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**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/20192020/78257

DATE: 13/02/2020

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

To :
Usha Projects Private Limited
160, G.T. Road, R.S. Dag No.-314, Khatian No.-145, Mouza-Shibpur, Ward No.-36,
Howrah-711 102
Howrah F.S., Shibpur,
Howrah - 711102 .

Sub : Revised Fire Safety Recommendation for proposed construction comprising 2nos Block of B+G+15 storied (Tower- I) Mercantile cum Residential Building and G+18 storied (Tower- II) under group Residential Building in the name of "Usha Projects Private Limited" at premises no. 160, G.T. Road, R.S. Dag No.-314, Khatian No.-145, Mouza-Shibpur, Ward No.-36, Howrah-711 102.

This is in reference to your Application No. IND/WB/FES/20192020/78257, dated 13/02/2020, regarding the Fire Safety Measure for proposed construction comprising 2nos Block of B+G+15 storied (Tower- I) Mercantile cum Residential Building and G+18 storied (Tower- II) under group Residential Building in the name of "Usha Projects Private Limited" at premises no. 160, G.T. Road, R.S. Dag No.-314, Khatian No.-145, Mouza-Shibpur, Ward No.-36, Howrah-711 102..

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. 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.
2. The interior finish decoration of the buildings shall be made of low flame spread materials conforming to 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 all the vertical & horizontal ducts by the materials of adequate Fire resisting capacity & the doors of service ducts / shafts of 2hr. Fire rating.

B. OPEN SPACE & APPROACH:

1. The open spaces surrounding the buildings shall conform the relevant building rules as well as permit the accessibility and maneuverability of Fire Appliances with turning facility.
2. The approach road 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 and 5 M respecting abutting the road.

C. STAIRCASE:

1. The staircase of the buildings shall be enclosed type. Entire construction shall be made of bricks / RCC type having Fire Resisting Capacity not less than 4 hours.
2. The staircase of the buildings shall have permanent vents at the top and open able sashes at each floor level in the external wall of the buildings.
3. The width of the Staircase shall have to be made as shown in the plan. Corridors and the exit doors shall conforming the relevant building rules.
4. Fire & Smoke doors at the entrance of staircase enclosures as shown / marked in the plan at each floor level shall have to be provided. The F.C.D. shall be of the least two hour Fire resisting Wire Glass Window fitted with self closing type openable in the direction of

escape.

D. LIFT:

1. The walls of the lifts enclosure shall be at least two hours Fire Resisting type.
2. Collapsible gate shall not be permitted.
3. In case of failure of normal electric supply, it shall automatically trip of alternate supply and also shall have manually operated change over facility. Alternatively, the lift shall be so wired that in case of power failure, it comes down at ground level stands still with door open.
4. All the lifts of the buildings shall be designed as high speed "FIRE LIFT" and shall be conspicuously indicated / marked.

E. Refuge Area:

1. The Refuge area shall not be less than 15.0 sqm and shall have to be provided as shown in the plan.
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.

F. BASEMENT:

1. The Basement shall be adequately ventilated.
2. Auto Mechanical Extractor for smoke venting arrangements shall be provided in the basement conforming the relevant I.S. Specification and provision of NBC Part IV, 2016.
3. The entire basement shall be protected with automatic sprinkler system, auto detection system, Hydrants / Hose Reel Hose along with necessary fire safety measures conforming relevant I.S. specification.
4. Auto Mechanical extractors shall have provision of an alternative source of supply.
5. 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.

G. FIRE FIGHTING WATER :

Under Ground Water Reservoir of 200,000 ltrs capacity for entire premises and Over Head Water Reservoir of 20,000 Ltrs capacity in each block exclusively for Fire Fighting purpose with replenishing arrangements @2000 ltrs/min. preferably from two different sources of water shall have to be provided. The water reservoirs shall have overflow arrangement with the domestic water reservoir as well as to prevent stagnancy of water. The water reservoirs shall be kept full at all time.

H. WATER LAYOUT SYSTEM:

1 The 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 ltrs/min. at the ground floor level outlet and minimum 900 ltrs/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 in conjunction with Wet Riser shall be made near each landing valves.

3 Ring main with adequate numbers of Yard Hydrants and provision of atleast two number fire service inlet shall be installed surrounding the buildings in accordance with relevant I.S. specifications.

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

2. 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.

3. 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.

J. Sprinkler Installation:

The automatic Sprinkler installation shall be provided in all floor area of the buildings including basement and alarm gang to be incorporated along with the sprinkler system. Sprinkler test line shall have to be provided.

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 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. 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, etc. and also for illuminating the Staircase, corridors etc. and other places of assembly of the buildings in case of normal power failure.

L. 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 buildings.

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. Both way public address systems & talk back systems linked between all floors and Control Room. Shall have to be established.

4. 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.

5. 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.

M. 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. Air duct services main floor area, corridors etc. shall not pass through the staircase enclosures.
10. 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.

11. 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.

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

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

14. 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.

15. 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.

N. 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 and vulnerable locations of the premises shall be made in accordance with I.S. 2190-92.

O. GENERAL RECOMMENDATIONS:

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

2. Double Layer Car Parking shall have to be protected with adequate numbers of Yard Hydrants with necessary accessories.

3. Disposable type B. A. Musk to be kept always for emergency fire situation.

4. Fire Notice for Fire Fighting and evacuation from the buildings shall be prepared and be displayed at all vulnerable places of the buildings.

5. Floor numbers and directional sign of escape route shall be displayed prominently.

6. 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.
7. 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.
8. A crew of trained Fireman shall be maintained round the clock for safety of the buildings.
9. Mock Fire practice and evacuation drill shall be performed periodically with participation of all occupants of buildings.
10. 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. : The earlier Fire Safety Recommendation was issued vide this office memo no. WBFES/Dy..DFS.W.Z./FP/867/2015/How/RB cum MB – 1180/15 dt. 30.03.15 is treated as cancelled. However, any deviation and changes the nature of use of the buildings in respect of the approved plan drawings, without obtaining prior permission from this office, this Revised Fire Safety Recommendation will be treated as cancelled.

Director
West Bengal Fire & Emergency Services

Signature Not Verified
Digitally signed by TARUN
KUMAR SINHA
Date: 2020.02.13 12:46:30 IST