



Government Of West Bengal
Office Of The Director General
West Bengal Fire & Emergency Services
13D, Mirza Ghalib Street, Kolkata - 16

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Date: 15-12-2023

From:
Director
Fire Prevention Wing,
West Bengal Fire & Emergency Services

To: PHASE III PROJECT at GODREJ SE7EN, by GODREJ AMITIS DEVELOPERS LLP
Godrej Waterside, Tower II, Unit No. 109, Plot No. 5, Block - DP, Sector - V, Kolkata - 700091

Sub: Revised Fire Safety Recommendation for Proposed construction of Phase – III of G+XVIII storied Residential Building and B+G+III storied Podium Block under group of Residential Building in favour of “ Godrej Amitis Devlopers LLP ” at Mouza – Banagram, J.L.No. – 16, under L.R.Khatian No. – 1172, 1495 & 1496, Respective L.R. Plot Nos. – 415(P), 416(P), 419(P), 420(P), 421(P), 422(P), 432(P), 455(P) & 459(P) within Bishnupur – I Block, PS – Bishnupur, Dist. – South 24 Parganas, West Bengal.

This is in reference to your application no. 0125188231200107 dated 16-10-2023 regarding the Revised Fire Safety Recommendation for Proposed construction of Phase – III of G+XVIII storied Residential Building and B+G+III storied Podium Block under group of Residential Building in favour of “ Godrej Amitis Devlopers LLP ” at Mouza – Banagram, J.L.No. – 16, under L.R.Khatian No. – 1172, 1495 & 1496, Respective L.R. Plot Nos. – 415(P), 416(P), 419(P), 420(P), 421(P), 422(P), 432(P), 455(P) & 459(P) within Bishnupur – I Block, PS – Bishnupur, Dist. – South 24 Parganas, West Bengal.

The plan submitted by you was scrutinized and marked as found necessary from Fire Safety point of view. In returning one set of plan with recommendation, this office is issuing **Revised Fire Safety Recommendation** in favor of the aforesaid building subject to the compliance of the following fire safety measure.

Recommendation:

A)Construction:

1. The whole construction of the building shall be carried out as per approved plan drawings conforming the relevant building rules of competent authority.
2. The floor area exceeds 750 m² shall be suitably compartmented by separation walls up to ceiling level having two hours fire resisting capacity.

3. The interior finish decoration of the building shall be made low flame spread materials conforming I.S. specifications.
4. Arrangement shall have to be made for sealing all the vertical and horizontal ducts by the materials of adequate fire resisting capacity.
5. Service Ducts and shafts should be enclosed by a wall of 2 hours and doors of 1 hour fire rating. All such ducts shall be properly sealed and fire stopped at all floor level.
6. Provision of ventilation at the crown of the central core-duct of the building shall be provided.

B) Open Space & Approach :

1. The open space surrounding the building shall conform the relevant building rules as well as permit the accessibility and maneuverability of Fire appliance with turning facility.
2. The approach roads shall be sufficiently strong to withstand the load of Fire Engine weighting up to 45 M.T.
3. The width and height of the access gates into the premises shall not be less than 4.5 M and 5 M respectively.
4. Drive way should be free from any type of obstruction. No parking will be allowed on the drive way.
5. All the passages should be kept clear for free access.

C) Staircase :

1. All the principal staircases from ground to top floor shall be pressurized. A positive pressure of 25-30pa. shall be maintained inside the staircases. Pressurization shall be maintained round the clock.
2. The staircase of the building shall be enclosed type. Entire construction shall be made of bricks / R.C.C. type having Fire resisting capacity not less than 4 hours marked in the plan.
3. The staircases of the building shall have permanent vents at the top equal to 5% of the cross sectional area of the staircase enclosures and open able sashes at each floor level equal to 15% of the said cross section are shall have to be provided in the external wall of the building.
4. The width of the staircases, corridors and travel distance of different categories of occupancies shall have to conform the relevant building rules.
5. The staircase shall be extended from ground up to respective terrace of the building and shall be negotiable to each other in each floor without entering into any room.
6. Fire and smoke doors at the entrances of all the Staircases enclosures as marked in the plan at each floor level shall be provided as per suitability.
7. The F.C.D. shall be of at least two hour Fire resisting wire glass window fitted with self-closing type open able in the direction of escape.
8. Considering the staircases are only means of evacuation, emergency lighting arrangement directional, exit sign, etc shall be made conforming the relevant I.S. code in this regards.

