



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

Memo no.:IND/WB/FES/20172018/1478

Date: 30-09-2021

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

To: Rajiv Gujral, Indian Craft Village Trust
Plot No. AF-II, Premises No. 04-0030, Action Area -I, New Town , Kolkata - 700156

Sub: Revised Fire Safety Recommendation for Proposed 4 (Four) nos. of G+XI storied termed as Block A, B, D & E, 1 (One) no. G+VII storied termed as Block C, 1 (One) no. G+II storied Facility Building upon a Common Basement under group Residential Building and 1 no. B+G+VIII storied under group Business-cum-Assembly Building, along with LP Gas Bank and Electrical Sub-Station for both Residential and Business-cum-Assembly Building, at the premises no. - AF-II, ACTION AREA - I, Premises No. – 04 -0030, NEWTOWN, KOLKATA-700156 .

This is in reference to your application no. 0125188211100086 dated 03-08-2021 regarding the Revised Fire Safety Recommendation for Proposed 4 (Four) nos. of G+XI storied termed as Block A, B, D & E, 1 (One) no. G+VII storied termed as Block C, 1 (One) no. G+II storied Facility Building upon a Common Basement under group Residential Building and 1 no. B+G+VIII storied under group Business-cum-Assembly Building, along with LP Gas Bank and Electrical Sub-Station for both Residential and Business-cum-Assembly Building, at the premises no. - AF-II, ACTION AREA - I, Premises No. – 04 -0030, NEWTOWN, 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:

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.
- 2.The floor area exceeds 750m² shall be suitably compartmented by separation walls up to ceiling level having at least 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.Provision of ventilation at the crown of the central core-duct of the building shall be provided.

5.Arrangements shall have to be made for sealing all the vertical & horizontal ducts by the materials of adequate Fire resisting capacity.

OPEN SPACE & APPROACH:

1.The open space surrounding the building shall conform the relevant building rules as well as permit the accessibility and manoeuvrability of Fire appliance including Aerial Ladders with turning facility.

2.The approach roads, internal road / driveway 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 gates into the premises shall not be less than 5M & 5.5 M respecting the abutting road.

EXIT:

1.No exit door from any occupancy of any floor in a distance is not more than the distance as specified in N. B. C. –Part – IV, 2016. The travel distance to an exit from dead end of a corridor in an Business cum Assembly building shall not exceed 6 mtr.

2.Exits shall be so arranged that at least two separate exits are available in every floor area. Exits shall be as remote from each other as practicable and so arranged that there are no pockets or dead end occurred in which occupants may be trapped.

3.Every exit door way shall open into an enclosed stairway or a horizontal exit of a corridor.

4.Every room with a capacity of over 45 persons in area shall have at least two ways.

STAIRCASE:

1.The staircases of the building shall be enclosed type as shown. Entire construction shall be made of bricks/ R.C.C type having Fire resisting capacity not less than 2 hours.

2.The Staircases of the building shall have permanent vents at the top and openable sashes at the each floor level in the external wall of the building.

3.The width of the staircases shall be made as marked in the plan. Corridors and the exit doors shall conform the relevant building rules, with up-to-date amendments.

4.All the staircases shall be extended upto terrace of the building and shall be negotiable to each other without entering into any occupied area.

5.Fire and smoke doors at the entrances of all the staircases enclosures as 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 flitted with self-closing type, openable in the direction of escape.

6.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.

REFUGE AREA:

1.The Refuge area on calculating the area at the rate of 0.3 m²/ person on the basis of floors area shall be provided on the external wall as cantilever projection or any other suitable means at 24.20 mtr. level (8th Floor) for Residential Towers and for the Business cum Assembly Building a 02 mtr. wide service passage on the north west corner as shown in plan drawings from 1st floor onwards shall be treated as Fire Refuge Area.

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

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

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 form open Air and from any points the travel distance shall not exceeds 15.5 M to reach any exit.

4.The entire basement shall be protected with Automatic Sprinkler System with Hydrants and Hose Reel Hoses 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.The Lifts runs towards basement shall be pressurized. A positive pressure of 25 to 30 Pa. shall be maintained inside the lift well and lobby. The pressurization shall be maintained round the clock.

9.Basement shall be compartmented by 04 hours Fire rated wall and Water Curtain system as shown / marked in plan drawings.

FIRE FIGHTING WATER:

1.Underground and suitably interconnected water reservoirs having total water capacity of not less than 300000 (3 Lac) ltrs for Residential Towers and not less than 200,000 (2 Lac) ltrs. For Business cum Assembly Building shall be provided.

