Government of West Bengal
Office of the Deputy Director, West Zone
West Bengal Fire & Emergency Services
430 G.T. Road, Howrah- 1

Memo no- WBFES/ DY.DFS-WZ/ FP/ 468 **/ 14 /HWH/ R.B./ 623 / 13 Date** 29/10/14.

From : **The Director In Charge,**
West Bengal Fire & Emergency Services.

OFFICE OF THE DEPUTY DIRECTOR WEST ZONE * W.B.F.&E.S. * HOWRAH

To : Shri Sushil Kr. Agarwal & Others,
Signatory,
BJM Industries Ltd.,
493/B, G.T.Road (South),
Shibpur , Howrah

Sub: Revised Fire & Life Safety Recommendation. for proposed construction of one no G+IV storied under group Business cum Mercantile , one no G+III storied Educational Building & G+ XII storied under group Residential Building comprising 2 no block , block -1 & 2 respectively at the premises 493/B, G.T.Road (South) , Ward no.- 36 , Borough – IV , under H.M.C., Mouza & P.S.- Shibpur, Dist.- Howrah.

This is in reference to your letter No nil dated 07/8/14 regarding revised Fire & Life Safety measures. for proposed construction of one no G+IV storied under group Business cum Mercantile , one no G+III storied Educational Building & G+ XII storied under group Residential Building comprising 2 no block , block -1 & 2 respectively at the premises 493/B, G.T.Road (South) , Ward no.- 36 , Borough – IV , under H.M.C., Mouza & P.S.- Shibpur, Dist.- Howrah.

The revised plan drawing 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 issuing Fire Safety Recommendation in favour of the aforesaid building subject to compliance of the following revised fire safety measures in superseding the earlier Fire & Life safety recommendation which were issued vide memo no WBFES/2841/08 dated 13/10/08 & / **DY.DFS-WZ/ FP/ 616 / 13 /HWH/ R.B./ 623 / 13 Date 12/08/13.**

27/x/14

Director In Charge
West Bengal Fire & Emergency Services

Enclo :
1. One set of plan.
2. Recommendation

RECOMMENDATIONS

A. CONSTRUCTION

1. The whole construction of proposed building shall be carried out as per approved plan drawings conforming the relevant building rules of Kolkata Municipal Corporation.
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. specification.
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 ducts by the materials of adequate Fire resisting capacity.

B.OPEN SPACE& APPROCH:

1.The open space surrounding the building shall conform the relevant building rules as well as permit the accessibility and maneuverability of Fire appliances with turning facility.
2. The approach roads shall be sufficiently strong to withstand the load of fire engine weighting upto 45 M.T
3. The approach road and internal drive ways and the circulation space always kept free from any obstructions.
4. Internal drive way around the building shall not be less than 07M.
5. The width & Height of the access gates into the premises shall not be less than 4.5M & 5.0M respecting abutting road.

C. STAIRCASE

1. The staircase of the building shall be enclosed type. Entire construction shall be made of bricks/R.C.C. type having fire resisting capacity not less than 4 hrs.
2. The staircase of the building shall have permanent vents at the top and openable sashes at 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 conforming the relevant building rules and as well as rules of the cinematograph Act with up to date amendments.
4. All the staircase shall be extended up to terrace of the building and shall be negotiable to each other without entering into any room.
5. Fire and smoked 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 one hour fire resisting wire glass window fitted with self-closing type openable in the direction of escape.
6. The mechanism for pressurizing the staircase shaft shall be so installed that the same shall operate automatically on fire alarm system/sprinkler system and be provided with manual operation facilities

D. LIFT

1. Walls of lift enclosures shall have a fire rating of two hours. Lift shafts shall have a vent a the top of area not less than 0.2 sq m.
2. At least one Lift of the building shall be designed at high speed "FIRE LIFT" and conspicuously indicated at each floor.
3. Lift motor room shall be located preferably on top of the shaft and separated from the shaft by the floor of the room.
4. Landing door in lift enclosures shall have a fire resistance of not less than one hour.
5. The number of lifts in one lift bank shall not exceed four. A wall of two hours fire rating shall separate individual shafts in a bank.
6. Lift car door shall have a fire resistance rating of 1 hour.
7. Collapsible gates shall not be permitted for lifts and solid doors with fire resistance of at least one hour shall be provided.

8. If the lift shaft and lobby is in the core of the building a positive pressure between 25 and 30 pa shall be maintained in the lobby and a possible pressure of 50 pa shall be maintained in the lift shaft. The mechanism for the pressurization shall act automatically with the fire alarm/sprinkler system and it shall be possible to operate this mechanically also.
9. Exit from the lift lobby, if located in the core of the building, shall be through a self-closing fire smoke check door of one-hour fire resistance.
10. Lift shall not normally communicate with the basement. If however, lifts are in communication, the lift lobby of the basement shall be pressurized as per N.B.C. part - IVwith self closing door .
11. Grounding switch (es), at ground floor level shall be provided to enable the fire service to ground the lifts.
12. Telephone/talk back communication facilities may be provided in lift cars for communication system and lifts shall be connected to the fire control room of the building.
13. Suitable arrangements such as providing slope in the floor of the lift lobby shall be made to prevent water used during fire fighting, etc at any landing from entering the lift shafts.
14. A sign shall be posted and maintained on every floor at or near the lift indicating that in case of fire, occupants shall use the stairs unless instructed otherwise. The sign shall also contain a plan for each floor showing the location of the stairways. Floor marking shall be done at each floor on the wall in front of the lift-landing door.
15. The electric supply shall be on a separate service from electric supply mains in a building and the cables run in a route safe from fire, that is within a lift shaft. Lights and fans in the elevator having wooden paneling or sheet steel construction shall be operated on 24-volt supply. In case of failure of normal electric supply, it shall automatically switch over to the alternate supply.
16. 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 or arrangement of pressurization system for fire lift well, lobby area by dedicated shaft.
17. The speed of the fire lift shall be such that it can reach to the top floor from ground level within one minute.
18. All other requirements shall conform the I.S. specification including communication facility in the lift cars connecting with the Fire Control Room of the building/buildings.