Pressurization Of Staircase :

1. The pressurization system shall be interconnected with the automatic/manual fire alarm system for actuation.
2. The combination of pressurized & manually ventilated staircases in the same building may be permissible, if they are segregated by suitable compartmentation.
3. Wherever pressurized staircases are to be connected to unpressurised areas, the two areas shall be segregated.

D) Lift :

1. The walls of the lift enclosure shall be at least two (02) hours fire resisting type. Collapsible gate shall not be permitted in lift car.
2. Lift shaft shall be pressurized as pre-existing norms and provision of NBC Part – IV, 2016.
3. One of the lift shall be designed for Fire Lift. The word shall conspicuously indicate/mark at ground floor.
4. The speed of fire lift shall be such that it can reach the top floor from ground level within one minute.
5. The electrical power shall be from separate supply mains in the building and cables run within the lift shafts, light and fans in the lift cars shall be operated from respective volts, supply on emergency in case of failure of normal power supply lift shall automatically trip over alternative power supply.
6. Lift Communication system shall be provided in the lift and this system shall be connected to fire control of the buildings.
7. Arrangement shall be provided for extraction of smoke in the all lift shaft by incorporation smoke venting system designed to permit 30 air changes per hour in case of Fire and shall be such design as to operate on actuation of sprinkler or Fire Alarm. In case of failure of normal electric supply it shall automatically trip over alternative power supply.
8. Exit doors of the lift lobby shall be through a self-closing smoke stop door of 2 hour fire resistance for residential towers.
9. All other requirements shall conform the I.S. specification including the communication facility in the lift cars connecting to the Fire Control Room of the building.
10. A positive pressure of 25-30 pa shall be maintained inside the lobby. Pressurization shall be maintained round the clock.

E) Refuge Area :

1. Refuge Area is not less than 15 sqm. shall be provided on the external wall with cantilever projection or other suitable means at 23.15 M, 35.35M and 47.55 M. levels of the buildings as shown in the drawings.
2. The Refuge Area shall be of Fire resisting construction and protected with self-closing F.C.D. at the entrance from the corridors at staircase lobbies and beneath refuge area shall always kept free from any obstruction.
3. The position of Refuge areas shall be such so that they are negotiable by the Fire Services Ladder from the ground.

F) Basement :

1. Automatic mechanical Smoke Venting arrangements shall be provided to the basement conforming the relevant I.S. Specification and provision of NBC Part – IV, 2016.
2. The basement shall be protected with Automatic Sprinkler System conforming to I.S. 3844:1989.
3. Mechanical extractor for Smoke Venting system shall have an interlocking arrangement so that extracting shall continue to operate and supply fans shall stop automatically with the actuation of heat/smoke sensitive detector or suitable detection system.
4. Mechanical extractors shall have an alternative source of supply.
5. The staircase of the basement shall be of enclosed type having fire resistant of not less than 2 hours and shall be situated at the periphery of the basement to be entered at ground level only from the open air and in such position that smoke from any fire in the basement shall not obstruct any exit or entry serving the ground and upper floor of the building.
6. The exit from the basement shall be from open air.
7. The entire basement shall be protected with landing valve and hose reel hose system as per relevant I.S. Specification.

G) Fire Fighting Water :

1. Underground water reservoir having total water capacity of not less than $(150000 \times 2) = 300000$ ltrs. (as shown in the plan) exclusively for this fire fighting purpose shall be provided.
2. Overhead reservoirs of not less than 20000 ltrs. shown/marked in the plan drawings exclusively for fire fighting purpose shall be kept full at all time.
3. The Fire water reservoir shall have overflow arrangement with the domestic water reservoir as well as to avoid stagnancy of water.
4. Provision of replenishment arrangement @ 1000 ltrs./min. preferably from two different sources of water supply shall be provided.
5. The water reservoirs shall be kept full at all time.

