

**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/20192020/80216

DATE: 19/03/2020

From :

The Director

Fire Prevention Wing,

West Bengal Fire & Emergency Services.

To :

Kanai Lal Bazaz, Chandan Kumar Bazaz, Narayan Kalyani, Krishna Kalyani, Prem Kumar Agarwal

Raiganj, Uttar Dinajpur

Dalkhola F.S., Raiganj,

North Dinajpur - 733134 .

Sub : Fire Safety Recommendation for Lower ground Floor+ Elevated Ground Floor+Four Storied under group Mercantile Building at premises no. –Mouza – Barua, Ward No. – 02 (New) of Raiganj Municipality, J.L. No. – 152, Plot No. – 319,302,(R.S.) 2864,2857(L.R.), Khatian No. 74,49(R.S.)223,914,4096(L.R.), P.S. – Raiganj, Dist. – Uttar Dinajpur.

This is in reference to your Application No. IND/WB/FES/20192020/80216,dated 19/03/2020, regarding the Fire Safety Measure for Lower ground Floor+ Elevated Ground Floor+Four Storied under group Mercantile Building at premises no. –Mouza – Barua, Ward No. – 02 (New) of Raiganj Municipality, J.L. No. – 152, Plot No. – 319,302,(R.S.) 2864,2857(L.R.), Khatian No. 74,49(R.S.)223,914,4096(L.R.), P.S. – Raiganj, Dist. – Uttar Dinajpur..

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. CONSTRUCTION:

- 1.The whole construction of the existing building shall be carried out as per approved plan drawings conforming the relevant building rules of local Municipality Body.
- 2.The floor area exceeds 2000 m² shall be suitably compartmented by separation walls up to ceiling level having two hours fire resisting capacity.
- 3.The interior finish decoration of the building shall be made low flame spread materials conforming I.S. specifications.
- 4.Provision of ventilation at the crown of the central core-duct of the building shall be provided.
- 5.Arrangement shall have to be made for sealing all the vertical and horizontal ducts by the materials of adequate fire resisting capacity.

OPEN SPACE AND APPROACH:

- 1.The open spaces 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 45M.T.
- 3.The width and height of the access gate into the premises shall not be less than 4.5 mts. and 5.0 mts. respecting the abutting road.
- 4.Drive way should be free from any type of obstruction. No parking will be allowed on the drive way.
- 5.All the Passage way should be kept clear for free access.

STAIRCASE:

- 1.The staircase of the building shall be enclosed type & enclosed with FCD 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 open able sashes at each floor level in the external walls of the building.
- 3.The width of the staircase shall be made as marked in the plan. Corridors and the exit doors shall confirm the relevant Building Rules to up to date amendment.
- 4.The entire staircase shall be extended up to terrace of the building and shall be negotiated to each floor.
- 5.Fire and smoke doors at the entrances of all the staircase 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 open able in the direction of escape.

EXIT :-

- 1)The auditorium shall have exits sufficient to provide for the total capacity there of as

determined in accordance with audience.

- 2) Clear aisles not less than 1.5 M widths shall be formed at right angles to the line of seating in such number and manner that no seat be more than seven seats away from an aisle. Rows of seats opening on to an aisle at one end only shall have not more than seven seats.
- 3) The fascia of boxes, balconies and gallery shall have substantial railings not less than 65cm. high above the floor. The railing at the end of aisles extending to the fascia shall be not less than 75cm. high for the width of the aisle or 90cm, high at the foot of the steps.
- 4) Cross aisles except where the back of the seats on the front of the aisles projects 60cm. or more above the floor of the side, shall be provided with railing not less than 90cm. high.
- 5) No display or exhibit shall be so installed or operated as to interfere in any way with access to any required exits, or with any required exit sign.

All displays of exhibits of combustible or construction and all booths and temporary construction in connection with there shall be so limited in combustibility or protected as to avoid any undue hazard of fire which might endeavor occupants before they have opportunity to use the available exits, as determined by the authority.

