection, this is to inform you that the online building plans in respect of proposed addition in the building have been scrutinized by this department from fire safety point of view. The brief details of the building are as under :-

S.No.	Particulars	Details proposed
1.	Occupancy	Mixed (Assembly, mercantile, business and Residential)
2.	No. of floors	Basement + Ground + 06 upper floors
3.	Height	29.820 m
4.	Covered area	Basement-11620.60, ground-7859.08, typical floor-7010.79 m ²
5.	No. of staircases	Total 21 staircases in the building (08 of 2.0 meter wide from basement to topmost terrace, 02 of 1.5 m up to topmost terrace, 02 of 2 m wide up to terrace at 2nd floor, 02 of 2 m wide up to terrace at 5th floor, 03 are internal decorative staircases serving between ground to 1st floor, 03 of 1.5 m ground to basement, 01 of 2 m wide between b1 to b2) out of these 05 of 2 m wide are fire towers. Staircases serving to basement are segregated at ground floor.
6.	12	10
7.	Refuge area	465.02 m ² at 6th floor (25.645 m level)

Fire safety measures as required under UBBL-2016 :-

- 1. Access to building:** The proposed building abuts on 60 m wide main road. 06 meter wide fire tender movement road with 09 meter turning circle around building, capable of taking the load of fire engine weighing up to 45 tonnes is proposed to be provided. Same shall be ensured as per clause 8.2 of UBBL 2016.
- 2. Number, width, Type and arrangement of exits:** Staircases as shown in table above are proposed in various buildings. This meets the requirement of travel distance as per UBBL 2016. Staircases serving to basement shall be segregated at ground/lower ground floor and a slab is required to be casted at the stairwell at ground/lower ground floor. The clear-cut width of the staircases/exits/ corridor shall be maintained at the

Khasra No. 5 min, 6,7min,8,9,10,11,14 min, village Shahoorpur, New Delhi

- time of completion as per UBBL-2016. The width of the exits/ corridors in assembly area shall not be less than 2 meters. Further fire tower proposed shall be as per clause 1.4.46 / 9.3.13 of UBBL 2016, the lifts of the fire towers shall serve up to terrace floor.
3. **Protection of exits by means of fire check doors and or pressurization:** The fire check doors of minimum 2 hrs fire resistance rating shall be provided at the entrance of each staircase and lift lobby in the building. Pressurization system for staircase/lift well and lift lobbies shall be installed as per the requirement of NBC Part IV/UBBL-2016.
 4. **Compartmentation:** The building shall be suitably compartmentalized so that the fire / smoke remain confined to the area where fire incidents have occurred and does not spread to the remaining part of the building. This shall conform to clause 8.4.6 of UBBL-2016 & of NBC-IV.
 - a. The services, standby generator, store etc. must be segregated from other by erecting fire-resisting wall of not less than 04 hours rating. Each of the compartments must be individually ventilated and the opening for entry into each of these compartments must be fitted with self-closing fire / smoke check doors of not less than one hour fire rating fitted with magnetic latches.
 - b. All electric cables ducts and shafts shall be properly sealed at all floors with fire resisting material of similar rating. These shafts shall be minimum 02 hours fire rating.
 - c. Under no circumstances, two services shall pass through the same shaft, i.e. separate shaft be used for different purpose.
 - d. The entry to the staircase from all levels shall be segregated with a self-closing fire / smoke check door of not less than 02hour fire resistance rating. All vertical and horizontal openings including the gap between the glazing and the slab at each level in entire building shall be sealed properly with the non-combustible material having 02 hr fire resistance. Wherever false ceiling / suspended ceiling is provided, the same shall be of non-combustible in nature and that the compartmentation shall be extended up to ceiling level.
 - e. The escalators if any shall be protected as per clause 3.4.5.2 of NBC part 4.
 5. **Smoke Management System:** Smoke control facilities shall be provided as per clause 4.4.2.5 & 4.6 of part 4 NBC 2016. Mechanical extractors shall have an interlocking arrangements and the system shall be of such design as to operate on actuation of heat/ smoke sensitive detectors or sprinklers. Smoke extractor system shall be designed to permit 12 air changes per hour in case of fire. A system of fresh air supply shall be provided at floor level and smoke outlet at ceiling level. Following points shall be ensured.
 - a) All ducting shall be constructed of substantial gauge metal conforming to IS: 655. Air duct serving main floor areas, corridors etc. shall not pass through the staircases enclosures.
 - b) Automatic fire dampers shall be provided in the ducts at the inlets of the fresh air and return air of each compartment/floor.
 - c) Automatic fire dampers shall be closed automatically upon operation of a detector/sprinkler.
 - d) The air ducts for every floor/compartment shall be separated. In no way inter-connected with the ducting of any other compartment.
 6. **Fire Extinguishers:** Fire extinguisher of ISI mark suitable to risk at all floors shall be provided as per clause 9.3.9 of UBBL 2016 in accordance with IS 2190-1992.
 7. **First Aid Hose Reel:** The first aid hose reel shall be provided in accordance with IS 884/1989.
 8. **Automatic Fire Detection and Alarming Systems:** Automatic fire detection system i.e. smoke / heat detection system shall be provided in building including machine rooms as per clause 9.3.9 of UBBL-2016. The system shall be connected to fire alarm system and shall conform to IS: 2189 /1999.

