GOVERNMENT OF NATIONAL CAPITAL TERRITORY OF DELHI
HEADQUARTERS: DELHI FIRE SERVICE: NEW DELHI- 110001

No. F.6/DFS/MS/ /BP/2023/913

Dated: 16/10/2023

To,

The Executive Engineer (Bldg.), HQ,
Municipal Corporation of Delhi,
8th Floor, Civic Centre, JLN Road,
New Delhi- 110002.

Sub: Approval of building plans from fire safety point of view in respect of Residential Building at Pkt-01 B, Block-B, Pocket-1, Sector-32, Rohini, Delhi.

Sir,

With reference to online request ID No. 10117463 dated 07.10.2023 on the subject cited above; it is informed that the online building plans in respect of proposed residential building have been scrutinized by this department from fire safety point of view. The brief details are as under:-

S. No	Particulars	Details Proposed			
1.	Occupancy	Residential			
2.	Plot Area	9930 SQM			
3.	No. of floors	Area of floor (SQM)			
		Tower-1	Tower-2	Tower-3	Use
	Basement 2nd	6835.29			Parking, D.G. Set Room, Store Room
	Basement 1st	6835.29			Parking
	Stilt/Ground	403.50/266.18	429.13/266.18	232.16	Fire Control Room, Meeting Room, Store Room, Unisex Salon, Stack Parking, Double Stack Parking, Gaming lounge, Gymnasium
	1st floor	432.66	432.66	232.16	Residential
	2nd, 10th & 21st Floor	669.69 each	695.69	232.16	Residential
	3rd to 9th, 11th to 19th & 22nd to 24th Floor	669.69 each	695.69 each	232.16 each	Residential
	Fire check floor	20th floor	20th floor	24th floor	Residential
	25th	669.69	695.32	232.16	Residential
	26th	669.69	626.20	232.16	Residential
	27th to 32nd	--	--	232.16 each	Residential

4.	Height	99.70 m	
5.		Basement to Ground	Ground to Terrace
	No. of staircases (including 03 nos. of fire tower)	04 nos.	06 nos.
	Width of staircases	1.5 m	1.5 m
6.	Segregation	Provided	
7.	Inspection ladder	Provided	
8.	Lift	04 nos. of passenger lift & 04 nos. of fire lift	

There is no objection from this department for the construction of said residential building subject to the compliance of the following fire safety recommendations:-

1. **Access to building:** The premise is proposed to be located on 30 meter wide road which meets the requirements as per UBBL- 2016. It must be ensured that 9 meter wide road (with 12 meter turning circle at the corners) proposed all around the building for fire tender movement, shall be capable of taking the weight of fire engine weighing up to 45 tons and must be kept clear all the time for free movement of fire engines as per clause 8.2 of UBBL-2016.
2. **Number, width, Type and arrangement of exits:** The staircases as mentioned in table are proposed to be provided in the building, which shall meet the requirement of travel distance, segregation etc. as per UBBL-2016/ NBC – Part IV. Clear cut width of staircase and door shall be maintained at time of completion. Opening of exit door and other parameters of doorways shall be per clause 7.12 of UBBL-2016. Fire tower as proposed shall be provided as per UBBL -2016/ NBC – 2016 Part IV and fire lifts connected to the fire tower (up to terrace level) shall be fire lift, as per 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 02 hrs fire resistance rating shall be provided as marked on building plans Pressurization system for staircases, lift well and lift lobbies or corridors and cross ventilation for alternate staircase shall be provided as perNBC Part-IV and as per clause 9.3.2 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 confirm 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 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 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 hours fire resistance. The glass façade 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.

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 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.
   e. Exhaust of smoke shall be through duct only and shall be discharged in the open at upper ground podium level.
6. **Fire Extinguishers**: The portable fire extinguisher of ISI mark suitable to risk shall be provided in the building and maintained in accordance with IS 2190-1992.
7. **First Aid Hose Reel**: A hose reel containing 30 m length of 20 mm bore terminating into a shut-off nozzle of 5mm outlet connected directly to riser proposed to be provided 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 system shall be provided in entire building in all areas including machine rooms as per clause 9.3.9 of UBBL-2016/ NBC 2016, Part-IV. The system shall be connected to fire alarm system and shall conform to IS: 2189/1999.
9. **MOEFA (Manually Operated Electric Fire Alarm):** Manually operated electric fire alarm (MOEFA) and talk back system shall be provided near escape point in the building including machine rooms, electrical shaft, 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 having loudspeakers in the common area shall be provided. 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 basement and entire building as per clause 9.3.9 of UBBL-2016, in accordance with IS: 15105 / 2021. 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. Rack sprinklers shall be provided in the stack parking as per NBC-Part- IV/UBBL-2016.
12. **Internal Hydrant and Yard Hydrant**: The Wet riser and yard hydrants system shall be provided in the 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 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 shown on plans and the same shall conform to IS 13039/1991.

