

**GOVERNMENT OF NATIONAL CAPITAL TERRITORY OF DELHI
HEAD QUARTERS: DELHI FIRE SERVICE: NEW DELHI - 110 001**

No. F.6/DFS/MS/BP/2020/ 211
To

Dated: 18/06/2020

The Executive Engineer, (Bldg) HQ,
North DMC, 8th Floor, Civic Centre,
Minto Road, New Delhi-110002.

Sub:- Conditional approval of Bldg. Plans from fire safety point of view in R/o revision in EWS block of group housing at Plot No. 15, SIEL, Shivaji Marg, New Delhi.

Sir,

Please refer to ID No. 10075216 dated 10.06.2020 on the above cited subject. In this connection, this is to inform you that the online building plans in respect of proposed building have been scrutinized by this department from fire safety point of view and observed that there is a proposal of revision in EWS block approved vide ID No. 10062586 & letter no F6/DFS/MS/BP/2019/173 dated 06.05.2019 of Group Housing Building on a plot area admeasuring 1,00,686 Sqm at Plot No. 15, SIEL, Shivaji Marg, New Delhi on a plot area of 100686m². The details of the EWS tower is as under:-

Name of the Tower/bldg. block	composition	Basement & ground Coverage m ²	Height In Meter	Total No. & width of Staircases	Refuge floor & refuge area	Occupancy
EWS	B+ stilt + 03 podium + first + 36th floor	2077.83 & 1340	120.75	02 of 1.5 m each	21nd refuge floor & refuge area at 5th,10th,15th ,20th,25th,30 th & 35th floor	Parking and services in basement, parking at stilt & 03 podium and residential at upper floors

Open set back area is not checked as it shall be checked by concerned building sanctioning authority / competent authority.

There is no objection to this department for the construction of the said EWS block of Group Housing building complex subject to the compliance of the following fire safety recommendations:

- 1. Access to building:** The plot abuts on 60 meter wide road and the building is proposed to be accessible through 6 meter wide main gate from the side of Jakheera fly over. The entrance gate shall fold back against the compound wall of the premises thus leaving the exterior access in the plot. The archway, if any, shall not be at a height less than 5 meters. Clear cut 9 meter wide fire tender movement road excluding external wall & parking all around high rise building block shall be ensured for free movement of fire engines as per clause 8.2 of UBBL-2016. Podium shall be ensured as per clause 4.6.1 of NBC part-3.

Condition Hard green road (09 meter wide) is proposed against the requirement of hard surface for fire tender movement as per clause 8.2 of UBBL-2016. Same shall be ensured

2. **Number, width, Type and Arrangement of Exits:** Staircase as mentioned in above table shall be provide. Staircases serving to basement, shall be segregated stillt floor. Staircases shall meets the requirement of travel distance as per UBBL-2016. The width of the doors shall not be less than the required width of the staircases excluding framework. The width of corridors shall be strictly as per UBBL-2016. Half of the total staircases, as marked on the plans, shall be **Fire Tower** and the lift connected to the fire tower shall be fire lift, and shall meet the requirement of provisions of clause 9.3.13 of UBBL-2016.
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 as marked on building plans. Pressurization system for staircases, lift well and lift lobbies or corridors shall be installed as per NBC Part IV and as per clause 9.3.2 of UBBL-2016. The exit doorways shall be openable from the side which they serve as per clause 7.12.5 of 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 & NBC-Part IV.
 - i. 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.
 - ii. 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
 - iii. Under no circumstances, two services shall pass through the same shaft, i.e. separate shaft be used for different purpose.
 - iv. 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. The glass facade of the building shall conform to clause no. 8.4.9 of UBBL 2016. 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. Glass used as compartment wall shall be two hour fire resistant.
 - v. Entry to the transformer rooms in Phase-I & Phase-II shall be provided through protected corridor or direct entry from staircase.
5. **Smoke Management System:** Smoke venting facilities shall be provided as per NBC Part IV, Fire and Life Safety. 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 in upper floors and basement. 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:** The portable fire extinguishers of ISI mark suitable to risk shall be provided in building and maintained in accordance with IS -2190/1992.
 7. **First aid Hose Reel:** A hose reel containing 30 meter length of 20 mm bore terminating into a shut-off nozzle of 5 mm outlet connected directly to riser shall be provided in buildings as per clause 9.3.9 of UBBL-2016. This shall conform to IS: 884/1998.
 8. **Automatic Fire Detection and Alarming Systems:** Automatic fire detection system i.e. smoke / heat detection system shall be provided in the entire building in all areas 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) and talk back system shall be provided near escape point in the building including machine rooms, electrical shafts, air handling ducts and above false ceiling as per clause 9.3.9 of UBBL-2016 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 entire building as per clause 9.3.9 of UBBL-2016 and it shall conform IS: 15105 / 2002. Flow alarm switch/gong shall be incorporated in the installation for giving proper indication/sound. The pressure gauge 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. Further, sprinkler shall be feed from the main & alternate standby riser with suitable isolation valve as per clause E-6 of NBC apt-4
 12. **Internal Hydrant and Yard Hydrant:** The wet riser and yard hydrants system shall be provided in building as per clause 9.3.9 of UBBL-2016 and the same shall conform to IS 3844/1989. Its design shall be such that it can be readily opened in an emergency. Each box shall contain two lengths of 63 mm diameters, 15 m length, rubber line delivery hoses conforming to IS : 636 complete with 63 mm instantaneous coupling conforming to IS :903 with nozzle of 16 mm diameter. Yard hydrants shall be provided in the building premises and same shall conform to IS 13039/1991.

