

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

No. F.6/DFS/MS/BP/2022/ 08

Dated: 10 /01/2022

To

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

Sub: - Conditional approval of Bldg. Plans from fire safety point of view in r/o proposed construction of group housing at Plot No. 67, DIT industrial area, Najafgarh road, Kirti Nagar, New Delhi.

Sir,

Please refer to ID NO. 10096321 dated 31.12.2021 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 construction of four towers A, B, C & D in single block of Group Housing Building at Plot No. 67, DIT industrial area, Najafgarh road, Kirti Nagar, New Delhi on a net plot area of 24793.58 m². The proposed building will be comprised of 02 basements, ground/ stilt, podium, service floor and 27 uppers floor each. Area of basement one and basement two is 20177.999 sq. mtrs. and 19194.755 sq. mtrs. respectively. Podium, 1st floor, 2nd floor, 3rd floor & 4th floor will be used for community services/assembly occupancy such as restaurants, gyms, swimming pool, super market, nursing home, mini-theatre, kid's area, residential, services etc. and from 5th floor onwards all towers shall be for residential units. The detail of the towers is as under:

S.No.	Towers	Basement	Upper Floors	Height of Building up to terrace level
1.	A	Two	Ground, stilt and plus 27 upper floors	108.60 meters
2.	B	Two	Ground, Stilt and plus 27 upper floors	108.60 meters
3.	C	Two	Ground, upper ground and plus 27 upper floors	108.60 meters
4.	D	Two	Ground, upper ground and plus 27 upper floors	108.60 meters

The occupancy wise use of different floors is as follows:

Sl No.	Floor	Occupancy
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1.	Basement 1 & Basement 2	Parking, Services, Water treatment room & Fire pump room(Double height), Store rooms, Garbage collection area etc.
2.	Ground/ Stilt	Parking, Reception, Office, Waiting lounges etc.
3.	Podium level	Super market, Restaurant, Café, Swimming pool, Indoor pool, Sports courts/rooms, Party lawn, etc.
4.	Service floor	Services.
5.	First floor	(Banquet hall, Games hall, Kids play area, Dance/Music hall, Mini theatre, Disco bar, Co-working business Centre)-double height, party terrace, Bar terrace, Residential, Services etc.
6.	Second floor	(Banquet hall, Games hall, Kids play area, Dance/Music hall, Mini theatre, Disco bar, Co-working business Centre)-double height Residential, Services etc.
7.	Third floor	Senior citizen, Yoga/meditation terrace, Health terrace/ Open gym/gaming terrace, Nursing home, Gym/Spa, Residential, Services etc.
8.	Fourth floor	Infinity pool, Residential, Services etc.
9.	5 th floor to 26 th /27 th floor	Residential & Services.
10.	17 th Floor	Fire Check Floor.

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

- 1. Access to building:** The plot abuts on 30-meter-wide road and the building is proposed to be accessible through 9-meter-wide main gate. 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. It must be ensured that 9 meter wide (with 12m turning circle at the corners) fire tender movement road, capable of taking the weight of fire engine weighing up to 45 tonnes, all around high rise building blocks as proposed on the plans must be kept clear all the time for free movement of fire engines.

Condition: 1 The hard surface approach road to the building all around shall be provided as per clause 8.2 (b) of UBBL-2016 instead hard green as proposed in plan.

- 2. Number, width, Type and Arrangement of Exits:** 08 staircases of 1.50 m width serving from 2nd basement to 27th floor terrace level, 02 staircases of 1.50 m width from 2nd basement to 26th floor terrace level, 04 staircases of 1.50 m width from 2nd basement to podium level, 02 staircase of 2.0

m width from 2nd basement to 4th floor, 02 staircases of 2.0 m width from 2nd basement to 1st floors, 01 staircase from DG room at 2nd basement (double height) to ground floor shall be provided in the building. Staircases serving from basement, shall be segregated on ground floor/podium level as proposed and meeting 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. All required exits that serve as egress from building for assembly shall be not less than 2.0 meter in clear width excluding framework. The width of corridors shall be strictly as per UBBL-2016. Four out of the total eight staircases up to 27th floor terrace, as marked on the plans, shall be **Fire Tower** and the lift connected to the fire tower (up to terrace level) shall be fire lift, as per clause 9.3.13 of UBBL-2016. These shall meet the requirement of provisions of UBBL-2016.