9. **Manually Operated Fire Alarm System:** Manually operated electric fire alarm (MOEFA) including talk back system shall be provided as per clause 9.3.9 of UBBL-2016/ NBC part 4 and the same shall conform to IS: 2189/1999.
10. **Public Address System:** The public address system shall be provided in the building, having loudspeakers in the common area. The microphone, amplifier and control switches of public address system shall be installed in the fire control room.
11. **Automatic Sprinkler System:** The Automatic sprinkler system shall be installed in the entire building as per clause 9.3.9 of UBBL-2016, in accordance with BIS: 15105 / 2002. Flow alarm switch/gong shall be incorporated in the installation for giving proper indication/sound. The pressure guage shall also be provided near the testing facility. The entire system including pump capacity and head, size of pipe network, orifice control etc. shall be provided in accordance with the relevant code. Fire service inlet shall also be provided at ground floor level.
12. **Internal Hydrant and Yard Hydrant:** Wet riser in the building near staircases shall be provided as per clause 9.3.9 of UBBL-2016/NBC Part 4. It shall conform to IS 3844-1989. Hose box of suitable dimension shall be provided near each internal hydrant. Its design shall be such that it can be readily opened in an emergency. Each box shall contain two lengths of 63 mm diameter, 15m length, rubber lined delivery hoses conforming to IS: 636 complete with 63 mm instantaneous coupling conforming to IS: 903 with a nozzle of 16 mm diameter. Yard hydrants shall be provided in the building premises as per relevant code of practice.
13. **Pumping Arrangements:** As proposed a fire pump house shall be provided in the basement having two electric pumps of 2850 LPM for hydrants and sprinkler system, a standby diesel engine driven pump of 2850 LPM and 02 jockey pumps of 180 LPM, one electric pump of 2850 LPM for water curtain. The suitable orifice plate /reducer shall be provided to maintain the requisite pressure of 3.5 Bars at the remotest point. All the pumps shall be automatic in operation.
14. **Captive Water Storage for Firefighting:** An underground water tank of 2,00,000 liters capacity and overhead tank of 20,000 litres capacity on the terrace for fire fighting purpose shall be provided as per clause 9.3.9 of UBBL-2016/ NBC 2016, part 4. Draw off connection and fire service inlet shall be provided at lower ground floor level. Further, a ladder or any other form of open access to the overhead tank shall be provided as per clause 7.10.3 of UBBL 2016.
15. **Exit Signs:** Exit signages shall be provided in the building at appropriate locations. Floor level marking, all exits and exit way marking signs (green in color) in entire building must be illuminated and wired to independent circuit supplied by alternate source of power supply. Wiring for the illuminated exit signages must be protected in such a manner that it cannot get involved in fire. Illuminated/ glowing strips paint shall be provided at each level to guide the direction for escaping towards a safe place. The sizes and color of the exit signs shall be as per IS 9457:1980.
16. **Provision of lifts:** lifts as mentioned are proposed in the building, these lifts shall be installed as per the provisions of 9.3.3 of UBBL 2016.
17. **Standby Power Supply:** Emergency lighting, exit signs, staircase and corridor lighting circuit, lift, fire pumps smoke extraction system and pressurization shall be powered from an additional source of power supply like generator and shall be automatic in action. The emergency lighting system shall be capable of continuous operation for a minimum duration of 1hour and 30 minutes. The emergency lighting shall be provided to be put on within 1 second of the failure of the normal lighting supply.
18. **Refuge Area:** Refuge area as mentioned in the table is proposed, same shall be provided as per clause 9.3.6, 9.3.7 of UBBL 2016.
19. **Fire Control Room:** As proposed on the building plans a Fire Control Room shall be established at entrance floor in accordance with the provisions contained in clause

9.3.10 of UBBL-2016. Trained personal shall be appointed round the clock to look after the fire protection arrangements in the building.

20. **Special Fire Protection Systems for protections of Special risks:** The construction of electric sub-station and installation of Dry Transformer, LT & HT panels shall be as per the provisions specified by the Electrical Authority. However, the following points shall be followed:

a. The HT & LT panels shall be separated with the walls of 2 hours fire resistance rating. It is necessary to separate shield wall extending up to the one meter on sides above the highest point of the transformer. Special protection systems as applicable shall be provided as per clause 5.1.4, 5.1.5, 5.1.6 of Part 4 NBC 2016.

b. The electric distribution cables/wiring shall be laid in a separate duct. The duct shall be sealed at every floor with non-combustible materials having the same fire resistance as that of the duct. Low and medium voltage wiring running in shaft and in false ceiling shall run in separate conduits.

c. Water mains, telephone lines, intercom lines, gas pipes or any other service line shall not be laid in the duct for electric cables; use of bus ducts/solid rising mains instead of cables is preferred.

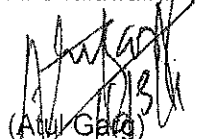
d. Separate circuit for firefighting pumps, staircases and corridor lighting and blowers for pressurizing system shall be provided directly from the main switch gear panel and these circuits shall be laid in separate conduit pipes, so that fire in one circuit will not affect the others.

e. The inspection panel doors and any other opening in the shaft shall be provided with air tight doors having fire resistance of not less than 2 Hrs. the electric installations shall be as per BIS 1646.

f. The fire protection of kitchens, if any shall be done as per clause G 5.2 of part 4 NBC 2016 and fire protection of atriums shall be done as per Annex F of NBC Part 4.

The approval of building plans shall be valid only for the proposed occupancy/layout of the floors shown on the plans and any subdivision of the floors and change of use shall only be done with the prior approval of the building sanctioning authority concerned.

Yours faithfully,



(Atul Gang)

Chief Fire Officer

011-23414250

