GOVERNMENT OF WEST BENGAL
OFFICE OF THE DIRECTOR GENERAL
WEST BENGAL FIRE & EMERGENCY SERVICES
13-D Mirza Ghalib Street, Kolkata- 700 016

Memo No : IND/WB/FES/20182019/48456 DATE: 22/06/2019

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

To :
Rishi Todi Partner MS Premier Mica Mining and Manufacturing Company
Holding No- 98/A, B.T. Road, R.S. Dag No. 209/1073 & 127, Mouza- Palpara, J.L. No.- 07, Under Baranagar Municipality, Kolkata- 700090
Baranagar, Baranagar,
North 24 Parganas - 700090 .

Sub :Revise Fire Safety Recommendation for a proposed G+25 storied residential building which will be constructed at Holding No. 98/A, B.T. Road, R.S. Dag No.- 209/1073, & 127, Mouza- Palpara, J.L.No.- 07, under Baranagar Municipality, Kolkata- 700090.

This is in reference to your Application No. IND/WB/FES/20182019/48456,dated 22/06/2019, regarding the Fire Safety Measurefor a proposed G+25 storied residential building which will be constructed at Holding No. 98/A, B.T. Road, R.S. Dag No.- 209/1073, & 127, Mouza- Palpara, J.L.No.- 07, under Baranagar Municipality, Kolkata- 700090..

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 Revised Fire Safety Recommendation in favour of the aforesaid building subject to the compliance of the following fire safety measure.

Recommendation:

1. CONSTRUCTION:
1.The whole construction of the proposed project shall be carried out as per approved plan

drawings conforming the relevant building rules with upto date amendment of Local Municipal Rules and shall remain same as per approved plan of this Department.
2.Any deviation with regard to the construction shall be verified by the concerned building sanctioning authority.
3.Materials for rapid flame spread categories including untreated wood fiber board etc. shall be not use. The doors and windows preferably shall be made of metal.
4.The interior finish decoration of the building shall be made with the materials with low flame spread and low smoke/non-toxic gas generating categories conforming I.S. Specification.

5.Arrangement shall have to be made for sealing all the vertical ducts by the materials of adequate Fire resisting capacity.
6.Service ducts and shafts should be enclosed by a wall of 2 hours and doors of one hour fire rating. All such ducts shall be properly sealed at all floor levels.

2. OPEN SPACE AND APPROACH:
1.The abutting road shall permit the accessibility and maneuverability of fire appliances and shall be constructed according to submitted plan drawing.
2.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.
3.The approach road surrounding the building (drive way) and open car parking area shall be sufficiently strong to withstand the load of Fire Engine weighting up to 45 M.T.
4.The width and height of the entry gates to the premises shall be 5.4m wide and 5.5m high (as shown/marked in the plan drawing) respecting the abutting road.
5.Driveways to have a clear width as shown in the plan drawing which are accessing towards ground level below each fire refuge area and a space of 9.0m X 15.0m below each fire refuge area shall have to be provided as shown/marked.
6.Drive ways should be free of any type of obstruction. No parking will be allowed on the Drive-Way.

3. STAIRCASE :
1.The staircases of the buildings shall be enclosed type as shown in the plan drawings. Entire construction shall be made of bricks / R.C.C. type having Fire resisting capacity not less than 2 hours.
2.The staircase 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 are shall have to be provided in the external wall of the building.
3.Fire Check Doors at the entrances of all the Staircase enclosures as shown/marked in the plan at each floor level shall be provided. The F.C.D. shall be of at least one hour Fire resisting wire window fitted with self closing type openable in the direction of escape.

4.Staircase with fire shaft shall be pressurized as per NBC Part-IV.
5.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.
6.Both staircases of the building 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.
7.The position of the staircases shall be made as shown in the plan. Width of the staircases, corridors and the exit doors shall conform the relevant building rules with up-to-date amendments.

8.Corridors of the building shall be kept un-obstructed all the time.