Condition: 2 Exit doors/fire check doors shall open as per clause 8.4.1 (e) of UBBL 2016.

Condition: 3 Alternate exit shall be provided for super market at podium level as per clause 7.8.3 of UBBL-2016.

Condition:4 Kids play area (on first & second floor) door shall be as per clause 7.12 of UBBL-2016.

Condition: 5 The provisions of clause 7.23.3 (a) of UBBL-2016 such as dedicated staircase etc. shall be ensured in respect of Mini theatre at first and second 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 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.

Condition:6 Entry to the all staircases and lift lobbies at all floors in all the towers shall be through fire check door as per UBBL 2016/NBC part-IV 2016, which is not proposed.

4. **Compartmentation:** The building shall be suitably compartmentalized so that the fire / smoke remains 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.
- 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.
 - 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.
 - Under no circumstances, two services shall pass through the same shaft, i.e. separate shaft be used for different purpose.
 - 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.

Condition:7 All the entry/exit door proposed in the fire compartment line shall be fire check door 4hrs fire rated, which is not proposed.

Condition:8 All the doors in kitchens/electrical rooms/stores shall be fire check doors, which is not proposed.

Condition:9 Banquet hall shall be segregated from kitchen by fire check door.

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.
 - 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 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 building 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 / 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.
- 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 as shown on plans and the same shall conform to IS 13039/1991.
- 13. Pumping Arrangements:** A Fire pump house having two number of electrical engine driven pump of 2850 LPM capacity (01 for hydrant and other for sprinkler system), 02 No's of Diesel Engine Driven Pump of similar capacity, one number of electrical driven pump of 1620 LPM capacity for water curtain system and 02 Jockey pump of 180 LPM capacity with suitable head in conformity with NBC part-IV 2016 shall be provided. 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:** The underground water storage tank of 400,000 liters capacity has been proposed the same shall be provided. The fire water tank shall be made of RCC or MS and shall be used for fire-fighting purpose 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 20,000 liters capacity (on the terrace of each residential towers) and 10,000 liters capacity water tank on the terrace of assembly occupancy shall be provided. 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:** Thirty-six lifts including fire Lifts are proposed in the building. 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 9.3.3 of UBBL-2016. Pressurization system for staircase, lift well and lift lobbies in shall be

installed as per the requirement of NBC Part IV/UBBL-2016. The lifts in the fire towers shall be a fire lift.

- 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 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 / floor:** Fire Check floor shall be provided at 17st floor. This shall be in accordance with clause 9.3.8 of UBBL2016/ National Building Code of India – Part-IV.

Condition:10 Fire check floor shall be in accordance with as per clause 9.3.8 of UBBL 2016.

- 19. Fire Control Room:** As proposed on the building plan one Fire Control Room in the building 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.

Condition:11 Fire control room shall be in all towers which is not proposed as per clause 9.3.10 of 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:
- 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.
 - 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;
 - 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.
 - 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.
 - 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.
 - The fire protection of kitchens shall be done as per clause G 5.2 of Part 4 NBC 2016.

g. Atrium shall be strictly as per Annexure F of NBC Part-IV.

All the fittings / equipment's shall be ISI marked. All firefighting equipment shall be suitably located and clearly marked by luminous signs.

h. Nothing in contravention of the notification No. CEI/1/9/2020/263-294 dated 03.05.2021, issued by Central Electricity Authority as modified up to date.

The approval of building plans shall be valid only for the present trade use of industry, current layout of the plan. Any changes in the building shall only be done by ensuring the proper means of escape and with the prior approval of this department. Open set back area is not checked as it shall be checked by concerned building authority/competent authority.

Further, 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-2016 shall be complied in letter and spirit before the occupancy of the building under intimation to this department. The aforesaid approval is not a FSC from Delhi Fire Service. The aforesaid conditional approval is not a FSC from Delhi Fire Service.

The building sanction authority shall ensure correction in the building plans as mentioned above at Sr. No 1, 2, 3, 4, 18 & 19 in bold letters of this approval letter no. F6/DFS/MS/BP/2022/08 dated 10/01/22 before release of plans.

Yours faithfully

(Atul Garg)

Director

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