

RECOMMENDATION

A. CONSTRUCTION:

1. The whole construction of the building shall be carried out as per approved plan drawings conforming the relevant building rules of local authority / local Municipal Body.
2. Materials for rapid flame spread categories including untreated polycarbonate sheet, wood, fibre board etc. shall not be use. The doors and windows preferably shall be made of metal.
3. The floor area exceeds 750m² shall be suitably compartmented having four hours fire resisting capacity, sprinkler system should be provided as per N.B.C. Part IV.
4. The interior finish decoration of the building shall be made with the materials with low flame spread and low smoke non toxic gas generating categories conforming I.S. Specification.
5. Arrangement shall have to be made for sealing all the vertical and horizontal ducts by the materials of adequate Fire resisting capacity.

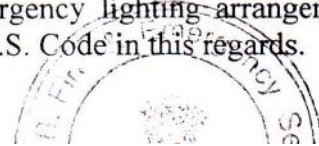
B. OPEN SPACE & APPROACH:

1. The open space surrounding the building shall be kept clear open to sky and shall conform the relevant building rules as well as permit the easy accessibility and maneuverability of the Fire appliances with turning facility.
2. The approach road and roads surrounding the building i.e. Driveway shall be sufficiently strong to withstand the load of Fire Engine weighing up to 45 M.T.
3. The width and height of the entry gates to the premises shall not be less than 4.5 M and 5 M respectively abutting the road.
4. Drive way shall be free of any type of obstruction. No Parking will be allowed on the Drive Way.

C. STAIRCASE:

1. Staircases from ground to top floor shall be pressurized as marked in the plan. A positive pressure of 25-30 pa. shall be maintained inside the staircases. Pressurization shall be maintained round the clock.
2. The staircases of the building shall be enclosed type, entire construction shall be made of brick / R.C.C. type having Fire resisting capacity not less than 4 hours respectively marked in the plan.
3. The staircase of the building shall have permanent vents at the top equal to 5% of the cross sectional area of the staircase enclosures and open able sashes at each floor level equal to 15% of the said cross section are shall have to be provided in the external wall of the building.
4. All the staircase of the building shall be negotiable to each other in each floor without entering into any room and shall be extended upto respective terrace. The roof of the stair wall shall be 1M above the surrounding roof area.
5. The width of the staircases and corridor and travel distance of different categories of occupancies shall have to conform the relevant building rules.
6. Fire and Smoke doors at the entrances of all the Staircase enclosures 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.
7. Considering the staircases are only means of evacuation, emergency lighting arrangement directional, exit, sign etc. shall be made conforming the relevant I.S. Code in this regards.

D. LIFT:



2. The lifts of the building shall be designed at high speed "Fire Lift" and conspicuously indicated as marked in the plan.
3. One of the lift cars of each building shall be large enough to accommodate standard Ambulance Stretcher and Medical Attendants.
4. In case of failure of normal electricity supply, it shall automatically trip over to alternate supply. For apartment houses these change over of supply could be done through manually operated change over switch. Alternatively, the lift shall be so wired that in case of power failure, it comes down at the ground level and comes to stand still with door open.
5. Arrangement shall be provided for extraction of smoke in all the lift shaft by incorporation of 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.
6. The speed of the fire lifts in the building shall be such that it can reach the top from the ground floor within 1 minute. Visual indications of floor numbers shall be incorporated in the lift cars.
7. All other requirements shall conform to the I.S. specification including the communication facility in the lift cars connecting with the Fire Control Room of the building.
8. Exit from the lift lobby if located in the core of the building, shall be through a self-closing F.C.D of 2 hours fire resistance.

E. REFUGE AREA:

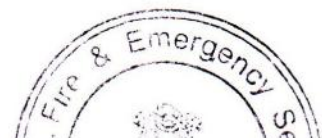
1. The Refuge area is not less than 15 sqm. shall be provided on the external wall with cantilever projection or any other suitable means at levels of 24.55 m and 39.8 m of the buildings as shown in the drawings.
2. The refuge areas shall be of Fire resisting construction and protected with self closing F.C.D. at the entrance from the corridors at staircase lobbies.
3. The position of refuge areas shall be such that they shall be negotiable by the Fire Service Aerial Ladder from the Ground floor.