H) WATER LAY OUT :

a) Ring Main Hydrant System :

1. 150 mm dia. Ring Main water layout arrangement converting the entire premises of the project with provision of pillar

type yard hydrants with door Hose Boxes containing 2(two) lengths of 63 mm delivery hose and short branch pipe shall be provided at all strategic location and surrounding the building conforming I.S. 3844:1989(up to date amendment).

2. The system shall be so designed that shall always be kept charged with water under pressure and capable to discharge 2850 ltrs./min. at the pressure of 3.5 kg/sqcm. at any point.

b) Wet Riser & Hose Reels System :

1. The building shall be provided with separate Wet Riser for Sprinkler & Hydrant Riser 150 mm internal diameter pipe line each with provision of landing valves at the staircase landings/half landings at the rate of one such rises for 1000 sq.m. of floor area.

2. The system shall be so designed that shall be kept charged with water all the time under pressure and capable to discharge 2850 ltrs./min. at the ground floor level outlet and minimum 900 ltrs./min at the top most and furthest outlet. In both cases the running pressure shall not be less than 3.5 kg/sq.cm.

3. Provision for Hose Reel units on swiveling drum in conjunction with Wet Riser shall be made near each landing valves.

4. Hose Reel unit with provision of outlets in each floor at the staircase landings/half landing as per suitable at the rate of one such unit of Wet Riser and Hose Reel as per 1000 sqm. of floor area.

5. Yard Hydrant/ Ring Main Hydrant with provision of adequate number of Pillar type hydrant shall be installed surrounding buildings in accordance with relevant I.S. specifications.

6. Provision of suitable Fire Service Inlet shall be made as per relevant I.S. specification.

7. All other requirements of the water base Fire Protection System shall be made as I.S. Specification 3844:1989 (with up to date amendment).

l) Fire Fighting Pump :

1.Provision of the Fire Pump of 2850 LPM shall have to be made to supply water at the rate designed pressure and discharge into water-based system which shall be installed in the respective pump room.

2.One such pump of same capacity i.e. of 2850 LPM shall always be kept on stand-by of diesel driven type.

3.Provision of separate pump of 2850 LPM for sprinkler system to be made to keep the water base system under pressurized condition at all the time and shall be installed.

4.Provision of two(02) separate Jockey Pumps one for hydrant and other for sprinkler system of 180 LPM shall also have to be made to keep the water-based suppression systems i.e. hydrant and sprinkler separately under pressurized condition at all the time.

5.All the pumps shall be incorporated with both manual and auto starting facilities.

6.The suction of pumps shall preferably of positive type or in case of negative suction the system shall be wet riser-cum down comer with suitable terrace pump with overhead tank.

7.All Electrical Fire Pumps shall be connected with alternative D.G. power supply..

J) Sprinkler Installation :

The Automatic Sprinkler System shall be provided with separate sprinkler riser of 150 mm internal dia. The system shall be so designed that shall be kept charged with water all the time under pressure and capable to discharge 2850 Ltrs./Min. The automatic Sprinkler installation shall be provided in all floor the residential building and in covered car parking area, Fire Pump Room, along with the podium as per provision of NBC Part – IV, 2016 and all vulnerable areas of the building as per I.S.9972. Alarm gang to be incorporated along with the Sprinkler System.

K) Electrical Installation & Distribution :

1. The electrical installation including transformers, Switch Gears, Main & Meters etc. and the distribution system of the premises shall be made satisfying the code of practice for Fire safety in general building as laid down in I.S. specification 1946:1982.
2. The electrical installation shall be adequately protected with CO2/D.C.P. Fire Extinguishers.
3. Electrical installation should be tested by the licensed electricians periodically.
4. The vertical & horizontal ducts shall be sealed at alternative floor level.
5. All electrical installation viz Transformer, Switch Gears, L.T, H.T rooms shall be protected with both auto detection and suppression systems as per suitability.

L) Alternative Power Supply :

Arrangements shall have to be made to supply power with the help of a generator to operate at least the Fire Pump, Pump for deep Tube-well, Fire Alarm System, Fire Lift etc. and also for illuminating the Staircase, corridors etc. and other places of assembly of the building in case of normal power failure.

