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

Memo no.:FSR/0125186218700063

Date: 24-03-2021

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

To: Indrani Ghosh
Gobal Care Hospital Pvt. Ltd., C/o - KPC Medical College and Hospital, 1F, Raja S.C. Mullick Road, Kolkata - 700032

Sub: Fire Safety Recommendation for proposed construction of a G+7 storied Institutional Building and G+15 Storied residential building with common basement at premises no. 354, Mouza-Kasba, J.L. No. -13, Prantik Pally, Kolkata.

This is in reference to your application no. 0125186218700063 dated 21-01-2021 regarding the Fire Safety Recommendation for proposed construction of a G+7 storied Institutional Building and G+15 Storied residential building with common basement at premises no. 354, Mouza-Kasba, J.L. No. -13, Prantik Pally, Kolkata.

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 is issuing Fire Safety Recommendation in favor of the aforesaid building subject to the compliance of the following fire safety measure.

Recommendation:
RECOMMENDATION
A.CONSTRUCTION:

1.The whole construction of the building shall be carried out as per approved plan drawing conforming relevant building rules of local Municipal body.
2.Materials for rapid flame spread categories including untreated wood fibre board etc. shall be not use. The doors and windows preferably shall be made of metal.

3.The floor area exceeds 750 m2 shall be suitably compartmented having four hours fire resisting capacity and sprinkler system should be provided as per N.B.C. Part IV.

4.The interior finish decoration of the building shall be made with the materials with low flame spread and low smoke and

toxic gas generating categories conforming I.S. Specification.

5.All principal staircases shall not be permitted from the Basement.

6.Arrangement shall have made for sealing all the vertical service ducts by the materials of adequate Fire resisting capacity.

7.Fire rating test certificate of all interior finish decoration should be submitted to this office before taking occupancy.

8.Service Ducts and shafts should be enclosed by a walls of 2 hours and doors of one hour fire rating. All such ducts shall be properly sealed and fire stopped at all floor level.

B.OPEN SPACE & APPROACH:

1.The open space surrounding the building shall be kept clear open to sky and shall conform the relevant building rules as well as permit the easy accessibility and maneuverability of the Fire appliances with turning facility.

2.The approach road and roads surrounding the building shall be sufficiently strong to withstand the load of Fire Engine weighting up to 45 M.T.

3.The width and height of the entry gates to the premises shall not be less than 5m and 6m respectively.
4.Driveway should be free of any type obstruction. No parking will be allowed on the Drive Way.

C.STAIRCASE:

1.All principal staircases from ground to top floor shall be pressurized as marked in the plan. A positive pressure of 25-30 pa. 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 brick / R.C.C. type having Fire resisting capacity not less than 4 hours respectively marked in the plan.

3.The staircases shall have permanent vents at the top equal to 5% of the cross sectional area of the staircases enclosures and open able sashes at each floor level equal to 15% of the said cross section area shall have to be provided in the external wall of the building.

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

5.The width of the staircases and corridors 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 the Staircase enclosures at each floor level shall be provided. The F.C.D. shall be at least one hour Fire resisting wire glass window fitted with self closing type open able 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 lift enclosure of the building shall be at least two hours FIRE resisting type respectively marked in the plan with the event at top of area not less than 0.2m2.

2.The lift of the building shall be designed at high speed "Fire Lift" and conspicuously indicated marked in the plan.

3.One of the lift car of the building shall be large enough to accommodate standard Ambulance Stretcher and Medical Attendants.

4.The Electric power shall be from separate supply mains in the building and cables run with in the lift shafts, light and fans in the lift cars shall be operated from 24 volts, supply on emergency 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 all the 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 from the lift lobby if located in the core of the building, shall be through a self- closing smoke stop door of 1hour fire resistance.

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

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

9.Lifts & Lobbies from basement to top floor shall be pressurized as marked in the plan. A positive pressure of 25-30 pa. Shall be maintained inside the lift wall and lobby. Pressurization shall be maintained round the clock.
10.All lifts communicated to the basement should be pressurized.

E.BASEMENT:

1.The Basement shall be adequately ventilated with aggregate cross sectional area of not less than 2.5% of the area spread evenly round the perimeter of the basement shall be provided in the form of grills.

2.Mechanical smoke venting arrangements shall be provided to all the basements conforming the I.S. Specification.

3.The exit from the basement shall be from open Air and from any points the travel distance shall not exceeds 18.5 M to reach any exit.

