

**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/20192020/74114

DATE: 14/02/2020

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

To :
DELTA PV PRIVATE LTD.
DELTA PV PRIVATE LTD. PLOT NO.- A1-3, BLOCK - GP, SECTOR - V, SALT LAKE,
KOLKATA
Bidhan Nagar F.S., Bidhannagar (East),
North 24 Parganas - 700091 .

**Sub :Fire Safety Recommendation for proposed construction of a Basement
1+Basement 2+Ground+3 nos podium + XVI Storied Business (Office) building ,at
premises No:- DELTA PV PRIVATE LTD. PLOT NO.- A1-3, BLOCK - GP, SECTOR - V,
SALT LAKE, KOLKATA.**

This is in reference to your Application No. IND/WB/FES/20192020/74114,dated 14/02/2020, regarding the Fire Safety Measure for proposed construction of a Basement 1+Basement 2+Ground+3 nos podium + XVI Storied Business (Office) building ,at premises No:- DELTA PV PRIVATE LTD. PLOT NO.- A1-3, BLOCK - GP, SECTOR - V, SALT LAKE, KOLKATA..

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 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.If the floor area remains exceed 750 m² shall be suitable 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 of low flame spread materials conforming to I.S. specifications.

4.Roof is used as a refugee area in case of an emergency and it should be clear open to sky for all time. No permanent or temporary structure will be allowed on the roof.

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

B.OPEN SPACE & APPROACH:

1.The approach road shall be sufficiently strong to withstand the load of Fire Engine weighting up to 45 M.T.

2.The width and height of the access gates into the premises shall have to be provided as per approved plan drawing.

3.9 X 15 mtr clear space shall have to be provided below the fire refuge area for placing fire service aerial ladder

C.STAIRCASE:

1.The staircase of the building 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 building shall have permanent vents at the top and open able sashes at each floor level in the external wall of the building.

3.The width of the Staircase shall be made as shown in the plan. Corridors and the exit doors shall conform the relevant building rules to up to date amendments.

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

5.Fire & Smoke doors at the entrance of all the staircase enclosures at each floor level shall be provided. The F.C.D. shall be of the least one hour Fire resisting Wire Glass Window fitted with self closing type openable in the direction of escape.

6. Staircase pressurization shall have to be provided as per I.S. specification.

FIRE REFUGE AREA : 1. Fire refuge area shall have to be provided as per approved plan drawing.

4. Fire refuge area not less than 15 sq. mtr.

5. Fire refuge area shall have to be enclosed by FCD.

D. LIFT:

1. The walls of the lift enclosure shall be at least two hours Fire Resisting type. Collapsible gate shall not be permitted.

2. One of the lifts shall be designed for Fire Lift. The word "Fire Lift" shall conspicuously be written at ground floor.

3. Lift & lift lobby shall have to be pressurized as per I.S. specification.

E. BASEMENT:

1. The Basement shall be adequately ventilated.

2. Additional Staircase from the open air shall be constructed conforming relevant I.S. Specification.

3. The Basement shall be protected with Auto Sprinkler System/Hose reel system etc.

4. No combustible article will be allowed to store in the basement.

5. Mechanical smoke extraction system shall have to be provided in basement with help of CO sensor.

6. LT & HT Panels not allowed in basement.

F. FIRE FIGHTING WATER:

Underground water having capacity of 200000 ltrs. Cap. For entire project and Overhead water reservoir of 25000 ltrs. capacity exclusively for Fire Fighting purpose with replenishing arrangements @1000 lts/min. preferably from two different sources of water shall 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.

Arrangement is to be taken so that fire appliances can reach nearest to the Existing pond to draw water in case of emergency with replenishing arrangement at the rate of 1000 Lts ./min. Preferably from Two different sources of water supply shall be provided.

G.HYDRANT SYSTEM :

1.The building shall be provided with wet Riser of 150m. 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 outlet. In both cases the running pressure shall not be less than 3.5 Kgs/cm². All other requirements shall conform I.S. 3844 – 1989.

