

26th May, 2022

UNDERTAKING

(Odisha Fire Prevention and Fire Safety Rules, 2017, SRO No. 461/2017)

I Sri Pradeep Thacker, S/o Late Manilal Thacker, director M/s Khushi Realcon (P) Ltd. promoter of apartment “**Khushi Capella**” on Mouza –Pahala, Plot No. 124, 211/1746, 199, 210, 126, 125/1242, 208/1244 & 123/1243/1844, as Revenue Khata No. 56/106, 56/102, 56/98, 352/101, 352/1226, 352/1206, 352/1205 & 352/1227, do hereby undertake that I shall not execute final sale deed or allow its occupancy without obtaining a Fire Safety Certificate thereof issued by the Director, Fire Services or an Officer authorized by the Director of Fire Services on this behalf. I understand that our apartment building or complex is of 15 metres or more in height from the ground level or having five or more floors including all underground, basement, stilt and mezzanine floors. We shall submit the Fire Safety Certificate before the Authority much before the scheduled date of completion / occupancy of the apartment building or complex. My RERA certificate is conditional upon such submission of Fire Safety Certificate.

For M/s Khushi Realcon (P) Ltd.
KHUSHI REALCON PVT. LTD.


Pradeep Thacker
Director



ODISHA FIRE SERVICE
FIRE SAFETY RECOMMENDATION
FORM-II
[Under Rule-12 (5)]



RECOMMENDATION No:	RECOMM1204130012021000146	APPLICATION No:	FSR1204130012021000167
Date of Issue:	01-06-2021	Date of Receipt of Application:	17-05-2021

1.	Name & Address of the proposed Building/Premises:	2B+G+9 floors Commercial-cum-Residential Building (Tower-1), 2B+G+22 floors Residential Building (Tower-2) & 2B+G+23 floors Residential Building (Tower-3), situated over Plot No.210, 199, 208/1244, 126, 125/1242, 123/1243/1844, 124, 211/1746, Khata No.352/1205, 352/1206, 56/98, 352/1226, 56/102, 352/1227, 352/101, 56/106, Mouza-Pahal, Tahasil-Bhubaneswar, Dist-Khurda.
2.	Name and Address of the Applicant(s):	Sri Pradeep Thacker, Director, Khushi Realcon Pvt. Ltd., Plot No.9/C, Jayadurganagar, Bhubaneswar M.C, Budheswar, Khurda.
3.	Proposed Occupancy (Type of Building):	As per plan, 2B+G+9 floors Building (Tower-1) is coming under "Mixed Use Building" and 2B+G+22 floors Building (Tower-2) & 2B+G+23 floors Building (Tower-3) are coming under "Residential Building" as per Odisha Development Authorities (Planning and Building Standards) Rules, 2020 and "Mixed Occupancy" for Tower-1 of Residential Group-A, Sub-Division A-4 & use of Show Rooms i.e. Mercantile Sub-Division - F-2 & Offices i.e. Business, Sub-Division - E-1 and Residential Building for Tower-2 & 3 of Group-A, Sub-Division A-4 accordingly as per NBCI-2016.
4.	Area with Plot Number and Khata Number:	Plot Area - 9877.92 sqm. (2.44 Acre) Plot No.210, 199, 208/1244, 126, 125/1242, 123/1243/1844, 124, 211/1746, Khata No.352/1205, 352/1206, 56/98,



5.	Date of Inspection:	19-05-2021
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6. Recommendation:

The Fire Safety Recommendation for the following building(s) is/are as follows: -