- 13. Pumping Arrangements:** As proposed pump room having one electric pump of 2850 LPM capacity for hydrants, one electric engine pump of 2850 LPM capacity for sprinkler system, one standby diesel pump of 2850 LPM capacity having suitable head for sprinkler & hydrants, one jockey pump of 180 LPM capacity for sprinkler and one jockey pump of similar capacity for hydrant system separately shall be provided especially for EWS (as per table no.7 & foot Notes) 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:** As proposed underground water storage tank of 5,53,000 liters capacity has been proposed to be provided for firefighting only. The replenishment through bore well or from the town main shall be ensured @ 1000 LPM. This shall conform to the requirements given in National Building Code of India Part IV. Additional overhead tank having 10,000 liters capacity shall be provided separately on terrace floor. The underground water storage tank shall be approachable by the fire engine. Draw off connection/ fire service inlet shall be provided. Further, a ladder or any other form of open access to the overhead tank for inspection shall be provided as per clause 7.10.3 of UBBL 2016.
- 15. Exit Signage:** Exit signage shall be provided in the building at appropriate locations. Floor level marking, all exits and exit way marking signs in entire complex must be illuminated and wired to independent circuit supplied by alternate source of power supply. Wiring for the illuminated exit signs shall be suitably protected against fire. Illuminated / glowing paint strips shall be provided at each level to guide the direction for escaping towards a safe place. The size and color of the exit signs shall be as per IS 9457: 1980.
- 16. Provision of lifts:** 08 lifts including lift of fire towers are proposed in the building complex. All lifts in buildings, shall be equipped with a fireman's grounding switch so that, it is possible to ground the lift during a fire/ emergency. The lifts shall be installed strictly in accordance with the provision of clause 8.44 & 9.3.3 of UBBL-2016. Pressurization system for staircase, lift well and lift lobbies shall be installed as per the requirement of NBC Part IV/UBBL-2016. The lifts in the fire towers shall be a fire lift. All the floors including basement and roof top/terrace shall be accessible by the lift as per clause 7.28 of modified UBBL-2016.
- 17. Standby Power Supply:** As per clause 8.5.3 of UBBL-2016, emergency lighting, exit signs, staircase and corridor lighting circuit, fire 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 5 second of the failure of the normal lighting supply.
- 18. Refuge Floor and Refuge Area:** Fire Check floor shall be provided at 21st floor and refuge areas shall be provided at 5th,10th,15th,20th,25th& 30st level. This shall be in accordance with clause 9.3.8 of UBBL2016/ National Building Code of India – Part-IV.
- 19. Fire Control Room:** Fire Control Room shall be established at entrance floor in accordance with the provisions contained in clause 9.3.10 of UBBL-2016. Trained fire



officer and fire 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 electric sub-station, if constructed, installation of 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 3.4.6.3, 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 shall be done as per clause G 5.2 of Part 4 NBC 2016
- g. Atrium if any shall be strictly as per Annexure F of NBC Part-IV.

The conational approval of building plans shall be valid only for the present layout of the floors; any subdivision of the floors shall only be done by ensuring the proper means of escape, with the prior approval of this department. It shall be ensured that provisions of all requisite fire and life safety measures stipulated in UBBL-2016 & National Building Code of India Part-IV shall be complied in letter and spirit before the occupancy of the building under intimation to this department.

The building sanction authority shall ensure correction in the revised building plans as mentioned above at Sr. No. 1 in bold letters of this approval letter no. F6/DFS/MS/BP/2020/ 911 dated 18.06.2020 before release of plans.

Yours faithfully

(ATUL GARG)

DIRECTOR

Ph.: 011-23414000