



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

Memo no.:WBFES/7307/17/Kol-Mix-Occu-
Bilding/905/17(905/17)

Date: 04-07-2022

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

To: Anand Neotia, Director of RDB ANEKANT ORBIT PROPERTIES PRIVATE LIMITED
8/1 LAL BAZAR STREET , 1ST FLOOR, ROOM NO-10, KOLKATA-700001.

Sub: Revised Fire Safety Recommendation for proposed 2nos Towers comprising of B+G+XII storied IT/ITES building under group Business Building and B+G+XXII storied under group Residential Building at premises no. IIF-0005, Plot No- IIF/5, Block- IIF, Action Area-II, New Town, Rajarhat, Kolkata-700156.

This is in reference to your application no. 0125188221100028 dated 10-03-2022 regarding the Revised Fire Safety Recommendation for proposed 2nos Towers comprising of B+G+XII storied IT/ITES building under group Business Building and B+G+XXII storied under group Residential Building at premises no. IIF-0005, Plot No- IIF/5, Block- IIF, Action Area-II, New Town, Rajarhat, Kolkata-700156.

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 proposed buildings shall be carried out as per approved plan drawings conforming the relevant building rules of local Municipal Body / competent authority.
- 2.The interior finish decoration of the buildings shall be made low flame spread materials conforming I.S. specifications.
- 3.Provision of ventilation at the crown of the central core-duct of the buildings shall be provided.
- 4.Arrangements shall have to be made for sealing of all the vertical & horizontal ducts by the materials of adequate Fire resisting capacity at each floor.

B.OPEN SPACE & APPROACH:

- 1.The open space surrounding the buildings shall conform the relevant building rules as well as permit the accessibility and

maneuverability of Fire appliance including Aerial Ladders with turning facility.

2.The approach roads, internal road / driveway and dedicated clear open space for Fire Service Aerial Ladder of areas 9 M X 15 M as shown shall be sufficiently strong to withstand the load of Fire Engine weighing up to 45 M.T.

3.The width and height of the access gate into the premises shall have to be provided as shown in the plan.

C.STAIRCASE:

1.Principal staircases down to the basement shall have to be pressurized as per NBC Part- IV, 2016. A positive pressure of 25-30 Pa. shall be maintained inside the staircases. Pressurization shall be maintained round the clock.

2.The staircases of the buildings shall be enclosed type, entire construction shall be made of brick / R.C.C. type having Fire resisting capacity not less than 4 hours.

3. The staircases of the buildings 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 buildings.

4. All the staircase of the buildings shall be negotiable to each other in each floor without entering into any room and shall be extended up to respective terrace. The roof of the stair wall shall be 1M above the surrounding roof area.

5. The width of the staircases and corridor and travel distance of different categories of occupancies shall have to conform the relevant building rules.

6.Fire and Smoke check doors at the entrances of all staircases enclosures as shown / marked in the plan at each floor level shall be provided. The F.C.D. shall be of at least two hours Fire resisting wire glass window fitted with self-closing type openable in the direction of escape.

7. 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.

D.LIFT:

1.The walls of the lifts enclosure of the buildings shall be at least two hours FIRE resisting type.

2.Pressurization in respect of lifts & lift lobbies shall be done as pre-existing norms and provision of NBC Part IV, 2016.

3.All the lifts of the buildings shall be designed as high speed "FIRE LIFT" and shall be conspicuously indicated / marked.

4.The Electric power shall be from separate supply mains in the buildings and cables run within the lift shafts, light and fans in the lift cars shall be operated from 24 volts, supply in emergency and in case of failure of normal power supply lift shall automatically trip over alternate power supply.

5.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 of such design as to operate on actuation of Sprinkler or Fire Alarm. In case of failure of normal electric supply, it shall automatically trip to alternate supply.

6.Exit doors of the lift lobby shall be through a self- closing smoke stop door of 2 hours fire resistance for both Towers.

7.The speed of the fire lifts in the buildings shall be such that it can reach the top from the ground floor within 1 minute. Visual indications of floor numbers shall be incorporated in the lift cars.

8.All other requirements shall conform relevant I.S. specification including the communication facility in the lift cars connecting to the Fire Control Room of the buildings.

E. REFUGE AREA:

1.The Refuge areas shall be provided on the external wall on cantilever projection for Buildings as shown in plan drawings not less than 15 Sq mtr area at the level of the buildings as shown in the plan drawings.

2.The refuge areas shall be of Fire resisting construction and protected with self-closing F.C.D. at the entrance from the corridor or the staircase landings.

3. The position of refuge Areas shall be such that they are negotiable by the Fire service Aerial Ladder from the ground floor.