- 6) All exits shall be either lead to final exits or must be a point of entry to protected route.
- 7) At least half the exits from an auditorium should be removing from any stage or platform.

SEATING ARRANGEMENTS AND GANGWAYS :

- 1) All seats in balconies and gallery's shall be securely fastened to the floor except that in mailed in enclosures, boxes with level floors.
- 2) Where seats have back arms seating area/person 760mm. deep x 500mm. wide.
- 3) Rows of seats between aisles shall have not more than 14 seats.
- 4) Gangway shall not be less than 1.5m as marked in the plan. The seat way shall be between 350mm. to 40mm.

PROTECTION OF AUDITORIUM AND STAGE :

1) Proscenium Wall :-

Bricks works at least 225mm. thick or its equivalent, carried down to a solid foundation and up to at least 900mm., above the roof, unless the roof is fire resisting. No more than three other opening in the wall in addition to the proscenium opening. Each opening to be more than 1.8 m² in area, protected by two F.C. doors opening in to the stage and no more than 900mm. above stage level.

2) SAFETY CURTAIN :

Rigid one pec. Curtain, with frame work of steel covered on stages side with steel sheet and auditorium side with wire woven asbestos cloth with or without steel sheet covering shall overlap the proscenium brick work by 450mm. at sides and top and run in steel guides which will overlap the curtain on the stage side by the width of the curtain. Asbestos rool for smoke

stopping top and bottom speed of descent not less than 300mm. per sec. but should not take longer than 30 secs. to close opening should be counter balanced and fitted with braking device.

3)Spurge pipe :-

A perforated pipe across the proscenium arch on the stage side of the proscenium wall positioned so as to be capable of putting a curtain of water down the stage side of the curtain.

The pipe is connected to a rising main fitted with a main valve permanently open and the water is held back from the separate pipe by a trip valve operated by a release adjacent to the curtain release.

4)Additional Protection :-

a)Every stage equipped with fly galleries, grid irons and rigging for movable theatre type scarily shall have a system of automatic sprinklers over and under such stages or spaces and auxiliary spaces, such as dressing rooms, store rooms and workshops and the proscenium of opening shall be provided with a fire resisting curtain, capable of withstanding a lateral pressure of 4km/m² over the entire area. The curtain shall have an emergency closing device capable of causing the curtain to close without the use of power and when so closed, it shall be reasonably tight against the passage of smoke.

b)The stage roof of every theatre using movable scenery or having a motion picture screen of highly combustible construction shall have a ventilator or ventilators in or above its, open able from the stage floor by hand and also opening by sensible links or some other approved automatic heat/smoke actuated device to give a free opening equal to at least one eight the area of the floor of the stage.

c)Every place of assembly in which projection or motion picture by light in made shall have the projection apparatus enclosed in a fire resistant fixed booth according to Indian standard at [IV(16)]expect that such both shall not be required where no nitrocellulose motion picture film is used.

d)Automatic smoke vents actuated by smoke detectors shall be installed above the auditorium or theatres, including motion picture house, with vent area equal to not less than 3½ of the floor area of the auditorium including the sum of the floor areas of the balconies, galleries, boxes, and tiers. It may be desirable to provide a large number of small vents rather than a small number of large vents.

AUDITORIUM, CINEMA AND VIDEO HALLS &HALL :

1)The door/aisles/gangways/cross gangways/seating arrangement/corridors in auditorium, hall, cinema hall, video halls cte. Shall be made as per good practices of National Building code, Part – IV. Fire protection as well as the conforming norms of cinematograph Act. With up to date amendment.

2)N.O.C. in connection to the cinema, video, restaurant etc. shall have to be obtained from

the appropriate authority.

3)The safety arrangement for the projection rooms shall be complied with as specified in the cinematograph Act. With up to date amendment.

FIRE FIGHTING WATER:

Underground water reservoir having water capacity of 100000 ltrs. and overhead water reservoir having capacity of 10000 ltrs. exclusively for firefighting purpose with replenishing arrangements @ 1000 ltrs/min. preferably from two different sources of water supply shall be provided. The water reservoirs 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.

