



**Government Of West Bengal
Office Of The Director General
West Bengal Fire & Emergency Services
13D, Mirza Ghalib Street, Kolkata - 16**

Memo no.:FSR/0125186201103361

Date: 10-09-2020

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

**To: WEBSOL ENERGY SYSTEM LIMITED
PLOT NO.1,BLOCK-EP GP, SECTOR-V,SALT LAKE, KOLKATA-700091**

Sub: Fire Safety Recommendations for the proposed B+G+27 Storied Building under group "BUSINESS" Building of WEBSOL ENERGY SYSTEM LIMITED over Plot No. 1, Block- GP, Sector-V, Salt Lake Electronics Complex under the Bidhannagar Municipal Corporation, Kolkata- 700091.

This is in reference to your application no. 0125186201103361 dated 16-07-2020 regarding the Fire Safety Recommendations for the proposed B+G+27 Storied Building under group "BUSINESS" Building of WEBSOL ENERGY SYSTEM LIMITED over Plot No. 1, Block- GP, Sector-V, Salt Lake Electronics Complex under the Bidhannagar Municipal Corporation, Kolkata- 700091.

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 favor of the aforesaid building subject to the compliance of the following fire safety measure.

**Recommendation:
CONSTRUCTION:**

- 1.The whole construction of the proposed Occupancies shall be as per approved plan drawings conforming the relevant building rules of local Municipal Body & N.B.C. of India (Part 4) 2016.
- 2.The floor area exceeds 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.Provision of ventilation at the crown of the central core-duct of the buildings shall be provided.

5. 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 shall be of minimum 2 hours Fire Resistance Rating.

6. Entry to the Fire Refuge Areas shall be through Fire Check Doors of 2 hours Fire Resistance Rating.

OPEN SPACE & APPROACH:

1. The open spaces surrounding the building shall conform the relevant building rules as well as permit easy 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 Meters respecting to abutting the road.

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 conforming the relevant building rules as well as rules of the relevant acts with up to date amendments.

4. All the staircases shall be extended up to terrace of the building and shall be negotiable to each other without entering into any room.

5. Fire & Smoke Check Doors at the entrance of all the staircase/lift lobby enclosures as marked in the plan at each floor level shall be provided. The F.C.D. shall be of the least Two hour Fire resisting rating with Wire Glass Window fitted with self-closing type and operable in the direction of escape.

BASEMENT:

1. Smoke Exhaust and Pressurization of Basement shall be in accordance with the guideline 4.6.2 of N.B.C. of India (Part 4) 2016. Basement shall be separately ventilated. Vents with cross-sectional area (aggregate) not less than 2.5 percent of the floor area spread evenly round the perimeter of the basement shall be provided in the form of grills, or breakable stall board lights or pavement lights or by way of shafts. Alternatively, a system of mechanical ventilation system shall be provided with Mechanical ventilation and Extractor system shall be designed to permit 12 air changes per hour in case of fire or distress call. The operation shall be with actuation of Automatic Sprinklers or M.C.P. and manually as well. However, for normal operation, air changes schedule shall be as given in Part 8 .Building Services, Section 3 "Air conditioning, Heating and Mechanical Ventilation" of the National Building Code.

2. Entire Basement shall be protected by Automatic Sprinkles System, Hose Reel Hoses, Landing Valves connected with Wet Risers and shall be compartmented by providing either Physical Fire Resistant Barrier of Fire Curtains for every 3000 Sq. Mtrs. of Floor Area.

3. Adequate Numbers of Manually Operated Electrical Fire Alarm system with break glass type call boxes fitted with Hooters along with public address system connected with audio-visual panel board of the Fire Control Command Station/Room shall be provided.

FIRE FIGHTING WATER :

1.Underground water reservoir having water capacity of 350000 Ltrs. capacity exclusively for firefighting purpose shall be provided and to be kept full at all time. In addition, the Over Head Fire Fighting Water Reservoir having water capacity of 20000 Ltrs. shall be provided and to be kept full at all time.

2.The Fire water reservoirs shall have overflow arrangement with the domestic water reservoir as well as to avoid stagnancy of water.

3.Provision of necessary manhole shall be made on the top of this reservoir as per specification.

4.Provision of replenishment at the rate of at least 2000 lts./min. from two spate source of water supplies shall be made.