F. BASEMENTS:

1. Automatic Mechanical smoke venting arrangements shall be provided to the both basement conforming the relevant I.S. Specification and provision of NBC Part IV, 2016.

2. Mechanical extractor shall have an alternate source of supply.

3. Mechanical extractor shall have an internal locking arrangement so that extracting shall continue to operate and supply fans shall stop automatically with the actuation of fire detectors / suitable detection system.

4. The both basement shall be protected with automatic detection & sprinkler System with Hydrants and Hose Reel Hose conforming relevant I.S. specification incorporating with alarm gong bell.

G. Water Curtain:

Water Curtain shall have to be provided as shown / marked in the plan as per provision of NBC Part – IV, 2016 and relevant I.S. specification.

H. FIRE FIGHTING WATER:

1. Underground water reservoirs having total water capacity of not less than 200,000 (Two Lac) ltrs for each building shall be provided as shown in the plan.

2. Overhead reservoir of 20,000 ltrs capacity for Business building and 25,000 ltrs capacity for Residential building as shown / marked in the plan drawings exclusively for firefighting purpose shall be kept full at all time.

3. The water reservoirs shall have overflow arrangement with the domestic water reservoirs as well as to avoid stagnancy of water.

4. Provision of necessary manhole shall be made on the top of these reservoirs as per specification.

5. Provision of replenishment at the rate of at least 2000 lts./min. from two separate sources of water supply shall be made.

- 6.The deep tube wells for the replenishment of the reservoirs shall be incorporated with auto starting facility with actuation of auto detection and suppression arrangement of the premises and shall also be connected with dual power supply units.
- 7.Provision of placing Fire Appliances near the underground water reservoir to be made to draw water in case of emergency.

I.WATER LAYOUT SYSTEM:

- 1.The both buildings shall be provided with separate Wet Risers for sprinkler & hydrant of 150 mm. internal diameter Pipe Line each with provision of landing valves at the Staircase landings / half landings at the rate of one such riser for 1000 Sq. m. of floor area. The system shall be so designed that shall be kept charged with Water all the time under pressure and capable to discharge 2850 lts/min. at the ground floor level outlet and minimum 900 lts/min. at the top most and farthest outlet. In both cases the running pressure shall not be less than 3.5 Kgs/Sq.cm. All other requirements shall be conforming I.S. 3844 – 1989.
- 2.Provision for Hose Reel units on swiveling drum in conjunction with Wet Riser shall be made near each landing valves.
- 3.Ring Main Hydrant with provision of adequate numbers of Pillar type Hydrant shall be installed surrounding the buildings in accordance with relevant I.S. specifications.
- 4.Provision of suitable Fire Service Inlet shall be made as per relevant I.S specification.

J.FIRE PUMP for both Block:

- i.Provision of the multi stage multi outlet motor driven Fire Pumps shall have to be made to supply water at the rate-designed pressure and discharge into the Water based system which shall be installed in the respective pump room for both the building.
- ii.One such multi stage multi outlet preferably be of diesel driven pump shall always be kept on stand-by having same discharge & capacity.
- iii.Provision of separate multi stage multi outlet motor driven pump for sprinkler system to be made to keep the Water based system under pressurized condition at all the time and shall be installed.
- iv.Provision of multi stage multi outlet motor driven separate Jockey Pumps shall also have to be made to keep the Water based suppression systems i.e. hydrant and sprinkler system separately under pressurized condition at all the time. All the pumps shall be incorporated with both manual and auto starting facilities. 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. The Fire Pumps shall be multi stage and multi outlet creating pressure zones. The Number and type of fire pumps shall be as per provision of N. B. C. Part – IV, 2016.

K.SPRINKLER INSTALLATION:

The automatic Sprinkler installation shall be provided in all floor areas of the Residential building and IT/ITES Business building along with basements, all fire refuge areas and all ramps as per provision of NBC Part – IV, 2016 and relevant I.S. specification. Alarm gong to be incorporated along with the sprinkler system. Provision for sprinkler test line shall have to be provided as per suitability.

L.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 buildings as laid down in I.S. specification 1946 – 1982.
- 2.Electrical distribution system shall conform all the requirements as laid in I. S. 1646-1982.
- 3.The electrical installation shall be adequately protected with automatic CO2/D.C.P.
- 4.All electrical installation viz. Transformer Switch Gear L. T., H. T. rooms shall be protected with both auto detection and suppression systems as per suitability.
- 5.Multi criteria auto detection system shall have to be provided in electrical ducts and electrical ducts shall have to be sealed horizontally with ceiling material and vertically sealed with fire resisting door at each floor level.
- 6.Alternative Power Supply :
Arrangements shall have to be made to supply power with the help of a generator to operate at least the Fire Pumps, Pump for deep Tube-well, Fire Alarm System, Lift, etc. and also for illuminating the Staircase, corridors etc. and other places of assembly of the buildings / entire project incase of normal power failure.