2.Overhead reservoir of not less than 10,000 ltrs. Capacity on each Residential Tower and 04 (Four) nos. of Reservoir of capacity not less than 10,000 ltrs. Each for Business cum Assembly Building as shown in the plan drawings exclusively for Fire fighting 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 this reservoirs as per specification.

5.Provision of replenishment at the rate of at least 2000 lts./min. from two separate source of water supplies 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 on the underground water reservoir to be made to draw water in case of emergency.

WATER LAYOUT SYSTEM:

1The buildings shall be provided with Wet Riser of 150 mm. internal diameter Pipe Line 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 furthest outlet. In both cases the running pressure shall not be less than 3.5 Kgs/Sq.cm. All other requirements shall conforming I.S. 3844 – 1989.

2Provision for Hose Reel units on swivelling drum in conjunction with Wet Riser shall be made near each landing valves.

3Yard Hydrant / Ring Main Hydrant with provision of adequate numbers Pillar type Hydrant shall be installed surrounding the buildings in accordance with relevant I.S. specifications.

4. Provision of three way collecting head for uses of Fire Services must be provided at the entrance of the building.

FIRE PUMP:

1.Provision of the Fire Pump 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 rooms separately for Residential Towers and Business cum Assembly building.

2. One such pump shall always be kept on stand-by of diesel driven type.

3.Provision of separate pump for sprinkler system to be made to keep the Water based system under pressurized condition at all the time and shall be installed.

4.Provision of Jockey Pump shall also have to be made to keep the Water based system 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.

5.The Number and type of fire pumps shall be as per provision of N. B. C. – Part – IV, 2016.

SPRINKLER INSTALLATION:

The automatic Sprinkler installation shall be provided in all Basements and in all floor areas of the Business cum Assembly building, covered parking area of Residential Towers and Club area as per I.S. 9972 and alarm gong to be incorporated along with the sprinkler system.

MULTI LAYER AUTOMATED MECHANIZED CAR PARKING SYSTEM:

1.Structural design:- The M.L.C.P. shall be constructed of structural steel construction.

2.Vertical Deck Separation:- For M.L.C.P. having Multi Car Parking level, vertical Fire separation between the upper and lower decks by using a non- perforated and non-combustible materials (Structural Steel Plate) shall be provided. Proper drainage system shall have to be provided for accidental leaking of oil from the Car and sand bed shall be provided at the Ground level.

3.Fire Engine Access way:-Access way shall be provided for the Fire Engine to gain access to the car park entrance and exit.

4.Fire Hydrant:- Fire hydrants are to be provided in accordance with the provision of NBC Part IV, 2016and relevant I.S. specification.

5.Natural Ventilation:- Each car parking deck shall be provided with at least 50% external ventilation openings of the perimeter wall areas and uniformly distributed.

6.Sprinkler & Detection System:-Open Modular Type Sprinkler along with detectors shall be provided in all M.L.C.P. areas

as per relevant I. S. Specification.

7. Cross zone wise Sprinkler system shall have to be implemented.

8. Operating System:- Both Mechanical and Manual type operating system for MLCP shall have to be provided.

ELECTRICAL INSTALLATION & DISTRIBUTION:

1. The electrical installation including transformers, Switch Gears, L. T., H. T. Rooms, panel rooms, 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. Electrical distribution system of the building shall be made in the form of concealed wiring or in heavy gauge M.S. conduit continuously bonded to earth. Cables shall be I.S. marked and be of F.R.L.S. categories.

3. The vertical & horizontal ducts shall be sealed at all floor level by approved fire resisting materials.

4. The electrical installation shall be adequately protected with automatic fire detection and suppression system as per provision of N. B. C. Part- IV, 2016 and relevant I. S. specification.

5. Alternative Power Supply :

6. 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 Detection and Alarm System, pressurization, ventilation, signage etc. and also for illuminating the Staircases, corridors etc. and other places of assembly of the building in case of normal power failure.

INTELLIGENCE ANALOGUE SYSTEM:

1. Auto Fire Alarm System with analogue addressable smoke / heat detectors as per suitability shall be installed in all floor area of the Business cum Assembly building and minimum 02 (Two) numbers of Beam Detectors sets shall be installed in each Cinema Hall.

2. Addressable analogue manual call boxes incorporating with sounders shall be installed in all floors area of the building 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 linked between all floors and Control Room. Shall have to be established.

5. All the installations shall also 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:

i. There is need to have a clear policy for emergency evacuation plan.

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.

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 around 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 aluminium sheeting) at least 3.2m thick. And which would not readily conduct heat.