5.The deep tube wells for the replenishment of the reservoir shall be incorporated with auto starting facility with actuation of auto detection and suppression arrangement of the premises and shall also be connected with dual / alternative power supply units.

6.Provision of placing Fire Appliances on the underground water reservoir to be made to draw water in case of emergency.

WATER LAYOUT SYSTEM:

1The buildings shall be provided with Wet Riser (By adopting Zoning) of Minimum 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 that shall be kept charged with Water all the time under pressure and capable to discharge 2280lts./min. at the ground floor level outlet and minimum 900lts/min. at the top most outlet. In both cases the running pressure shall not be less than 3.5Kgs/Sq.cm. All other requirements shall conforming I.S. 3844 – 1989.

2Provision for Hose Reel units, on swiveling drum, Delivery hose in hose box, branch in conjunction with Wet Riser shall be made near each lading valves of each building.

3Ring Main Hydrant with provision of adequate numbers Hydrant shall be installed surrounding the entire premises / all buildings in accordance with relevant I.S. specifications.

FIRE PUMPS:

1.As per provisions of Note 11 and 12 of Table 7 of the N.B.C. of India (Part-4) 2016, Sets of Fire Pumps to be provided. Provision of the Separate Fire Pumps for Sprinklers System (By Adopting Zoning) and Wet Riser (By Adopting Zoning) shall have to be made to supply water at the rate-designated pressure and discharge into the Master 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. The suction of pumps shall preferably of positive type.

2.Provision of Jockey Fire Pumps capable to discharge 180 LPM 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.

SPRINKLER INSTALLATIONS:

Auto Sprinkler system shall have to be provided inside the Basement and all floor area of the M.L.C.P. and other floors of the building as per provision of the National Building Code of India (Part 4) 2016.

ELECTRICAL INSTALLATION & DISTRIBUTION:

1The 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 1646 – 1982.

2Electrical distribution system shall conform all the requirements as laid in I. S. 1646-1982.

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

4All electrical installation viz. Transformer Switch Gear L. T., H. T. rooms shall be protected with both auto detection and suppression systems as per suitability.

5Alternative 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 building in case of normal power failure.

DETECTION AND ALARM SYSTEM:

1.Manually operated Electrical Fire Alarm system with at least three numbers of break glass type call boxes fitted with Hooters along with public address system, 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.Hooter will be sounded in such a manner so that an operation of a Detector or Manual Call Point Hooters will sounded on the same floor and immediate alternate floor.

INTELLIGENCE ANALOGUE SYSTEM :

1.Auto Fire Alarm System with analogue addressable smoke / Heat detector as per suitability shall be installed in each floor.

2.Both way public address systems shall be made available in all floors of the building. The system shall be connected to the Main Control Room.

3.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.

PUBLIC ADDRESS SYSTEM :

Devices of Good and reliable Public Address System linked between all floors and Control Room shall have to be established.

FIRSTAID 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.

FIRE COMMAND STATION:

There shall be at least One Fire Command Station preferably in a prominent location manning by experienced persons containing 1) Adequate illumination systems 2) Adequate communication to mechanical equipment room and lifts control room on each floor 3) Copy of Fire Safety Plan 4) Copy of Building Information Form 5) Representative floor plans showing location of signs, floor remote station, communications, etc. and 6) First Aid Fire Fighting Equipment.

GENERAL RECOMMENDATIONS:

1 Disposable type B. A. Masks always to be kept in the buildings for emergency fire situation.

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

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

4 The occupancy and 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 Fire Fighters under an experienced Fire Officer shall be available in the premises round the clock for safety of the buildings.

7 Mock Fire Fighting Exercise and Evacuation Drill shall be performed periodically with participation of all occupants of buildings.

8 Necessary Fire License shall be obtained from Department of Fire & Emergency Services for the Gas Bank.

9 Each year a certificate has to be obtained from the Director General, West Bengal Fire & Emergency Services about the satisfactory services, performance of all the Life and Fire Safety arrangements and installation of the building.

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 installations, Fire Safety Certificate in favor of the occupancy shall be issued on being satisfied with the tests and performances of safety provisions of installations of the buildings.

N.B. :Any deviation and changes in the nature of use of the buildings 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

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