M.INTELLIGENCE ANALOGUE SYSTEM:

- 1.Auto Fire Alarm System with analogue addressable smoke / heat detectors as per suitability shall be installed in all floor areas including basements of the both building (Residential + IT/ITES Business building).
- 2.Addressable analogue manual call boxes incorporating with sounders shall be installed in all floors area of the buildings in such a manner that maximum travel distance shall not be more than 22.5 m in order to reach any of the call point.
- 3.Micro Processor based fire alarm panel shall be installed and all shall also be connected with main panel at the Fire Control Room of the premises having direct dialing facility to the local fire service unit.
- 4.Both way public address systems & talk back systems linked between all floors and Control Room. Shall have to be established.
- 5.All the installations shall also be satisfy the I.S. specifications 2189 (as amended) and the code of practice as laid down in the N.B.C. Part-IV, 2016. 6. C. C. Camera & Public Address System :- Public address system linked between all floors and Fire Control Room shall have to be established. Fire Control Room: i. A well designed Fire Control Room with C.C.T.V. and Fire Control Panel and monitoring 24X7. Preparation of Emergency Evacuation: ii. There is need to have a clear policy and proper implementation of emergency evacuation measures.

N.AIR CONDITIONING SYSTEM (IF ANY):

- 1.The A.H.U. shall be separated for each floor with the system Air Ducts for individual 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 air passage.
- 6.Wherever the ducts pass through Fire wall of floors, the opening a rounding the ducts shall be sealed with Fire resisting materials such as asbestos rope vermiculite concrete 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 duct system (inside or outside) shall be of non-combustible materials glass wool shall not be wrapped or secured by any materials of combustible nature.
9. Area more than 750 sq. m. on individual floor shall be segregated by a Fire wall and automatic fire damper for isolation shall be provided.
10. Air duct services main floor area, corridors etc. shall not pass through the staircase enclosures.
11. The air handling units shall be separation for each floor, and air ducts for every floor shall be separated and in no way interconnected with the ducting of any other floor.
12. If the air handling units serve more than 1 floor, the recommendation given above shall be complied with in addition to the conditions given below:- a. Proper arrangements 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 units of the air conditioning system shall automatically switched off.
13. The vertical shaft for treated fresh air shall be of masonry construction.
14. The air filters for air handling units shall be of non-combustible materials.
15. Inspection panel shall be provided in the main trucking to facility the cleaning of ducts of accumulated dust and to obtain access for maintenance of fire dampers.
16. No combustible materials shall be fixed nearer than 15cm to any duct unless such duct properly enclosed and protected with non-combustible materials (glass wool or Spun wool with neoprene facing enclosed and wrapped with aluminum sheeting) at least 3.2m thick. And which would not readily conduct heat.

O. FIRST AID FIRE FIGHTING SYSTEM:

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

P. GENERAL RECOMMENDATIONS:

1. Fire License shall have to be obtained for proposed storing and processing with L.P.G. and other highly combustible articles (if any).
2. Gas Bank shall have to be protected with auto detection and auto suppression system as per I.S. specification. 2nos exit required for gas bank with proper ventilation.
3. Necessary sanction and approval for such construction and occupancy of this project must be obtained from competent authorities.
4. Disposable type B. A. Musk to be kept always for emergency fire situation.
5. Fire Notice for Fire Fighting and evacuation from the buildings shall be prepared and be displayed at all vulnerable places of the buildings.
6. Floor numbers and directional sign of escape route shall be displayed prominently.
7. The occupancy and security staff shall be conversant with installed Fire Fighting equipments of the buildings and to operate in the event of Fire and Testing.
8. Arrangement shall be made for regular checking, testing and proper maintenance of all the Fire Safety installation and equipments installed in the buildings to keep them in perfectly good working conditions at all times.
9. A crew of trained Firemen under experienced officers shall be maintained round the clock for safety of the entire project.
10. Mock Fire practice and evacuation drill shall be performed periodically with participation of all occupants of buildings.
11. The certificate has 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 buildings.

On compliance of all the above Fire and Life safety recommendations, the Director General, West Bengal Fire & Emergency Services shall be approached for necessary inspection and testing of 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 buildings.

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

This Revised Fire Safety Recommendation is issued in cancellation of earlier Fire Safety Recommendation which was issued from this office vide memo no. – WBFES/7307/17/Kol-Mix-Occu-Bilding/905/17 (905/17) dt. 15.09.17.

Director
West Bengal Fire & Emergency Services