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**Government of West Bengal
Office of the Director General
West Bengal Fire & Emergency Services
13, D, Mirza galib street,
Kolkata- 16**

Memo No.: WBFES/5277/13 / 2013 24 Pgs (N) GHB / 867/13(867/13)

Date: 26/9/13

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

**To : The Authorized Signatory,
Saltee Buildcon Pvt. Ltd.,
Hitech Chambers , 84/1B, Topsia (S) Road,
2nd Floor , Suit no.- 2 A,
Kolkata- 46.**



Sub: Fire & Life Safety Recommendation for existing construction of G+ IV storied Guest house under group A5 Residential Building at the premises dag no 1330(Part), 1331(Part), 1332, 1333(part) , 1334, 1335, Mouza- Chandpur, Chapagachi , Rajarhat, Saltee court yeard.

This is in reference to your letter No nil dated 07/8/13 regarding Fire Safety measures for existing construction of G+ IV storied Guest house under group A5 Residential Building at the premises dag no 1330(Part), 1331(Part), 1332, 1333(part) , 1334; 1335, Mouza- Chandpur, Chapagachi , Rajarhat, Saltee court yeard.

The 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 fire safety measures.

(Handwritten signature)
26/9/13
**Director, Fire Prevention Wing
West Bengal Fire & Emergency Services**

Encl :

- 1. One set of plan.**
- 2. Recommendation**

RECOMMENDATION

A. CONSTRUCTION:

1. Construction and lay out of existing building shall be remain as per approved plan and shall never be altered without prior approval of this Department and strictly follow local municipality/Panchayet Rules.
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 central of the core-duct of 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 & APPROACH:

1. The open space surrounding the building shall conform the relevant building rules as well as permit the accessibility and maneuverability of Fire appliance with turning facility.
2. The approach roads shall be sufficiently strong to withstand the load of Fire Engine weighting up to 45M.T.
3. The width and height of the access gates into the premises shall not be less than 4.5M and 5M respecting abutting the road.
4. The width & Height of the access gates into the premises shall not be less than 4.5M & 5.0M respecting abutting road.

C. STAIR CASE:

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 hours.
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 door shall conforming the relevant building rules and 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 smoke door at the entrance of all the Staircase enclosure 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 open able in the direction of escape.
6. The mechanism for pressurizing the staircase 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 enclosure shall have a fire rating of two hours. Lift shall have a vent at the top of area not less than 2sqm.
2. The 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 in one bank shall not exceed four. A wall of two hours fire rating shall separated 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 door with fire resistance of at least one hour shall be provided.
8. If the lift shall and lobby is in the core of the building a positive pressure between 25 and 30pa shall be maintained in the lobby and a possible pressure of 50pa 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 lobby of the basement shall be pressurized as per N.B.C. part-IV with 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. FIRE FIGHTING WATER:

1. Underground water reservoir having water capacity at 1,00,000 ltrs and overhead reservoir of 20,000Lts Capacity exclusively for Firefighting 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.

F. 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 2850 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.

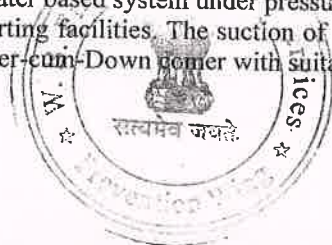
G. SPRINKLER INSTALLATION:

The automatic Sprinkler installation shall be provided in all floor areas of the building as per I.S. 9972. Alarm gang to be incorporated along with the sprinkler system.

H. FIRE PUMP:

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 building. One such pump shall always be kept on Stand-by preferably be of diesel driven type.

A separate Fire Pump shall be made for the total Sprinkler Installation of the building. 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 CO₂/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. INTELLIGENCY ANALOGUE SYSTEM:

1. Auto Fire Alarm System with analogue addressable smoke / Heat detector as per suitability shall be installed in each floor.
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 Mtrs. 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 system shall be made available in all floors of the building. The system shall connected to the Main Control Room.
5. All the installation 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.

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 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. Air- conditioning system should be installed and maintained so as to minimise the danger of spread of fire, smoke or fumes thereby from one floor of fire area to another or from outside into any occupied building or structure.
6. Air -Conditioning systems circulating air to more than one floor area should be provided with dampers designed to close automatically in case of fire and thereby prevent spread of fire or smoke. Such a system should also be provided with automatic controls to stop fans in case of fire, unless arranged to remove smoke from a fire, in which case these should be designed to remain in operation.
7. Air- conditioning system serving large places of assembly (over one thousand persons), large departmental stores, or hostels with over 100 rooms in a single block should be provided with effective means for preventing circulation of smoke through the system in the case of fire in air filters or from other sources
8. drawn into the system even though there is insufficient heat to actuate heat smoke sensitive devices controlling fans or dampers. Such means shall consist of approved effective smoke sensitive controls.
9. Escape routes like staircase, common corridors, lift lobbies; etc should not be used as return air passage.
10. Wherever the ducts pass through fire walls or floor, the opening around the ducts should be sealed with fire resisting material of same rating as of walls / floors.
11. Metallic ducts should be used even for the return air instead of space above the false ceiling.
12. The material used for insulating the duct system (inside or outside) should be of flame resistant (IS 4355: 1977) and non-conductor of heat.
13. Area more than 750 sq m. on individual floor should be segregated by a firewall and automatic fire dampers for isolation should be provided.
14. In case of more than one floor, arrangement by way of automatic fire dampers for isolating the ducting at every floor from the floor should be made. & fire dampers working on fusible link for isolations all ducting at every floor from the main riser shall be smoke extraction through various floor levels incorporating a common duct and a common centrifugal fan shall be achieved with the provision of branch connection from individual level incorporating motorized fire damper at all floor and separate smoke extraction fan with motorized damper has to be provided for basement also. Motorized Fire Dampers will be activated through fire alarm. Centrifugal fan shall also be activated through fire alarm to be located in basement. Fan shall be high temp.resistant and to be connected emergency power supply.

15. When the automatic Fire Alarm Operates the respective A.H.U. shall automatically switched off.
16. where plenums used for return air passage, ceiling and its features and air filters of the air handling units, these should be flame resistant. Inspection panels should be provided in the main trenching. No combustible material should be fixed nearer than 15 cm. to any duct unless such ducting is properly enclosed and protected with flame resistant material

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 License shall have to be obtained for proposed storing and processing with L.P.G. and other highly combustible articles.
2. L.P.G. Bank if any shall be constructed as per I.S 6044.
3. Fire Notice for Fire Fighting and evacuation from the building shall be prepared and be displayed at all vulnerable places of the building.
4. Floor numbers and directional sign of escape route shall be displayed prominently.
5. 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.
6. 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.
7. A crew of trained Fireman under the experienced Officer shall be maintained round the clock for safety of the building.
8. 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, West Bengal Fire & Emergency Services shall be approached for necessary inspection and testing of the installation, Final N.O.C/ 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.



JWH
26/9/13
Director, Fire Prevention Wing
West Bengal Fire & Emergency Services