4. LIFT :
1.The walls of the lift enclosure of all buildings shall be at least two hours Fire resisting type. Collapsible gate shall not be permitted.
2.Lift and lift lobby with fire shaft shall be pressurized as per NBC Part-IV.
3.In case of failure of normal electric supply, it shall automatically trip over to alternate supply. The lift shall be so wired that in case of power failure, it comes down at the ground level landing to stand still with door open.
4.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 such design as to operate on actuation of sprinkler or Fire Alarm. In case of failure of normal power supply it shall automatically trip to alternate supply.
5.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.

6.At least one no. lift of the building shall be designed as high speed “Fire Lift” (shown in the plan drawing) and conspicuously indicated. The speed of the fire lift in the buildings 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.

5. REFUGE AREA:
1.The measurement of all Refuge Areas/Fire Refuge Landings shall be as per requirement of occupancy load/floor areas (at the rate 0.3sq.m./person) or 15.19Sq.m. whichever is higher.
2.Refuge areas are to be provided as shown in the plan drawing and shall be provided on the external wall with cantilever projection or other suitable means as shown in the drawing.
3.The refuge areas shall be of Fire resisting construction and protected with self closing F.C.D. at the entrance from the staircase half-landing.
4.All facilities shall be provided in the fire refuge platforms as detailed in NBC Part-IV.
5.The position of refuge area shall be in such manner so that it shall be negotiable by the

Fire Service High Rise Ladder from the ground of the building.

6. ELECTRICAL INSTALLATION & DISTRIBUTION:

1.The electrical installation including transformers (if any, shall be of dry and explosion proof), 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 vertical supply ducts shall be sealed at each floor level.

3.The electrical installation shall be adequately protected with CO2 / D.C.P.

4.Electrical distribution system of the all buildings shall be made in the form of concealed wiring or in heavy gauge M.S. conduit continuously bonded to the earth. Cables shall be I.S. marked and preferably be of F.R.L.S. categories. M.C.B. shall be installed in electrical circuit to avoid electrical fire hazards.

5.All electrical installation viz. transformer, Switch Gear L.T, H.T rooms shall be protected with both auto detection and suppression system as per suitability.

6.Adequate ventilation of Electrical Room of all buildings shall be made.

7.Alternative Power Supply : Arrangement shall have to be made to supply power with the help of generator to operate at least Fire Pumps, Pump for deep Tube well, Fire Detection & Fire alarm Systems, Lifts, Mechanical smoke venting systems and also illuminating the staircase, corridors, etc. and other assembly places of the building incase of normal power failure.

8.Lightening Arrestor arrangement to be provided at highest altitude of all building.

7. FIRE FIGHTING WATER:

1.One Underground Water Reservoir having water capacity of 200000Lts. marked in the plan exclusively for fire fighting purpose. The replenishment arrangement @ 2000 Lts./min. preferably from two different sources of water supply shall be provided for Fire Water Reservoir.

2.Over Head Water Reservoir (exclusively for Fire Fighting purpose) of capacity 10000Lts. shall be provided as marked on the roof top with suitable replenishment arrangement.

3.The Fire Water Reservoirs shall have overflow arrangement with the domestic Water Reservoir as well as to avoid stagnancy of water. The fire fighting water reservoir shall be kept full at all time.

4.Provision to be made for placement of Fire Appliances on the underground water reservoir to draw water in case of emergency. Provision of necessary manhole shall be made on the top of the reservoir as per specification.

5.Provision of Fire Service inlet (by installing four way collecting head conjunction with water based system) shall be installed at suitable places.

8. FIRE PUMP :

1.Discharge should not be less than 2850Lts/min and pressure at the top and furthest most hydrant shall not less than 3.5Kgs/Sq.cm.
2.A Sprinkler Pump of equal capacity shall be provided.
3.A standby Pump of equal capacity shall be provided on alternative source of supply preferably be of diesel driven type.
4. Provision of jockey pump shall also have to be installed to keep up the water based system under pressurized condition at all the time. The running pressure shall not be less than 3.5Kgs/Sq.cm. All other requirements shall conform I.S. specification 3844-1989.
5. All the pumps shall be incorporated with both manual and auto starting facility and with alternate power supply. The suction of Fire Pumps shall preferably of positive type.

