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

Memo no.:FSR/0125186201103779 Date: 30-03-2023

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

To: MERLIN PROJECTS LIMITED
MOUZA CHAPNA, JL NO 35, R.S./ L.R DAGNO.-
143,144(P),146,149,152(P),153,154,155,156,157,258,259,260,261,262,263,264(P),
265(P),266(P),267(P),268,270(P),271,275,276,277,280 .DIST- NORTH 24 PGS.

Sub: Revised Fire Safety Recommendation in respect of Three nos. (B+G+XII) Storied under group Residential Buildings namely Block-1,2 & Block-3A and Three nos. G+XII Storied under group Residential Building namely Block- 3B,3C,3D and One no. G+III Storied Club Building namely Block-4 at premises No. Mouza – Chapna, J.L No.- 35, R.S./ L.R Dag No.- 143, 144 (P), 146,149,152(P), 153,154,155,156,157,258,259,260,261,262,263,264(P), 265(P), 266(P), 267(P), 268,270(P), 271,275,276,277,280, Under Pathar Ghata Gram Panchayat, P.O and P.S- Rajarhat , North 24 Parganas , Kolkata-700135.

This is in reference to your application no. 0125188231100029 dated 05-03-2023 regarding the Revised Fire Safety Recommendation in respect of Three nos. (B+G+XII) Storied under group Residential Buildings namely Block-1,2 & Block-3A and Three nos. G+XII Storied under group Residential Building namely Block- 3B,3C,3D and One no. G+III Storied Club Building namely Block-4 at premises No. Mouza – Chapna, J.L No.- 35, R.S./ L.R Dag No.- 143, 144 (P), 146,149,152(P), 153,154,155,156,157,258,259,260,261,262,263,264(P), 265(P), 266(P), 267(P), 268,270(P), 271,275,276,277,280, Under Pathar Ghata Gram Panchayat, P.O and P.S- Rajarhat , North 24 Parganas , Kolkata-700135.

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 office is issuing **Revised Fire Safety Recommendation** in favor of the aforesaid building subject to the compliance of the following fire safety measure.

Recommendation:
A. CONSTRUCTION :
1)The whole construction of the buildings shall be carried out as per approved plan drawings conforming the relevant building rules of Local Municipal Building Rules.

2)The interior finish decoration of the building shall be made low flame spread materials conforming I.S. specification.

3)Provision of ventilation at the crown of the central core duct of the building shall be provided.

4)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 open space surrounding the building shall confirm 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 45 M.T.

3)The width and height of the access gates into the premises shall not be less than 5 meter and 5 meter respecting abutting the road.

C. STAIRCASE :

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 2 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 staircases shall be made as marked in the plan, corridors and the exit doors shall conforming the relevant building rules 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 through a connecting Corridor or Lobby.

5)Fire and smoke doors at the entrances 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) One staircase of Residential Block-1,2, 3A,3B,3C,3D shall be provided either Cross ventilated or pressurized (As per NBC Part- 4 of 2016) Type incorporated with Fire Alarm Panel.

D. 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 of each block shall be designed for fire lift. The word “FIRE LIFT” shall be conspicuously written at ground floor.

4)Lift terminated to Basement shall be pressurized as per NBC Part- 4 of 2016.

E. REFUGE AREA :

1)Refuge area is not less than 15 sq meters shall be provided on the external wall with cantilever projection or other suitable means at 23.2 Mt. and 38.4 Mt. floor level as shown/ marked in the plan drawing.

2)The refuge area shall be of RCC construction and protected with self closing FCD at the entrance from the corridor or the staircase lobbies.

3)The position of refuge areas shall be such that they are negotiable by the fire service ladder from the ground level & accordingly 5 mtr X 15 mtr area below the Refuge Areas shall be left vacant at all time.

F. BASEMENT :

1)The basement shall be adequately ventilated.

2)Basement shall not be used for other purpose except car parking.

3)The basement shall be protected Auto Sprinkler System, Hydrant System and Hose Reel System as per requirement.

4)Mechanical extractor for smoke venting system from lower/upper basement levels shall also be provided. The system shall be of such design as to operate on actuation of heat/smoke sensitive detector or sprinkling. It shall also have an arrangement to start it manually.