Fire Kiosk:

One Fire Kiosk for the proposed building as mentioned there in containing the following fire fighting and rescue equipments:

- i) 4 nos. 4.5 kg. CO2 extinguisher.
- ii) 4 nos. 4.5 kg. ABC type extinguisher.
- iii) 2 nos. ceiling hook.
- iv) 4 nos. Fire Bucket.
- v) 1 no. Lock Cutter.
- vi) 2 nos. 14 lb. Hammer.
- vii) 2 nos. Crowbar.
- viii) 1 no. Insulated Axe.
- ix) 2 nos. Stretcher.
- x) 2 nos. Smoke Hood.
- xi) 2 nos. Torch Light.

Details of all floors in all block plans along with details of Fire Fighting equipment and installations shall be maintained in fire kiosk

LP GAS BANK:

1. The whole construction of the LPG Bank shall have to be complied as per I.S. specification 6044 & relevant Petroleum Gas Rules and all other Rules.
2. L.P. Gas bank shall be on the ground level of the said building area which to be constructed at least 3 M distance between an installation and any building, public place, roadways, and other surroundings.
3. Fire protection, installation of gas bank including piping and isolation valve and others condition should be complied with IS 6044.

4. Driveway must be free of any type of obstruction for easy movement of Fire appliances, parking will not be allowed on the driveway.
5. The doors of the LPG bank room to be made with non –inflammable materials which shall open outwards & shall have louvers/wire mesh to ensure visibility & ventilation.
6. The controlling device of L.P.G. shall have to be placed at a far away (at least 3mtr.) from gas bank.
7. Adequate cross ventilation at ground level i.e. 100 mm above of gas bank, open to atmosphere and below ceiling level at least 500 mm long & 300 mm height (covering minimum 25 percent of wall area) to the outside air shall have to be provided as per I.S. specification 6044 & relevant Petroleum Gas Rules and all other Rules.
8. Medium velocity water spray projector system with auto & manual starting facility with alarm gong shall have to be provided connecting with existing water based system and to be integrated with the main fire alarm panel.
10. Red Luminous letterings of minimum height of 40mm as “ DANGER / HIGHLY INFLAMABLE GAS / NO SMOKING/ NO NAKED LIGHTS” on white background shall be written outside at prominent place.
11. Cylinder manifolds, Pressure regulators, Piping , valves & other requirements to be installed as per I.S. specification 6044(Part 1): 2013.
12. The colour of LPG lines shall be as per I.S. 2379.
13. Gas detectors and sensors shall have to be installed following I.S. 6044.
14. Signage shall have to be provided as per I.S. 6044.

AUDITORIUM & CINEMA HALL:

The doors/aisles/seating arrangement/corridors /Screen /Signage / Fire & Life Safety arrangements and Fire Protection measures shall be made as per provision of N. B. C. - Part -IV, 2016, relevant IS specification as well as the Indian Cinematography Act with up to date amendment.

NOC in connection to the Cinema, Restaurant etc. Shall be obtained from appropriate authority.

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.

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.Necessary sanction and approval for such construction and occupancy of this project must be obtained from competent authorities.
- 3.Lightning arrestor and air craft warning lights shall have to be installed as per existing norms and relevant IS specification.
- 4.Disposable type B. A. Musk of sufficient quantity to be kept always available for emergency situation.
- 5.Fire Notice for Fire Fighting and evacuation from the building shall be prepared and be displayed at all vulnerable places of the building.
- 6.Floor numbers and directional sign of escape route shall be displayed prominently.
- 7.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.
- 8.The Department of Fire & Emergency Services, Government of West Bengal, shall not take any responsibility in respect of any legal dispute if pending or arises about the title of land / property.
- 9.This Fire Safety Recommendation cannot be treated in any case of regularizations of any unauthorized construction.
- 10.The management of the organization / building, as the case may be, shall maintain the fire prevention and safety measures in good repair and in efficient condition at all the times, which are installed in the building for use at the time of

fire or other emergencies.

11. A crew of trained Fireman under an experienced officer shall be maintained round the clock for safety of the building.

12. Mock Fire practice and evacuation drill shall be performed periodically with participation of all occupants of building.

13. Previous FSR issued vide this office memo no. IND/WB/FES/20172018/1478 dated 29/12/2017 and latter on RFSR issued vide this office memo no. IND/WB/FES/20172018/1478 dated 19/12/2018 may be treated as cancelled.

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

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 fire & life safety aspects of the buildings.

N.B. Any deviation and changes the nature of use of the building in respect of 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

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