4.All the basement shall be protected with Automatic Sprinkler System conforming to I.S. 3844-1989.

5.The staircase of basement shall be of enclosed type having Fire resistance of not less than 4 hrs. and shall be situated at the periphery of the basement to be entered at ground level only from the open air and in such positions that smoke from any Fire in the basement shall not obstruct any exit having the ground upper floor of the building.

6.Mechanical extractors shall have an alternative source of supply.

7.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.

8.Mechanical extractors shall be designed to permit 50 Air changes per hour in case of Fire or distress call.

F.FIRE FIGHTING WATER:

1.Water exclusively for Fire Fighting operation shall be ensure minimum 350000 lts. all the time.

2.The Fire water reservoir shall be have overflow arrangement with the domestic reservoir to avert stagnancy of water.

3.Provision of necessary manhole shall be made on the top of the reservoir as per specification.

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

5.The deep tube wells for the replenishment of the reservoir shall be incorporated with the auto starting facility with the actuation of auto detection and suppression arrangement of the premises and shall also be connected with duel power supply units.

6.Provision of placing Fire Appliances on the underground water reservoir shall have to be made to draw water in case of emergency.

G. WATER LAYOUT SYSTEM :

a.Ringmain Hydrant System:

i.150 mm dia Ringmain water layout arrangement covering the entire premises of the project with provision of pillar type

yard hydrants without door hose boxes, containing 2 lengths of 63mm delivery hose and short branch pipe shall be provided at all the strategic location and surrounding the building conforming I.S. 3844-1989 (upto date amendment).

ii.The system shall be so designed that shall always be kept charged with water under pressure and capable to discharge min. 2280 ltrs./min. at the pressure 3.5kg/sq.cm. at any point.

b.Wet Riser & Hose Reels System (4nos.) :-

i.The building shall be provided with Wet Riser and Hose Reel unit with provision of outlets in each floor at the staircases landings/half landings as per suitable at the rate of one such unit of Wet Riser and Hose Reel per 1000sq.m. of floor area.

ii.The Wet Riser installation shall be made in reference to the height of the building in the form of 150mm dia riser with single hydrant outlet.

iii.Hose Reel Unit:- Provision of hose reel units on swiveling drum in conjunction with wet riser near each landing valves shall be made at each floor level of the building.

iv.All other requirements of the water base Fire Protection System shall be made as per I.S.Specification 3844-1989 (with upto date amendment).

c.Automatic Sprinkler Installation :

All floor of the institutional building, staircase, lift lobby, corridor, the entire basement and the assembly area in the residential block shall be suitably protected by automatic Sprinkler installation conforming the grade as per I.S. Specification.

d.Water Projector Protection.

The Electrical installations viz. transformer, HT,LT switch gear etc. shall be protected by high or medium velocity Water Projector System as per suitability.

e.Water Curtain :

Sprinkler head to be placed at closed spacing so as to form a Water Curtain in the basement area event of Fire . It will be auto started facilities with the actuation of two nos. Smoke Detector at a time in same loop and zone.

H.FIRE PUMP:

1.2280 Lts. per min. giving a pressure not less than 0.3N/m2. The pump provided will be of multi stage type with suction and delivery size not less than 15cm. dia . A set ball valves to supply the tank with at least 2280 ltrs. Per min. from the first pump. Alternatively a multistage, multi outlet pump may be installed. Provision of jockey pump having capacity at least

180LPM shall be provided for the wet riser system.
2.2280 LPM sprinkler pump shall have to be installed for the sprinkler installation.

3.A standby Pump of equal capacity preferably diesel driven shall be provided on alternative source of supply.

I.ELECTRICAL DISTRIBUTION SYSTEM:

1.Electrical distribution system of all the building shall be made in the form of concealed wiring or in heavy gauge M.S. conducted continuously bonded to earth cables shall be I.S. marked and preferably be of F.R.L.S. categories.

2.Electrical distribution System shall conform all the requirements laid down in I.S. 1646-1982.

3.For every 230V wiring above false ceiling 660 grade insulated cable shall be used Transformer Switch Gear H.T.,L.T. and other electrical rooms shall be at the ground floor level the other electric rooms shall be at least 4hrs. fire resisting capacity adequate ventilation arrangement shall have to be made in all the rooms, Dry and explosion proof type transformer shall be installed.

4.All electrical installation viz. Transformers, Switch Gears, L.T., HT rooms shall be protected with both auto detection and suppression systems as per suitability.

