



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

Memo no.:IND/WB/FES/20172018/618

Date: 13-05-2022

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

To: Mr. Piyush Kheria
1338 and other 31 R.S.and L.R. Dag No.Thakdari,Bidhan Nagar F.S,New Town 24 Parganas (N),700102

Sub: Revised Fire Safety Recommendation for Proposed Residential Complex comprising of Newly proposed Tower 11 (G+20 storied) and addition/alteration of under construction Tower 1, 2& 10 (G+19 storied each Tower), Tower 3, 4,5,6,7,8 & 9 (G+20 storied each Tower)and G+6 Storied Podium Block integrated with towers 3, 4, 5, 7 & 9 under group Residential Building at R.S. & L.R. Dag No. 444/1477 (Earlier 444(P)), 446, 447/1472 (Earlier 447(P)), 1317, 1319, 1320, 1333, 1334, 1335, 1336, 1337, 1338, 1339, 1341/1471 (Earlier 1341(P)), 1342, 1343/1473 (Earlier 1343(P)), 1344/1474 (Earlier 1344(P)), 1345/1475 (Earlier 1345(P)), 1346/1478 (Earlier 1346(P)), 1347, 1348, 1349, 1350, 1351, 1352, 1353/1479 (Earlier 1353(P)), 1354, 1355, 1356, 1357, 1358&1359 under L.R. Khatian Nos. 1665, 1686, 1709, 1710, 1711, 1713, 1759, 1760, 1761, 1775, 1856, 1857, 1858, 1866, 1897, 1899, 1900, 1908, 1909, 1939, 1956, 1957, 1960, 1961, 1985, 2002, 2017, 2108, 2109, 2199, 2131, 2132, 2133, 2134, 2135, 2136, 2138, 2139, 2142, 2143, 2144, 2171, 2174, 2200, 2201, 2202, 2229, 2230, 2232, 2233, 2245, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2301, 2303, 2305, 2306, 2307, 2326, 2340, 2341, 2342, 2344, 2345, 2361, 2369, 2378, 2432 (Earlier 1898) and 2433 (Earlier 2279),Mouza - Thakdari, J. L. No. 19, P.S. - New Town, Municipal Ward No. 27, under Bidhannagar Municipal Corporation, District - North 24 Parganas, , PIN 700102.

This is in reference to your application no. 0125188211100069 dated 30-06-2021 regarding the Revised Fire Safety Recommendation for Proposed Residential Complex comprising of Newly proposed Tower 11 (G+20 storied) and addition/alteration of under construction Tower 1, 2& 10 (G+19 storied each Tower), Tower 3, 4,5,6,7,8 & 9 (G+20 storied each Tower)and G+6 Storied Podium Block integrated with towers 3, 4, 5, 7 & 9 under group Residential Building at R.S. & L.R. Dag No. 444/1477 (Earlier 444(P)), 446, 447/1472 (Earlier 447(P)), 1317, 1319, 1320, 1333, 1334, 1335, 1336, 1337, 1338, 1339, 1341/1471 (Earlier 1341(P)), 1342, 1343/1473 (Earlier 1343(P)), 1344/1474 (Earlier 1344(P)), 1345/1475 (Earlier 1345(P)), 1346/1478 (Earlier 1346(P)), 1347, 1348, 1349, 1350, 1351, 1352, 1353/1479 (Earlier 1353(P)), 1354, 1355, 1356, 1357, 1358&1359 under L.R. Khatian Nos. 1665, 1686, 1709, 1710, 1711, 1713, 1759, 1760, 1761, 1775, 1856, 1857, 1858, 1866, 1897, 1899, 1900, 1908, 1909, 1939, 1956, 1957, 1960, 1961, 1985, 2002, 2017, 2108, 2109, 2199, 2131, 2132, 2133, 2134, 2135, 2136, 2138, 2139, 2142, 2143, 2144, 2171, 2174, 2200, 2201, 2202, 2229, 2230, 2232, 2233, 2245, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2301, 2303, 2305, 2306, 2307, 2326, 2340, 2341, 2342, 2344, 2345, 2361, 2369, 2378, 2432 (Earlier 1898) and 2433 (Earlier 2279),Mouza - Thakdari, J. L. No. 19, P.S. - New Town, Municipal Ward No. 27, under

Bidhannagar Municipal Corporation, District - North 24 Parganas, PIN 700102.