F. FIRE FIGHTING WATER:

1. Underground Water reservoir exclusively for Fire Fighting operation shall be made ensure minimum 1,00,000 ltrs. for Tower 'I' & 'J' and 2,00,000 ltrs. For remaining Tower i.e. 'A' to 'H' , Both the underground reservoir shall be interconnected at the base by suitable means for free flow of water. Overhead reservoir for fire fighting of minimum 20,000 ltrs. capacity shall be made above each residential building.
2. The Fire water reservoir shall have an overflow arrangement with the domestic reservoir to avert stagnancy of water.
3. Provision of necessary manhole shall be made on the top of the reservoir as per specification.
4. Provision of replenishment at the rate of at least 1000 lts./min. from two separate source of water supplies shall be made.
5. The deep tube wells for the replenishment of the reservoir shall be incorporated with the auto starting facility with the actuation of auto detection and suppression arrangement of the premises and shall also be connected with dual power supply units.
6. Provision of placing Fire Appliances on the underground water reservoir and near swimming pools to be made to draw water in case of emergency.

Fire Pump Room:

2 Nos. Fire pump room at minus level as shown in plan drawing.



WATER LAYOUT SYSTEM :

a) Ring Main Hydrant System:

- i. 200 mm dia Ring Main water layout arrangement covering the entire premises of the project with provision of pillar type yard hydrants with door hose boxes, containing 2 lengths of 63 mm delivery hose and short branch pipe shall be provided at all the strategic location and surrounding the building conforming I.S. 3844-1989 (up to date amendment).
- ii. The system shall be so designed that shall always be kept charged with water under pressure and capable to discharge min. 2850 ltrs./min. at the pressure 3.5 kg/sq. cm. at any point.

b) Wet Riser & Hose Reels System:-

- i. The buildings shall be provided with Wet Riser and Hose Reel unit with provision of outlets in each floor at the staircases landings/half landings as per suitability at the rate of one such unit of Wet Riser and Hose Reel per 1000 sq. m. of floor area.
- ii. The Wet Riser installation shall be made in reference to the height of the building in stage wise distributions.
1st Stage Ground floor to 7th floor 200 mm dia. single Hydrant outlet.
2nd Stage 8th Floor to Top Floor 150 mm. dia. single Hydrant outlet.
- iii. **Hose Reel Unit:-** Provision of hose reel units on swiveling drum in conjunction with wet riser near each landing valves shall be made at each floor level of the building.
- iv. All other requirements of the water base Fire Protection System shall be made as per I.S. Specification 3844-1989 (with up-to-date amendment).

H. Automatic Sprinkler Installation :

All the floor areas of the building including Drawing/Dining rooms, kitchen, common lobby, lift lobby, corridor areas and ground floor areas shall be suitably protected by automatic Sprinkler installation conforming relevant I.S. Specification 9972. Alarm gong to be incorporated along with the sprinkler.

Water Projector Protection.

The Electrical installations viz. transformer, HT, LT switch gear etc. shall be adequately protected by medium velocity Water Spray Projector System and as per relevant I.S. as per suitability.

I. FIRE PUMP :

1. Fire pump of capacity 2850 Lts. per min. giving a pressure not less than 3.5 kgs/sq.cm 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 buildings.
2. A separate Fire Pump shall be made for the total sprinkler system of the whole buildings.
3. A standby fire Pump of equal capacity shall be provided on alternative source of supply preferably be of diesel driven type to supply water at the rate designed pressure and discharge into the water based system which shall be installed in the building.
4. Provision of jockey Pump have to be made to keep up the water based system under pressurized condition at all the time.

ELECTRICAL INSTALLATION & DISTRIBUTION SYSTEM:

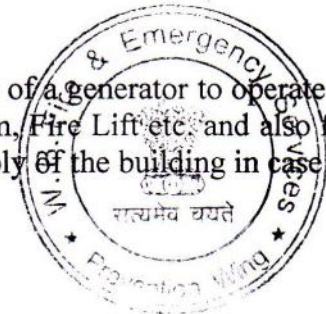
1. Electrical distribution system of all the building shall be made in the form of concealed wiring or in heavy gauge M.S. conduit continuously bonded to earth. Cables shall be I.S. marked and preferably be of F.R.L.S. categories.
2. Electrical distribution System shall conform all the requirements laid in I.S. 1646-1982.
3. For every 230V wiring above false ceiling 660 grade insulated cable shall be used. Transformer Switch Gear H.T.,L.T. and other electrical rooms shall be at the ground floor level and the other electric rooms shall be at least 4hrs. fire resisting capacity, adequate ventilation arrangement shall have to be made in all the rooms. Dry and explosion proof type transformer shall be installed.
4. All electrical installation viz. Transformer Switch Gear L.T.,HT rooms shall be protected with both auto detection and suppression systems as per suitability and as per relevant I.S specification.
5. The vertical ducts shall be sealed at alternative floor level.
6. The electrical installation shall be adequately protected with CO₂ / D.C.P extinction system as per relevant I.S. specification.