E. REFUGE AREA:

1. Refuge area is not less than 15sq.m. Shall be provided on the external wall with cantilever projection or other suitable means at 22M & 34M. levels of the building as shown in the drawing.
2. The refuge area shall be or Fire resisting construction and protected with closing F.C.D. at the entrance from the corridor or staircase lobbies.
3. The position of refuge Areas shall be such that they are negotiable by the Fire service Ladder from the ground

F. FIRE FIGHTING WATER:

1. Underground water reservoir having water capacity at 1.5 Lacs ltrs and overhead reservoir of 20,000Lts Capacity exclusively for Fire fighting purpose with replenishing arrangements @ 1000lts./min. Preferably from two different sources of water supply shall be provided. The fire water Reservoir shall have overflow arrangement with the domestic Water Reservoir as well as to avoid stagnancy of water. The water reservoir shall be kept full at all time.
2. Underground water reservoir should be provided with suitable numbers of manholes to offer facility to Fire engine to insert the Suction Hose to draw water.
3. The static storage water supply required for the above mentioned purpose should entirely be accessible to the fire tenders. The covering slab shall be able to withstand the vehicular load of 45 tones in case of high rise A draw off connection shall be provided.

G. HYDRANT SYSTEM:

1. The building shall be provided with Wet Riser of 150mm 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 a that shall be kept charged with Water all the time under pressure and capable to discharge 2280 lts /min at the ground floor level outlet and minimum 900 lts/min at the top most outlet. in both case the running pressure shall not be less than 3.5kgs/ sq.cm . All other requirements shall conform I.S. 3844-1989.
2. Provision for Hose reel in conjunction with Wet Riser shall be made at each floor level. Conforming the relevant I.S. Specifications.
3. Provision of standard Hose Reel Hose supplied from the overhead reservoir through Booster Pump shall have to be made in all the floor of the building satisfy the code I.S. 3844-1989.
4. Yard Hydrant /Ring Main Hydrant with provision of adequate numbers Hydrant shall be installed surrounding the building in accordance with relevant I.S. specification.

H. FIRE PUMP:

Provision of the Fire Pump shall have to be made near each U.G.W.R to supply water at the rate-designed pressure and discharge into the water based system, which shall be installed in the building. One such pump shall always be kept on Stand-by preferably be of diesel driven type.

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 section the system shall be Wet Riser-cum-Down comer with suitable terrace pump with overhead tank.

I. 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 building as laid down in I.S. specification 1946-1982.
2. The vertical ducts shall be supply sealed at alternative floor level.
3. The electrical installation shall be adequate protected with CO_2/D.C.P.or Medium Velocity / Projector System
4. 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, Fire Lift etc. and also for illuminating the Staircase, corridors etc. and other places of assembly of the building in case of normal power failure.

J . DETECTION, ALARM AND SUPPRESSION SYSTEM:

1. Manually operated Electrical Fire Alarm system with adequate numbers of break glass type call boxes fitted with Hooters along with public address system, talk back sysstem 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, other requirements of the system shall be made conforming I.S. 2189-1988.
2. Auto Fire detection system with the help of heat and smoke detector shall be installed in all places of below and preferably above false ceiling of the building. The System Shall also be made in places of rooms where valuable articles have been kept. The other requirements of the system shall be made in accordance with I.S. 2189-1988.
3. The Suppression system shall be made with Fire Extinguishers and total flooding system with C02/F.M.-200 particularly in computer and Electrical processing and data room and in a room of irreplaceable articles.
4. Hooter will be sounded in such a manner so that an operation of a Detector or Manual Call Point Hooters will sounder on the same floor and immediate alternate floor.
5. Public Address System:

Public address system linked between all floors and control room shall have to be established.

K. 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 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.

L. FIRST AID FIRE FIGHTING SYSTEM

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

M. GENERAL RECOMMENDATION:

1 . Fire Notice for Fire Fighting and evacuation from the building shall be prepared and be displayed at all vulnerable places of the building.
2. Floor numbers and directional sign of escape route shall be displayed prominently.
3. 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.
4. Arrangement shall be made for regular checking, testing and maintenance of all the Fire Safety installation and equipments installed in the building to keep them in perfectly good working conditions at all times.

5. A crew of trained Fireman under the experienced Officer shall be maintained round the clock for safety of the building.

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

On compliance of all above Fire and Life safety recommendations, the Director General / Dy. Director west zone, 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 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.

25/2/14

Director In Charge
West Bengal Fire & Emergency Services