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:

RECOMMENDATIONS:

CONSTRUCTION:

- 1.The whole construction of the proposed Residential complex shall be carried out as per approved plan drawings conforming the relevant building rules of local Municipal Body.
- 2.The floor area exceeds 750m² shall be suitably compartmented up to ceiling level having at least two hours Fire resisting capacity.
- 3.The interior finish decoration of the building shall be made low flame spread materials conforming relevant I.S. specifications.
- 4.Provision of ventilation at the crown of the central core-duct of the building shall be provided.
- 5.Arrangements shall have to be made for sealing of all the vertical & horizontal ducts by the materials of adequate Fire resisting capacity.
- 6.Respective provisions of NBC Part 4, 2016 must be incorporated in respect of construction and maintenance of fire and life safety arrangement for the entire project.

OPEN SPACE & APPROACH:

- 1.The open space surrounding the building shall conform the relevant building rules as well as permit the accessibility and maneuverability of Fire appliance including Aerial Ladders with turning facility.
- 2.The approach roads, internal road / driveway and dedicated space 15 M X 9 M for Fire Service Aerial Ladder shall be sufficiently strong to withstand the load of Fire Engine weighing up to 45 M.T.
- 3.The clear width and height of the access gates into the premises shall not be less than 5M & 5.5 M respecting the abutting road.

EXIT:

- 1.No exit door from any occupancy of any floor in a distance is not more than the distance as specified in N. B. C. Part -4, 2016. The travel distance to an exit from dead end of a corridor shall not exceed the respective provision of N. B. C. Part -4, 2016.
- 2.Exits shall be so arranged that at least two separate exits are available in every floor area. Exits shall be as remote from each other as practicable and so arranged that there shall be no pocket or dead end occurred in which occupants may trap.
- 3.Every exit door way shall open into an enclosed stairway or a horizontal exit of a corridor.
- 4.Every room with a capacity of over 45 persons in area shall have at least two exits.

STAIRCASE:

- 1.The staircases of the buildings shall be enclosed type as shown. Entire construction shall be made of bricks/ R.C.C type having Fire resisting capacity not less than 4 hours.
- 2.The Staircases of the buildings shall have permanent vents at the top and openable sashes at each floor level in the external wall of the buildings.
- 3.The width of the staircases shall be made as marked in the plan. Corridors and the exit doors shall conform the relevant building rules, with upto date amendments.
- 4.All the staircases shall be extended upto terrace of the buildings and shall be negotiable to each other without entering into any occupied area.
- 5.Fire Check Doors (FCD) at the entrances of all the staircases enclosures as shown / marked in the plan at each floor level shall be provided. The F.C.D. shall be of at least two hours Fire resisting wire glass window flitted with self-closing type, openable in the direction of escape.
- 6.Considering the staircases are only means of evacuation, emergency lighting arrangement for staircases and corridors with alternative source of power supply and also on separate circuit shall be made, directional & exitsign etc. shall be made conforming the relevant I.S. Code in this regards.
- 7.Pressurization of staircases of each Tower, as shown, shall be done as per provision of NBC Part 4, 2016.