5)Mechanical extractors shall have an alternative source of supply.

G. FIRE FIGHTING WATER:

Under ground water reservoir water capacity of 1,50,000 Ltrs . capacity and overhead reservoir of 72,000 Ltr. Capacity for each Blocks exclusively for firefighting purpose with replenishing arrangements @ 1,000 L.P.M. 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.

H. HYDRANT SYSTEM :

1)The building shall be provided with wet riser of 150 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 sq.m of floor area. The overhead Reservoir shall be connected with the adequate diameter pipe with wet risers of hydrant of 150 mm diameter pipe line. The system shall be so designed that shall be kept charged with water all the time under pressure and capable to discharge 2850 L.P.M. at the ground floor level outlet and minimum 900 L.P.M. at the top most outlet. In both cases the running pressure shall not be less that 3.5 kg/sq.cm. All other requirements shall confirm I.S. 3844-1989.

2)Provision for Hose Reel in conjunction with wet riser shall be made at each floor level. Confirming the relevant I.S. specification.

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

4)Provision of three way collecting head for uses of Fire services must be provided at the entrance of the building.

5)One set of pumps shall be provided for each 100 hydrants or part thereof, with a maximum of two sets. In case of more than one pump set installation, both pump sets shall be interconnected at their delivery headers. Alternative to provisions of additional set of pumps, the objective can be met by providing additional diesel pump of the same capacity and doubling the water tank capacity as required for one set of pumps.

I. SPRINKLER INSTALLATION :

The automatic sprinkler installation shall be provided in and in all floor areas of Club House and including Assembly Area of the building as per I.S. 9972. Alarm gang to be incorporated along with the sprinkler system and Covered Car Parking areas of the entire building blocks.

J. FIRE PUMP :

Provision of the Main Fire pump shall have to be made to supply water at the rate designed pressure and discharge 2850 LPM into the water based system which shall be installed in the building. One such pump having same discharge of Main Pump (LPM-2850) shall always be kept on stand-by of diesel driven type .

Provision of jockey pump @ 180 LPM shall also have to be made to keep the water based system under pressurized condition at all the time. All the Fire pumps shall be incorporated with both manual and auto starting facilities.

K. 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. Transformer should be covered with Nitrogen Injector (NIDS) or High Velocity water spray system.
3. The vertical & horizontal electrical ducts shall be sealed at each floor 'level by fire resisting material.
4. SF6 (Sulpher Hexafluoride) shall be preferred in insulation in switch gears.
5. Minimum clearance of 750mm shall preferably be provided between the transformer or other apparatus and enclosing or separating hall.
6. Cable trenches inside Sub-station shall be filled with pebbles or similar non-combustible materials or covered with non-combustible slabs.
7. All control gears shall be protected against rodents, reptiles and insects.
8.The entrance to the sub-station room shall be provided with fire resisting door of 02 hours fire rating a curb (sill) of a suitable height shall be provided at the entrance in order to prevent the flow of oil from ruptured transformer into other part. Direct access to the transformer room from the transformer bay by a fire resisting wall with fire resistance of not less than 04 hours.
9. Transformer room shall be cut off from the other portion of premises by fire resisting walls upto 04 hours fire resistance.
10. The structural elements of sub-station shall be type-I of construction complying with the requirements as given in I.S. 1642-1989.
11. Switch gear wherever applicable, oil-circuit breakers and transformers shall be housed preferably in detached single storey building of type-I construction (See IS 1642-1989).
12. Cables shall be clamped immediately below floor level. Each cable or group shall where possible be protected by pipe cover of heat resisting material rising to height of at least 45 cm above floor level or terminating just below cable gland, sealed at the bottom and filled with sand or small pebbles.
13. Where cable rest on the floor of tunnel or basement they shall be separated into groups by vertical barriers of tile brick or concrete and the tranches so far shall be filled with small pebbles. Alternatively, the cable may be separately clamped and each run shall be separated by a minimum clear space of 75 mm.
14. The cable shall not be routed near hot space where it is unavoidable fire resistance cable shall be used.
15. Lightening arrester shall be provided inside the premises.
16. Power cable and control cable shall run in separate trenches wherever possible.
17. For an enclosed switch gear room automatic CO2 total flooding extinguishing system is to be provided, switch gear room shall be provided with controllable ventilators.
18. All cable entries in the switch gear room shall be effectively sealed by use of fire stops as per I.S. 12459-1988.
19. All switch gear room shall be kept clear and free from any accumulated debris or flammable materials.
20. Fixed automatic gaseous extinguishing of local application type shall be ideal in switch gear system.
21. The control room shall have 02 hours fire resistance with smoke stop check doors of the same sating.
22. All cable entries /openings in the control room shall be effectively sealed.
23. The A.C system shall be automatically switched off before the extinguishing system is put into operation.
24. Smoke detectors of ionization and optical types shall be provided in the control room or