13. **Pumping Arrangements**: A fire pump house having 02 nos. of electric pumps of 2850 LPM each one for hydrants and sprinkler system, one diesel pumps of 2850 LPM for stand by and two jockey pumps of 180 LPM capacity are proposed to be provided. All the pumps shall be automatic in operation. The suitable orifice plate/ reducer shall be provided to maintain the requisite pressure of 3.5 bars at the remotest point. This shall be in accordance with NBC-2016, Part-IV. Direct access to the pump room shall be provided as per clause 5.1.2.2 of NBC-2016, Part- IV. One set of pumps shall be provided for each 100 hydrants or part thereof, with a maximum of two sets. In case of more than one pump set installation, both pump sets shall be interconnected at their delivery headers as per NBC-2016, Part –IV. Lower levels in high rise buidings60m or above in height are likely to experience high pressure and therefore, it is recommended to consider Multi Stage, multi outlet pumps (creating pressure zones) or variable frequency drive pumps or any other arrangements as per NBC- 2016, Part –IV. **01 no. of electric pump of 2280 LPM capacity for water curtain system shall also be provided as per NBC – 2016, Part- IV.**

14. **Captive Water Storage for Firefighting**: Common underground tank of capacity 5,00,000 litres for entire premises and an overhead tank of 10,000 litres capacity (for each tower) are proposed to be provided exclusively for fire fighting purposes. All tanks and pumps shall be interconnected to provide for the fire fighting requirements of entire building. Fire service inlet shall be provided in the installation. The replenishment through bore well or from the town main be ensured @ 1000 LPM. This shall conform to the requirements given in National Building Code of India Part-IV. Further a ladder or any other form of open access to the each overhead tank shall be provided as per clause 7.10.3 of UBBL-2016

15. **Exit Signs**: Exit signage shall be provided in the building at appropriate location. 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 signs 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 size and color of the exit signs shall be as per IS 9457: 1980.

16. **Provision of lifts**: Lifts as indicated in the table are proposed in the building. The lifts shall be equipped with a fireman's grounding switch so that, it is possible to ground the lift during a fire/emergency. In case of failure of normal supply, it shall automatically trip over to the alternate supply. The lifts including the lifts of fire tower shall open to all floor including terrace floor as per clause 7.28 (b) of Modified UBBL-2016.

17. **Standby Power Supply**: As per clause 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 1 hour 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/ Fire Check Floor:**. Fire check floor is proposed to be provided at 20th floor level in tower 1 & 2 and 24rd floor level in tower 3 (EWS) and are interconnected. This shall be provided in accordance with clause 9.3.8 of UBBL-2016/NBC-2016, Part-IV.

19. **Fire Control Room**: As proposed in plan, there shall be a control room on the entrance floor of the building with communication system (suitable public address system) to all floors and facilities for receiving the message from different floors. Details of all floor plans along with the details of firefighting equipment and installations shall be maintained in the fire control room. The fire control room shall also have facilities to detect the fire on any floor through indicator

board connections, fire detection and alarm systems on all floors. The fire staff in-charge of the fire control room shall be responsible for the maintenance of the various services and firefighting equipment and installations in co-ordination with security, electrical and civil staff of the building as per clause 9.3.10 of UBBL-2016 and shall meet the other requirements as per NBC-2016 Part –IV. Fire notices/order should be provided as per clause 9.3.11of UBBL-2016.

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, in all electrical panels.

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. All type of electrical installations such as meter box, circuit breaker, main switchgear, electrical vehicle charging port, associated equipments, which act as energy supply points and can trigger fire hazard are not allowed under or near the staircase. If installed in stilt area, these should be encased with fire retardant material shall be provided as per clause 8.5.2 of modified UBBL 2016.

G. All safety provisions for Electric Vehicle Charging Station shall be provided in accordance with chapter- XI of the notification issued by Central Electricity Authority, published in Gazette of India bearing No. CEI/1/2/2018 dated 28.06.2019 and clause 10.5 (Appendix –II) UBBL-2016 amended on 12.02.2020., if any.

H. Additional requirements for high rise buildings shall be provided as per annexure E of the NBC – 2016, Part IV.

I. The fire protection of kitchens if any shall be done as per clause G -5 of NBC 2016 Part-IV.

J. Atrium if any shall strictly meet the requirement of Annexure F of NBC-2016 Part-IV.

All the fittings /equipment shall be ISI marked. All firefighting equipment shall be suitably located and clearly marked by luminous signs. The design of the building and the material used in the construction shall confirm to clause 3.3 of NBC 2016, Part-IV & UBBL-2016. Open set back area, FAR, height restrictions, use of basements etc. are not checked, this shall be checked by the concerned building authority.

The approval of building plans shall be valid only for the proposed occupancy/layout of the floors shown on the plans. It shall also be ensured that provisions of all requisite fire and life safety measures stipulated in National Building Code of India/UBBL-2016 shall be complied in letter and spirit before the occupancy of the building under intimation to this department. Any subdivision of the floors and change of occupancy shall only be done with the prior approval of this department. The aforesaid approval is not a FSC from Delhi Fire Service. **Further, this approval is valid for a period of five years only according to clause 2.4 of UBBL-2016, for the proposed occupancy/layout of floors shown on the building plans.**

Yours faithfully,

(Atul Garg)
Director

Pkt-01 B, Block-B, Pocket-1, Sector-32, Rohini, Delhi.