LIFT:

- 1.The walls of the lift enclosures of the buildings shall be at least two hours FIRE resisting type and all the lift shafts shall be pressurized as per existing norms and provision of NBC Part 4, 2016.
- 2.The lifts of the buildings shall be designed at high speed "Fire Lift" and shall be conspicuously indicated / marked.
- 3.The Electric power shall be from separate supply mains in the building and cables run within the lift shafts, lights and fans in the lift cars shall be operated from 24 volts supply on emergency, in case of failure of normal power supply lift shall automatically trip to alternate power supply.
- 4.Exit doors of the lift shafts shall be through a self-closing smoke stop door of 2 hour fire resistance for buildings.
- 5.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 ,audio visual indications of floor numbers shall be incorporated in the lift cars.
- 6.All other requirements shall conform the relevant I.S. specification including the communication facility in the lift cars connecting to the Fire Control Room of the building.
- 7.A positive pressure of 25 to 30 Pa. shall be maintained inside the lift well. The pressurization ,as shown, shall be maintained round the clock.

REFUGE AREA:

- 1.The Refuge area of not less than 15 sq. m. each shall be provided on the external wall as cantilever projection or any other suitable means at the level as shown in approved plan drawings for different Towers.
- 2.Each Refuge area shall be separated completely from adjacent part of building by means of Fire barrier / wall of 2 (Two) hour rating.
- 3.The refuge area shall be of Fire resisting construction and protected with self-closing F.C.D. at the entrance.
- 4.The position of refuge Areas shall be such that they are negotiable by the Fire service Ladder from the ground floor.
- 5.Fire and Life safety arrangements in each Refuge area shall be as per provision of NBC Part 4, 2016.

FIRE FIGHTING WATER:

1. Underground and suitably interconnected water reservoirs having total water capacity of not less than 500000 L (Five Lac Litre) for this Residential complex.
2. Overhead reservoir of not less than 10,000 L (Ten thousand Litre) capacity each on each Residential Tower, as shown in the plan drawings, exclusively for Fire fighting purpose. Reservoirs shall be kept full at all time.
3. The water reservoirs shall have overflow arrangements with the domestic water reservoirs as well as to avoid stagnancy of water.
4. Provision of necessary manhole shall be made on the top of this reservoirs as per provision of NBC Part 4, 2016.
5. Provision of replenishment at the rate of at least 2000 L /min. from two separate source of water supplies shall be made.
6. The deep tube wells, if any, for the replenishment of the reservoirs shall be incorporated with auto starting facility with actuation of auto detection and suppression arrangement of the complex and shall also be connected with dual power supply units.

WATER LAYOUT SYSTEM:

1. The buildings shall be provided with separate Wet Risers of 150 mm. internal diameter Pipe Line each for Hydrant and sprinklers with provision of landing valves at the Staircase landings / half landings/as shown in plan drawing 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 LPM. at the ground floor level outlet and minimum 900 LPM. at the top most and furthest outlet. 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 units on swivelling drum in conjunction with Wet Riser shall be made near each lading valve.
3. Yard Hydrant / Ring Main Hydrant with provision of adequate numbers Pillar type Hydrant shall be installed surrounding the buildings in accordance with relevant I.S. specifications.
4. Provision of Fire service inlet and each static water storage tank shall be provided with a fire brigade draw out collecting head as per provision of NBC Part 4, 2016.

SPRINKLER INSTALLATION:

The automatic Sprinkler installation shall be provided in all floor areas of the entire Residential complex i.e. Residential Towers, Podium car parking, Covered parking area etc. as per I.S. 9972 and provision of NBC Part 4, 2016. Alarm gong to be incorporated along with the sprinkler system.

FIRE PUMP:

1. Provision of the Fire Pump (2850 LPM) shall have to be made to supply water at the rate-designed pressure and discharge into the Hydrant system, which shall be installed in the pump room.
2. One such pump shall always be kept on stand-by of diesel driven type.
3. Provision of separate pump (2850 LPM) for automatic sprinkler system and one such stand-by pump of diesel driven type to be made to keep the Water based system under pressurized condition at all the time.
4. Provision of Jockey Pumps 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.

5.The Number, capacity and set of fire pumps shall be installed as per provision of N. B. C. Part 4, 2016.