cross zoning principle with suitable time delay devices incorporated.
25. On and Off type sprinkler system shall be provided in control room if possible.

26. Alternative power supply – Arrangements shall have to made to supply 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.

L. DETECTION, ALARM AND SUPPRESSION SYSTEM :
1)Manually operated electrical fire alarm system with at least two numbers of break glass type call boxes fitted with hooters along with public address system each floor of each block of each Part 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 and Assembly Area. 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)The suppression system shall be made with Fire Extinguishers particularly area of UPS rooms (if any), Electrical Meter Room and in a room of irreplaceable articles.

4)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.

5)Public Address System: The system shall be linked between all floors and Control Room.

M. AIR CONDITIONING SYSTEM (IF ANY) :
1)The A.H.U shall be separated for each floor with the system Air Ducts for individual floor.
2)Arrangement shall be made for isolation at the strategies location by incorporating auto damper 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 unit's room shall not be used for storage of any combustible materials.

N. FIRST AID FIRE FIGHTING SYSTEM :
First Aid Fire fighting arrangements 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.
O. GAS BANK (If any):-

The whole construction of the LPG Bank shall have to be complied as per I.S.-6044 & relevant Petroleum Gas Rules and all other Rules.

1.Driveway must be free of any type of obstruction for EASY movement of Fire Appliances. Parking will not be allowed on the Driveway.

2.To eliminate risk of Fire Hazards, Good Housekeeping both for inside and outside of the building shall be strictly maintained.

3.Adequate ventilation shall have to be provided as per I.S.-6044 & relevant Petroleum Gas Rules.

4.Medium Velocity Water Spray Projector system with Auto & Manual facility shall have to be provided connecting with the existing water based system.

5.Gas Detectors shall have to be installed following I.S.-6044.

6.First Aid fire fighting system (Fire Extinguishers) shall have to be provided as per I.S.-6044.

7.Existing Hydrant system (Ring Main Hydrant) shall have to be kept in order all the time.

8.Signage shall have to be provided as per I.S.-6044.

9.Fire Pumps shall have to be kept in Auto mode round the clock for Automatic Operation of the Medium Velocity Water Spray Projector system.

10.Trained persons shall have to be provided all the time to operate the Fire Safety Installations of the buildings as well as LPG Bank.

11.All other Rules of the respective authority related to LPG Bank shall have to be followed.

P. GENERAL RECOMMENDATIONS :

1)Fire License shall have to be obtained from the License section of the Department for proposed storing of highly combustible articles and processing with L.P.G, which come under the per view of License Section.

2)Fire Notice for fire fighting and evacuation from the building shall be prepared and be displayed at a vulnerable places of the building.

3)Floor numbers and directional sign of escape routes shall be displayed prominently within the vicinity of the occupants.

4)The employees and security staff shall be conversant with installed fire fighting equipments of the building and to operate in the event of Fire & Testing.

5)Arrangement shall be made 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 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)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 life & fire safety arrangements and installation of the building.

This shall be treated as Fire Safety Recommendation 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 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.
Previous FSR issued vide no. FSR/0125186201103779 Dated 08/11/2020 treated as cancelled.

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.

Signature Not Verified
Digitally signed by ABHIJIT PANDEY
Date: 2023.03.30 17:29:20 IST

Director
West Bengal Fire & Emergency Services