K. AUTO DETECTION AND ALARM SYSTEM :

1. Auto Fire Alarm System with analogue addressable smoke / heat detectors as per suitability shall be installed in all floor area of common lobby, corridor, lift lobby of the building except Car parking area.
2. Addressable analogue manual call boxes incorporating with sounders shall be installed in all the floor area of the building in such a manner that maximum travel distance shall not be more than 22.5m in order to reach any of the call point.
3. Both way Public address system linked between all floors and Control Room shall have to be established.
4. All the installation shall also satisfy the I.S. Specification 2189 as amended and the code of practice as laid down in N.B.C. part IV.
5. 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.

6. Alternative Power Supply :

Arrangements shall have to be made to supply power with the help of a generator to operate at least the Fire Pumps, 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.



L. 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 materials.

A. FIRST AID FIRE FIGHTING SYSTEM :

1. 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.

N. OTHER PROTECTION MEASURES :

1. Special rescue equipment like Smoke Hood, self contained B.A. set portable lights at least two pairs (4 sets) shall be made available in the main fire Control Room of the premises.
2. CCTV surveillance system shall be incorporated throughout the whole building.
3. Light protection Red light, warning system etc. shall be provided at the top of the building as recommended in NBC Part VIII building service section – 2 electrical installations.
4. Lightning arrester arrangement to be provided at highest points of the Building.

O. GENERAL RECOMMENDATIONS :

1. Fire license shall have to be obtained for proposed strong and processing with L.P.G. and other highly combustible articles.
2. Floor numbers and directional sign, showing the nearest exit Refuge Area. Fire Points etc. shall have photo luminescent signals at each floor of all blocks of building including shall be made available conforming the relevant I.S. Specification.
3. Provision of emergency illuminating exit shall be made at all floor levels of all blocks of building conforming the I.S. Specification.
4. The occupants, employees and security staff shall be conversant with installed First aid 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. Trained and experienced fire fighting staff under a qualified and experienced Officer shall be maintained round the clock for safety of the buildings.
7. Mock Fire practice and evacuation drill shall be performed periodically with participation of all occupants of building.
8. Each 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 Lift and Fire Safety arrangements and installation of the building.

This shall be treated as Revised Fire Safety Recommendation. On compliance of all the above Fire Safety Recommendations, the **Director General, West Bengal Fire & Emergency Services** shall be approached for necessary inspection and testing of the installation, Fire Safety Certificate in favor 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 Revised Fire Safety Recommendation shall be treated as cancelled.



GOVERNMENT OF WEST BENGAL
OFFICE OF THE DIRECTOR GENERAL
WEST BENGAL FIRE & EMERGENCY SERVICES
13-D, Mirza Ghalib Street, Kolkata – 700 016.

Memo. No. : WBFES/ 4371

/Kol-RB/507/10(514/10) Date : 05/07/16

From : The Director in Charge
Fire Prevention Wing
West Bengal Fire & Emergency Services

To : The Director
Green Tech IT City Pvt. Ltd.,
1/1B, Upper Wood Street,
Kolkata –700 017.



Sub:- Fire Safety Recommendation for the proposed construction of 5 Nos. of G+XIV storied and 5 Nos. existing construction of G+IV storied Residential Building, at the premises no. Mouza – Bajetaraf, P.S. Rajarhat, under Chandpur Gram Panchayet, Dist. 24 Pgs. (N).

This is in reference to your letter No. nil, Received on 31.12.2015 regarding Fire Safety measure for proposed construction of 5 Nos. of G+XIV storied and 5 Nos. existing construction of G+IV storied Residential Building, at the premises no. Mouza – Bajetaraf, P.S. Rajarhat, under Chandpur Gram Panchayet, Dist. 24 Pgs. (N).

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 is issuing Fire Safety Recommendation in favour of the aforesaid buildings subject to the compliance of the following fire safety measure. However necessary sanction and approval for such occupancy must be obtained from competent authorities.

Encl:

1. One set of plan
2. Recommendation.

[Signature]
for Director in Charge

Fire Prevention Wing
West Bengal Fire & Emergency Services