MULTI LAYER AUTOMATED MECHANIZED CAR PARKING SYSTEM(Double layer M.L.C.P):

- 1.Structural design:- The M.L.C.P. shall be constructed of structural steel construction.
- 2.Vertical Deck Separation:- For M.L.C.P. having Multi Car Parking level, vertical Fire separation between the upper and lower decks by using a non- perforated and non-combustible materials (Structural Steel Plate) shall be provided. Proper drainage system shall have to be provided for accidental leaking of oil from the car and sand bed shall be provided at the Ground level.
- 3.Fire Engine Access way:-Access way shall be provided for the Fire Engine to gain access to the car park entrance and exit.
- 4.Fire Hydrant:- Fire hydrants to be provided in accordance with the provision of NBC Part 4, 2016and relevant I.S. specification.
- 5.Natural Ventilation:- Each car parking deck shall be provided with at least 50% external ventilation openings of the perimeter wall areas and uniformly distributed.
- 6.Sprinkler & Detection System:-Open Modular Type Sprinkler along with detectors shall be provided in all M.L.C.P. areas as per relevant I. S. Specification.
- 7.Cross zone wise Sprinkler system shall have to be implemented.
- 8.Operating System:- Both Mechanical and Manual type operating system for MLCP shall have to be provided.

ELECTRICAL INSTALLATION & DISTRIBUTION:

- 1.The electrical installation including transformers, Switch Gears, L. T., H. T. Rooms, panel rooms , 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.Electrical distribution system of 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 be of F.R.L.S. categories.
- 3.The vertical & horizontal ducts shall be sealed at all floor level by approved fire resisting materials.
- 4.The electrical installation shall be adequately protected with automatic fire detection and suppression system as per provision of N. B. C. Part 4, 2016 and relevant I. S. specification.
- 5.Alternative Power Supply:
Arrangements shall have to be made to supply power with the help of generators of suitable capacity to operate at least the Fire Pumps, Pumps for deep Tube-well, Fire Detection and Alarm System, pressurization, ventilation, signage etc. and also for illuminating the Staircases, corridors etc. and other places of assembly of the building in case of failure of normal power supply.

INTELLIGENCE ANALOGUE SYSTEM:

- 1.Auto Fire Alarm System with analogue addressable smoke / heat detectors as per suitability shall be installed in all floor areas of each occupancies of the project.
- 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 distance shall not be more than 22.5 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 Control Room of the project.
- 4.Both way public address systems linked between all floors and Control Room shall have to be established.
- 5.All the installations shall also satisfy I.S. specifications 2189 (as amended) and the code of practice as laid down in the N.B.C. Part-4, 2016.
- 6.C. C. Camera & Public Address System :-

Public address system and CC TV surveillance system linked between all floors common areas and a well designed Fire Control Room shall have to be provided with 24 X 7 monitoring arrangement.

BASEMENT (Pump Room):

- 1.The Basement shall be adequately ventilated.
- 2.Automatic Mechanical smoke venting arrangements shall be provided to the basement conforming the relevant I.S. Specification and provision of NBC Part 4, 2016.
- 3.Mechanical extractor shall have an alternate source of supply.
- 4.Mechanical extractor shall have an internal locking arrangement so that extracting shall continue to operate and supply fans shall stop automatically with the actuation of Fire Detectors / suitable detection system.
- 5.The exit from the basement shall be from open Air and from any points of safety, the travel distance shall not exceed 15.5 M to reach any exit.
- 6.Fire suppression system for the basement shall be as per relevant I.S. Specification and provision of NBC Part 4, 2016.
7. The staircases of basement shall be of enclosed type having Fire resistance of not less than 4 hrs. to be entered at ground level only from the open air and in such positions that smoke from any Fire in the basement shall not obstruct any exit of upper floor of the building and vice versa.