9. HYDRANT SYSTEM:
A)Ringmain Hydrant System:-
i)200 mm diameter Ring Main water layout arrangement covering the entire premises of the project with provision of piller type yard hydrants with 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 2850 Ltrs./min. at the pressure 3.5kg/sq.cm. at any point.
B)Wet Riser & Hose Reel System:-
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 suitability 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 stage wise distributions.
1st Stage Ground Floor to 15th floor- 200mm dia.
2nd Stage 16th Floor to Top Floor 150mm dia.
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:-
i)All floors of the building shall be suitable protected by automatic Sprinkler installation conforming the grade as per I.S. Specification 9972.
ii)Alarm gang to be incorporated along with the sprinkler system.
iii)Sprinkler Annotation Panel shall be installed and incorporated with the system.

10. AUTO DETECTION AND ALARM SYATEM:
1.Auto Fire Alarm System with addressable smoke/heat detectors as per suitability shall be installed in all floors of all buildings except car parking block.

2.Both way Public address system linked between all floors and Control Room shall have to be incorporated.
3.Manually operated Electrical fire alarm system with at least two numbers of break glass type call boxes fitted with hooters at each floor connecting with audio-visual Panel board shall be made in Fire Control Rooms (shown in the ground floor of each block).
4.Hooter will be sounded in such a manner so that an operation of a Detector or Manual Call Point, Hooter will sounded on all floors.
5.All other requirements of the system shall be made conforming I.S. 2189 as amended and the code of practice as laid down in N.B.C. Part-IV.

11. AIR CONDITIONING SYSTEM:- (if there any centralized air condition 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.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 asbestos rope vermiculite 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.
c.The dampers shall operate automatically and shall simultaneously switch off the air handling fans. Manual operation facilities shall also be provided.
d.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.
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. The air handling units room shall not be used for storage of any combustible materials.
17.Inspection panel shall be provided in the main trucking to facilitate the cleaning of ducts of accumulated dust and to obtain access for maintenance of fire dampers.
18.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.

12. FIRST AID FIRE FIGHTING SYSTEM:
First Aid Fire fighting arrangement in the style of placing suitable type of portable Fire Extinguishers (I.S.I. marked), Fire Buckets etc. in all floors and vulnerable locations of the premises shall be made in accordance with I.S. 2190-1992.

13. GENERAL RECOMMENDATION:
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 of escape route shall be displayed prominently.
3.Provision of illuminating exit shall be made at all floor levels of building conforming the I.S. Specification.
4.The 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.
5.Arrangement shall be made for regular checking, testing and proper maintenance of all the Fire Safety installation and equipments installed in the building to keep them in perfectly good working conditions at all times.
6.Special rescue equipment like Smoke Hood, self contained B.A. set, portable lights shall be made available in the main fire Control Room of the premises.

7.A crew of trained Fireman shall be maintained round the clock for safety of the housing complex.
8.Mock Fire practice and evacuation drill shall be performed periodically with participation of all occupants of building.
9.Haphazard indoor or outdoor storage shall be avoided. All staircases and corridors shall be

kept free
from any type of obstructions.
10.Telephone numbers of all Emergency Services and Departments shall be hanged at conspicuous places of all floors and inside Office/Reception Counter.

11.Drill: Must be acquainted with evacuation passage of escape route by practicing as a drill with all occupants as a drill every month as a special duty and records of which must be kept in their custody.
12.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.
13.This Fire Safety Recommendation cannot be treated in any case for regularizations of any unauthorized construction.

On compliance of all the above Fire & Life Safety Recommendations, the Director General, West Bengal Fire & Emergency Services shall be approached for necessary inspection and testing of the installations, 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

Signature Not Verified
Digitally signed by TARUN KUMAR SINHA
Date: 2019.06.22 12:34:11 IST