HYDRANT SYSTEM:

- 1.The building shall be provided with Wet Riser of 100 mm. internal diameter pipe line with provision of landing valves at the staircase landings/half landings at the rate of one such riser for 1000 sqm. 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 2280 ltrs /min. at the ground level outlet and minimum 900 ltrs/min. at the top most outlets. In both cases the running pressure shall not be less than 3.5 kgs/sq.cm. All other requirements shall conforming I.S. 3844-1989.
- 2.Provision for Hose Reel in conjunction with Wet Riser shall be made at each floor level and conforming the relevant I.S. Specifications.
- 3.Provision of standard Hose Reel Hose supplied from the overhead or underground reservoir through Booster Pump shall have to be made in all the floor of the building satisfy the code of I.S. 3844-1989.
- 4.Yard Hydrant/Ring Main Hydrant with provision of adequate numbers hydrant with one number of Fire Service Inlet shall be installed surrounding the building in accordance with relevant I.S. specifications.

FIRE PUMP:

- 1.Provision of the Fire Pump shall have to be made to supply water at the rate-designed pressure and discharge into to 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.
- 2.Provision of the two nos. Jockey Pump with capacity 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 or in case of negative suction the system shall be wet riser-cum down comer with suitable terrace pump with overhead tank.

LIFT:

- 1.The walls of the lift enclosure shall be at least two hours Fire Resisting type.
- 2.Collapsible gate shall not be permitted.
- 3.One of the lift shall be designed for Fire Lift. The word "FIRE LIFT" shall be written conspicuously at ground floor.
- 4.Lift and Lift Lobby shall be communicated to the basement and shall have to be pressurized as per guide line of N.B.C. part-IV, Annexure 'C'.

SPRINKLER INSTALLATION:

The automatic sprinkler installation shall be provided along with sprinkler pump to the entire area of the building as per I.S. 9972. Alarm Gong to be incorporated along with the sprinkler system.

ELECTRICAL INSTALLATION AND DISTRIBUTION:

- 1.The electrical installation including Transformers, Switch Gear, 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 and horizontal electrical ducts shall be sealed at each floor level by fire resisting materials.
- 3.The electrical installation shall be adequately protected with CO2/D.C.P. Fire Extinguishers conforming I.S. specification.
- 4.Arrangement for alternative power supply shall have to be made to supply power with the help of a generator to operate at least the Fire Pump, Deep Tube-Well Pump, Fire Alarm System etc. and also for illuminating the Staircase, Corridors, Lobbies 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 visual panel board shall be made in Control Room. The Control Room shall be located at 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 Smoke/heat Detectors shall be installed in all places of below and preferably above false ceiling of the building. The system shall also be made in place 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.Hooters will be sounded in such a manner so that an operation of a Detectors or Manual

Call Point. Hooters will be sounded on the same floor and immediate alternate floor.

4.Public Address System linked between all floors and Control Room shall have to be established.

INTELLIGENCE ANALOGUE SYSTEM:

1.Auto Fire Alarm System with Analogue Addressable Smoke /Heat Detectors 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 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 services unit.

3.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.

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.

FIRST AID FIRE FIGHTING SYSTEM :

First aid Fire Fighting 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 – 1992.

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

GENERAL RECOMMENDATIONS:

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

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 employees and security staffs shall be conversant with installed Fire Fighting Equipments 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 equipments installed in the building to keep them in perfectly good working conditions at all times.
- 6.A crew of trained Fireman under the experienced Fire Officer shall be maintained round the clock for safety of the building.
- 7.Mock Fire practice and Evacuation Drill shall be performed periodically with participation of all occupants of the building.
- 8.Every three year a certificate is 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 installation of the building.

On compliance of all the above Life and Fire Safety Recommendation, the Director General, West Bengal Fire & Emergency Services shall be approved for necessary inspection and testing of all 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.

Director
West Bengal Fire & Emergency Services