M) Detection And Alarm System :

1. Manually operated Electrical Fire Alarm system with at least three numbers of break glass type call boxes fitted with Hooters along with public address system, at each floor connecting with audio-visual panel board shall be made in Control Room. The Control Room shall be located at the entrance of Ground Floor of the building, other requirements of the system shall be made conforming I.S. 2189 : 2008.
2. Hooter will be sounded in such a manner so that an operation of a Detector or Manual Call Point Hooters will be sounded on the same floor and immediate alternate floor.
3. Micro processor based fire alarm panel shall be installed also be connected with main panel at the fire control room of the premises having direct dialing facility to the local fire service unit.
3. Auto fire detection system with the help of flent and smoke detector shall be installed in all places of below and preferably above false ceiling and Commercial and Assembly area of the building. The system shall also be made in places of rooms where valuable articles have been kept. The requirements of the system shall be made in accordance with I.S. 2189:1988.
4. The suppression system shall be made with Fire Extinguishers and total flooding system with CO2/FM-200 particularly in computer and Electrical processing data room and in a room of irreplaceable.

5. Auto Fire Alarm System with analogue addressable smoke /heat detector as per suitability shall be installed in each floor.

6. Both way public address systems shall be made available in all floors of the building. The system shall be connected to the Main Control Room.

7. Public Address System shall have to be provided and linked between all floors and control room with talk back facility.

N) Service Ducts/Shafts :

1. Service ducts & shafts shall be enclosed by walls and door by relevant fire resisting rating.

2. All such ducts shall be properly sealed & fire stopped at all floor level.

3. A vent opening at the top of the service shaft shall be provided having between one fourth & one half of the area of the shaft.

O) Fire Control Room :

1. A control room on the entrance floor of the building with communication system to all floors and facilities for receiving the messages from different floors.

2. Details of all floor plans along with the details of firefighting equipment and installations shall be displayed in the fire control room.

3. The fire control room shall also have facilities to detect the fire on any floor through indicator board's connection, fire detection and alarm system on all floors.

4. The fire staff in charge of the fire control room shall be responsible for maintenance of the various services and the firefighting equipment & installations in co-ordination with security electrical & civil staff of the building.

P) Air Conditioning System (If any) :

1. The A.H.U. shall be separated for each floor with the system Air Ducts for individual floors and no way interconnected with the ducting of any other floors.

2. Arrangement shall be made for isolation at the strategic locations by incorporating auto dampers in the Air Conditioning system.

3. The system of auto shut down of A.H.U. shall be incorporated with the auto detection and alarm system.

4. The Air Handling Units room shall not be used for storage of any combustible materials.

5. Escape route like staircase, common corridors, lift lobby etc shall not be used as return passage.

6. Whenever the ducts pass through Fire wall of floors, the opening rounding the ducts shall be sealed with fire resisting materials such as asbestos rope vermiculite etc.

7. The metallic ducts shall be used even for the return air instead of space above the false ceiling.

8. The materials used for insulating the ducts system (inside or outside) shall be non-combustible materials, glass wool shall not be wrapped or secured by any materials of combustible nature.

9. Area more than 750 sq. mtr. on individual floors shall be segregated by a Fire Wall and automatic fire damper for isolation shall be provided.

10. If the air handling unit serve more than one floor, the recommendation shall be comply with in addition to the condition given below:

a) Proper arrangement by way of automatic fire dampers working on fuse able link for isolating all ducting at every floor from the main riser shall be made.

b) When the automatic fire alarm operates, the respective air handling unit of the air conditioning system shall automatically be switched off.

11. The vertical shaft for treated fresh air shall be of masonry construction.

12.The inspection panel shall be provided in the main trucking to facilitate the cleaning of ducts of the accumulated dust and to obtain access for maintenance of the dampers.

13.No combustible materials shall be fixed nearer than 150 mm of any duct unless such duct is properly enclosed and protected with non combustible materials (glass wool or spun glass with neoprene facing, enclosed and wrapped with aluminum sheeting) at least 3.2 mm thick would not readily conduct heat.

14.The ducting shall be constructed of substantial gauge metal in accordance with good practice.