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.
- 5.Escape route like staircase, common corridors, lift lobby etc. shall not be used as return air passage.
- 6.Wherever the ducts pass through Fire wall of floors, the opening around the ducts shall be sealed with approved Fire resisting materials.
- 7.The metallic ducts shall be used even for the return air, instead of space above the false ceiling.
- 8.The materials used for insulating the duct system (inside or outside) shall be of non- combustible materials, glass wool shall not be wrapped or secured by any materials of combustible nature.
- 9.Area more than 750 sq. m. on individual floor shall be segregated by a Fire wall and automatic fire damper for isolation shall be provided.
- 10.Air ducts shall not pass through the staircase enclosures.
11. The air handling units shall be separation for each floor, and air ducts for every floor shall be separated and in no way interconnected with the ducting of any other floor.
- 12.If the air handling units serve more than 1 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 link for isolating 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 switched off.

13. The vertical shaft for treated fresh air shall be of masonry construction.

14. The air filters for air handling units shall be of non-combustible materials.

15. Inspection panel shall be provided in the main trucking to facility 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 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.

Fire Kiosk:

Each Fire Kiosk for the project shall have the following fire fighting and rescue equipment:

- i) 4 nos. 4.5 kg. CO2 extinguisher.
- ii) 4 nos. 4.5 kg. ABC type extinguisher.
- iii) 2 nos. ceiling hook.
- iv) 4 nos. Fire Bucket.
- v) 1 no. Lock Cutter.
- vi) 2 nos. 14 lb. Hammer.
- vii) 2 nos. Crowbar.
- viii) 1 no. Insulated Axe.
- ix) 2 nos. Stretcher.
- x) 2 nos. Smoke Hood.
- xi) 2 nos. Torch Light.

Details of all floors plans and details of Fire Fighting equipment and installations shall be maintained in fire kiosk

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 – 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 (if any).
2. Necessary sanction and approval for such construction and occupancy of this project must be obtained from competent authorities.
3. Lightning arrestor and air craft warning lights shall have to be installed as per existing norms and relevant IS specification.
4. Disposable type B. A. Musk of sufficient quantity to be kept always available for emergency situation.
5. Fire Notice for Fire Fighting and evacuation from the building shall be prepared and be displayed at all vulnerable places of the building.
6. Floor numbers and directional sign of escape route shall be displayed prominently.
7. The employees and security staff shall be conversant with installed Fire Fighting equipments of the building and to operate in the event of Fire and Testing.
8. The Department of Fire & Emergency Services, Government of West Bengal, shall not take any responsibility in respect of any legal dispute if pending or arises about the title of land / property.
9. This Fire Safety Recommendation cannot be treated in any case of regularizations of any unauthorized construction.
10. The management of the organization / building, as the case may be, shall maintain the fire prevention and safety measures in good repair and in efficient condition at all the times, which are installed in the building for use at the time of fire or other emergencies.

11. A crew of trained Fireman under an experienced officer shall be maintained round the clock for safety of the building.
12. Mock Fire practice and evacuation drill shall be performed periodically with participation of all occupants of building in accordance with emergency evacuation plan.
13. Previous FSR issued vide this office memo no. IND/WB/FES/20172018/618 dated 04/04/2018 shall be treated as cancelled.

Accordingly, a certificate is to be obtained from the Director General, West Bengal Fire & Emergency Services certifying about the satisfactory services, performance of all the Fire and Life 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 installation, Fire Safety Certificate in favour of the occupancy shall be issued on being satisfied with the tests and performances of fire & life safety aspects of the buildings.

N.B. Any deviation in construction and changes in nature of use of the building, in respect of approved plan drawing, without obtaining prior permission from this office, this Revised Fire Safety Recommendation shall be treated as cancelled.

Validity unknown
Digitally signed by ABHIJIT
PANDEY
Date: 2022.05.13 14:52:04 IST

Director
West Bengal Fire & Emergency Services

PS Group Realty Pvt. Ltd.
[Handwritten Signature]
Director/Authorised Signatory