5.. Alternative Power Supply :

Arrangement shall be made to supply power with the help of a generator to operate at least the Fire pump, Pump for the deep tube well, Fire Alarm system, etc. and also for illuminating the staircase, corridors etc. and other place of assembly of the building in case of normal power failure.

J.AUTO DETECTION AND ALARM SYSTEM :

1.Auto Fire Alarm System which analogue addressable smoke/ heat detectors as per suitability shall be installed in all floor area of the building .

2.Addressable analogue manual call boxes incorporating with sounders shall be installed in all the floor area of the building in such a manner that maximum travel distance shall not be more than 22.5m in order to reach any of the call point.

3.Both way Public address system linked between all floors and Control Room shall have to be established. Talk back 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.

4.All the installation shall also satisfy the I.S. Specification 2189 as amended and the code of practice as laid down in N.B.C. pt. IV.

K.AIR CONDITIONING SYSTEM :

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.

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

6.The system of auto shut down of AHU shall be incorporated with the auto detection and alarm system.

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

8.Wherever the ducts pass through Fire wall of floors, the opening arounding the ducts shall be sealed with Fire resisting materials such as asbestoes rope vernicaite concrete etc.

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

10.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.

11.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.

12.Air duct services main floor area, corridors etc. shall not pass through the staircase enclosures.

13. 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.

14.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 fusible 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.

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

16.The air filters for air handling units shall be of non combustible materials.

17.The air handling units room shall not be used for storage of any combustible materials.

18.Inspection panel shall be provided in the main trunking to facillate the cleaning of ducts of accumulated dust and to obtain access for maintenance of fire dampers.

19.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.

L.FIRE DAMPER :

1.Fire damper shall be located in conditional air ducts and return air duct/passages at the following points.

At the fire separation wall.

where ducts/passage enter the central vertical shaft.

Where the ducts pass through floors.

At the inlet of supply Air Duct and the return air duct of each compartment on every floor.

2.The dampers shall operate automatically and shall simultaneously swith off the air handling fans. Manual operation facilities shall also be provided.

4.Automatic Fire Dampers shall be so arranged so as to close by gravity in the direction of Air movement and to remain rightly closed open operation of a fusible link.

M.OTHER PROTECTION MEASURES:

1.Special rescue equipment like Smoke hood, self contained B.A. set, portable lights at least two pairs(4 sets) shall be made available in the main fire control room with facilities of C.C.T.V. system.

2.Light protection Red light warning system etc shall be provided at the top of the building as recommended in N.B.C. part-VIII (building service section-2, electrical installation.

3. Lighting arrester arrangement to be provided at highest altitude of the building

N.FIRST AID FIRE FIGHTING SYSTEM :

1.First Aid Fire fighting arrangement in the style of placing suitable type of portable Fire Extinguishers- I.S.I. mark, Fire Buckets etc. in all floors and venerable locations of the premises shall be made in accordance with I.S. 2190-1992.

2.Special rescue equipment like Smoke Hood, self contained B.A. set portable lights at least two pairs (4sets) shall be made available in the main fire Control Room of the premises.

O.GENERAL RECOMMENDATIONS :

1.Fire License shall have to be obtained for proposed storing and processing with L.P.G. and other highly combustible articles.

2.Floor numbers and directional sign, showing the nearest exit , Fire Points etc. shall have photo luminescent signals at each floor of all blocks of building including shall be made available conforming the relevant I.S. Specification.

3.Provision of emergency illuminating exit shall be made at all floor levels of all blocks of building conforming the I.S. Specification.

4.If diesel oil is stored beyond the specified quantity license shall be accorded from the appropriate authority.

5.The occupants, employees and security staff shall be conversant with installed First aid 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 the Fire Safety installation and equipments and means of escapes installed in the building to keep them in perfectly good working conditions at all times by authorized competent agency is this regard.

7.Practice and evacuation drill shall be arranged at regular interval of time involving all the occupants and security staff shall be recorded.

8.Trained and experienced Fire Fighting staff not less than 6 per shift under the qualified and experienced fire officer shall be maintained round the clock.

9.Each year a certificate is to be obtained from the Director General, West Bengal Fire & Emergency Services certifying about the satisfactory services, performance of all the Lift and Fire Safety arrangements and installation of the building.

This shall be tested as provisional Fire Safety Recommendation, 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 favor 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.

Signature Not Verified
Digitally signed by ABHIJIT PANDEY
Date: 2021.03.24 13:10:56 IST

Director
West Bengal Fire & Emergency Services