Q) First Aid Fire Fighting system :

First Aid Fire Fighting System First Aid Fire Fighting arrangement in the style of placing suitable type of portable Fire Extinguishers, Fire Buckets etc. in all floors and vulnerable locations of the premises shall be made in accordance with I.S. 2190 – 1992.

R) Emergency & Escape Lighting :

Emergency lighting shall be powered from a source independent of that supplying the normal lighting. Escape lighting shall be capable of :

- 1)Indicating clearly and unambiguously the escape routes.
- 2)Providing adequate illumination along such routes. To allow safe movement of persons towards and through the exits.
- 3)Ensuring that fire alarm call points and fire fighting equipment provided along the escape route can be readily located.
- 4)The emergency lighting should automatically activate with in one second of the failure of the normal lighting supply.
- 5)The emergency lighting system shall be capable of continuous operation for a minimum duration of 1 hour and 30 minutes even for the smallest premises.

S) Transformer :

Transformer shall conform to the following :

- 1.A substation or a switched station with oil filled equipment shall not be located in the building.
- 2.The substation structure shall have separate fire resisting walls in surroundings and necessarily be located at the periphery of the floor having separate access from the fire escape staircase.
- 3.The outside walls ceiling, floor, opening including doors & windows to the substation area shall be provided with a fire resisting door of 2 hours fire rating.
- 4.Direct access to the transformer room shall be provided, preferably from outside the fire escape staircase.

T) Firefighting Shaft (Fire Tower) :

- 1.An enclosed shaft having protected area of 120 min fire resistance rating comprising protected lobby, staircase and fireman's lift, connected directly to exit discharge or through exit passageway with 120 min fire resistance wall at the level of exit discharge to exit discharge.
- 2.These shall also serve the purpose of exit requirement/strategy for occupants.
- 3.The respective floors shall be approachable from firefighting shaft enabling the fire fighter to access the floor and also enabling the fire fighters to assist in evacuation through fireman's lift.
- 4.The firefighting shaft shall be equipped with 120 min fire doors.
- 5.The firefighting shaft shall be equipped with fireman talk back, wet riser and landing valve in it lobby, to fight by fighters.

U) Small Gears: IS : 903 -1993 :

Hose box , 15 M length Permolin delivery hose, Gun Metal short branch of half inch dia. One set at each half landing hydrant should be installed.

V) General Recommendations :

- 1.Fire Notice for Fire Fighting and evacuation from the building shall be prepared and be displayed at all vulnerable places of the building.
 - 2.Fire License shall have to be obtained for proposed storing and processing with L.P.G and other highly combustible articles.
 - 3.Floor numbers and Directional Sign of Escape routes shall be displayed prominently.
 - 4.Telephone numbers of all emergency services/Department to be kept in counter and displayed in conspicuous places.
 - 5.The employees and security staff shall be conversant with installed Fire Fighting equipments of the building and to operate in the event of Fire and Testing.
 - 6.Arrangement shall be made for regular checking, testing and proper maintenance of all Fire Safety installation and equipment's installed in the building to keep them in perfectly good working conditions at all times.
 - 7.A crew of trained Fireman under the experienced Officer shall be maintained round the clock for safety of the building.
 - 8.Mock Fire practice and evacuation drill shall be performed periodically with participation of all occupants of building.
 - 9."NO SMOKING" sign to may be displayed in prominent place in Hindi, English and local languages.
 - 10.Fire License shall have to be obtained from this Department after compliance of the above Safety Recommendations before commissioning of the Gas Bank.
 - 11.A certificate is to be obtained from the Director General, West Bengal Fire & Emergency Services certifying about the satisfactory services, performance of all the Life and Fire Safety arrangements and installation of the building.
- On compliance of all the above Life and Fire Safety Recommendation, the Director General, West Bengal Fire & Emergency Services shall be approved for necessary inspection and testing of all the installation, Fire Safety Certificate in favour of the occupancy shall be issued on being satisfied with the tests and performances of safety aspects of installation of the building.

N.B. : Any deviation and changes the nature of use of the building in respect of the approved plan drawing, without obtaining prior permission from this office, this Fire Safety Recommendation will be treated as cancelled.

DIRECTOR
West Bengal Fire & Emergency Services