2.Provision of Hose Reel in conjunction with wet Riser shall be made at each floor level conforming the relevant I.S. specification.

3.Ring Main Hydrant with provision of adequate numbers Hydrant shall be installed surrounding the building in accordance with relevant I.S. specification.

H.SPRINKLER INSTALLATION:

The automatic sprinkler installation shall be provided in both Basement and in all floor area of the building as per I.S. 9972.Alarm Gong to be incorporated along with the sprinkler system.

I.FIRE PUMP:

Provision of Fire pump multi stage type 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.

Separate fire pump shall have to be provided for entire sprinkler installation with jockey for sprinkler. 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 pump shall be incorporated with both auto and manual starting facilities.

J.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 specifications 1946 - 1982.

2.LT & HT panels shall have to be protected by gas based auto suppression system as per

I.S. specification.

3.The vertical ducts shall be sealed at alternative floor level.

4.The electrical installation shall be adequately protected with CO2 / D.C.P Fire Extinguishers.

5.All electrical Sub-station shall be on the Ground Floor level and structurally to be separated from the main enclosure with the provision of entry from outside open air.

K. Alternative Power Supply:

Arrangements shall have to 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 building in case of normal power failure.

L.Centrally AIR CONDITIONING SYSTEM: (Where applicable)

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 Air Conditioning system.

3.The system of auto shut down of A.H.U shall be incorporated with the auto detection and alarm systems.

4.Escape routes like staircases, common corridors, lift lobbies etc. shall not be used as return air passage.

5.Wherever the ducts pass through Fire Wall of the floors, the opening ground the ducts shall be sealed with Fire resisting materials as such as asbestos rope vermiculite concrete etc.

6.As far as possible metallic ducts shall be used even for the return air instead of space above the false ceiling.

7.The material used for insulating the ducts system (inside or outside) shall be of non combustible materials glass wool shall not be wrapped or secured by any materials of combustible nature.

8.Area more than 750m² on individual floor shall be segregated by a Fire wall and automatic

Fire Dampers for isolation shall be provided.

9. Air ducts serving main floor area, corridors etc. shall not pass through the staircase enclosure.

10. The Air handling units shall be separated for each floor and air ducts for every floor shall be separate and in no way interconnected with the ducting of any other floor.

11. If the air handling units serve more than one 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 links for insulating 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 be 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. The air handling unit's room shall not be used for storage of any combustible materials.

15. Inspection panel shall be provided in the main trunking to facilitate 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 is 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.

M. DETECTION AND ALARM SYSTEM :

1. Auto Fire Alarm system with analogue addressable smoke / Heat detector as per suitably shall be

Installed in both basement and in all floor area of the building.

2. Addressable analogue manual call boxes incorporating with sounders should be installed in all floors

area of the building in such a manner that maximum travel distance shall not be more than 22.05 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 central 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 be connected to the main control room.

5. All the installations shall also be satisfy the I.S. specification 2189 (as amended) and the code of practice as laid down in the M.B.C. part-IV.

6. Hooters will be sounded in such a manner so that an operation of a Detector or a Manual Call Point Hooter shall be sounded on the same floor and immediate alternate floor.

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.

GENERAL RECOMMENDATIONS:

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.Fire license shall have to be obtained for storing & processing LPG cylinders.

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

4.The employees and the security staff shall be conversant with installed Fire Fighting equipment's 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 equipment's installed in the building to keep them in perfectly good working conditions at all times.

6.A crew of trained Firemen under an experience officer shall be maintained round the clock

for fire safety of the building.

7.To eliminate risk of Fire Hazards, Good House Keeping both for insides and outside of the building shall be strictly maintained.

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

ON compliance of all the above Fire and Life Safety Recommendation, the Director General, West Bengal Fire and 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 installations of the building.

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