A.	Structural and construction site requirements:	
i.	Details of the building(s) like height, no. of floors, area on each floor, built up area, etc	<p>Integrated Basement</p> <p>1) Lower Basement – 7477.7 sqm. – Parking & Services 2) Upper Basement – 7477.7 sqm. – Parking & Services</p> <p>2B+G+9 floors Commercial-cum-Residential Building (Tower-1)</p> <p>1) Ground floor – 600.6 sqm. – Show Rooms & Services 2) 1st floor – 553.2 sqm. – Offices & Services 3) 2nd floor – 769.4 sqm. – Restaurant & Services 4) 3rd floor – 769.0 sqm. – Offices & Services 5) Typical 4th – 9th floor – 582.4 sqm. (each floor) – Apartments 6) Terrace floor – Open to sky</p> <p>2B+G+22 floors Residential Building (Tower-2)</p> <p>1) Ground floor – 972.1 sqm. – Multi-purpose hall & Services 2) 1st & 2nd floor – 1835.2 sqm. – Gymnasium, Squash court, Jumba/Aerobics and Apartments. 3) 3rd floor – 879.5 sqm. – Swimming Pool, Hall and Apartments. 4) 4th floor – 714.6 sqm. – Apartments 5) Typical 5th – 22nd floor – 688.2 sqm. (each floor. Besides, 31.7 sqm. of Refuge Area includes at 19th floor) – Apartments 6) Terrace floor – Open to sky</p> <p>2B+G+23 floors Residential Building (Tower-3)</p> <p>1) Ground floor – 856.7 sqm. – Kids Game, Creache, Teen agers game & Services. 2) 1st floor – 1041.7 sqm. – Apartments 3) Typical 2nd – 18th floor – 1038.3 sqm. – Apartments 4) 19th floor – 1019.4 sqm. – Apartments 5) 20th – 21st floor – 1038.3 sqm. – Apartments 6) 22nd floor – 1036.8 sqm. – Apartments 7) 23rd floor – 666.6 sqm. – Apartments 8) Terrace floor – Open to sky</p> <p>The height of proposed buildings shall be as under: -</p> <p>1) 2B+G+9 floors Commercial-cum-Residential Building (Tower-1) shall be 39.850 mtrs. each from ground level. 2) 2B+G+22 floors Residential Building (Tower-2) shall be 74.65 mtrs. from ground level. 3) 2B+G+23 floors Residential Building (Tower-3) shall be 78.550 mtrs. from ground level.</p>
ii.	Parking	<p>Provision of parking area at Basement floor of Tower-1, 2 & 3 Buildings have been proposed in the plan.</p> <p>Provision of parking shall be made in accordance to Rule-37 of Odisha Development Authorities (Planning and Building Standards) Rules, 2020.</p>
iii.	Access To The Building	<p>As shown in the plan their is provision of 91.44 mtrs. NH-16 as abutting road to the proposed plot. Besides, the said site is abutting to a road of more than 12 mtrs. which shall be made as per Rule – 31 & 71 of Odisha Development Authorities (Planning and Building Standards) Rules, 2020.</p> <p>The main entrance to the premises shall not be less than 06 (six) meters in width in order to allow easy access to fire engine and the gate shall fold back against the compound wall of the premises, thus leaving the exterior access way, within the plot, free for the movement of fire service vehicles. If archway is provided over the main entrances, the height of the archway shall not be less than 5 (five) meters. Besides, there is provision of two numbers of entry/exit gate of width 6.2 mtrs. each shall be made as per Odisha Development Authorities (Planning and Building Standards) Rules, 2020.</p>



iv.	Open spaces (In Mtrs.)	<p>As shown in the plan there is provision of 09 mtrs. Open Space around the building.</p> <p>The space set apart for providing access within the premises shall not be used as parking space or spaces for other amenities required for the building.</p> <p>As shown in the plan 7.5 mtrs. of drive way have been provided around the aforesaid building and the roof of the basement also extends beyond the plinth line into the driveway, hence roof of the basement shall have also load bearing capacity of 45 ton minimum and load bearing capacity certificate from the competent authority shall be obtained to that effect. The open space and driveway around the aforesaid building shall be made as per Rule-33 & 34 of Odisha Development Authorities (Planning and Building Standards) Rules, 2020.</p>
v.	Exits (Type, Number, Dimension & Ramp Arrangement)	<p>As shown in the plan provision of following staircases shall be made in the building.</p> <p>1) 02 Nos. of staircases have been shown in the plan for Tower – 1 of width 1.5 mtrs. each having connectivity from lower basement to terrace floor.</p> <p>2) 04 Nos. of staircases have been shown in the plan for Tower – 2. Out of which 02 Nos. are continuing from Lower Basement to Terrace floor and another 02 Nos. are continuing from Ground to 3rd floor.</p> <p>3) 02 Nos. of staircases have been shown in the plan for Tower – 3 of width 1.25 mtrs. each having connectivity from lower basement to terrace floor.</p> <p>Besides, the width of stairway shall be minimum 01 mtr. for Residential purpose and 1.5 mtrs. for Commercial purpose. Further, the width of tread for Residential shall be 25 cm and for Commercial the same shall be 30 cm. Moreover, the maximum height of riser shall be 19 cm in the case of Residential and 15 cm in the case of Commercial.</p> <p>Further, the exits/staircases must be placed as remote from each other as possible and also comply to other provisions i.e. permissible travel distance, dead end corridor length in exit access etc, as per the provisions of Odisha Development Authorities (Planning and Building Standards) Rules, 2020.</p> <p>4) All the exits required to be accessible from the entire floor area at all floor levels.</p> <p>5) No exit doorway shall be less than 01 meter in width. Doorways shall be not less than 02 meter in height. Doorways for bathrooms, water closet and stores shall be not less than 0.75 meter wide.</p> <p>6) The minimum number of exit and their width required on every floor of the buildings and their dimensions must be in accordance to Clause-4.2.1 to 4.4.2.4.2 of Part-IV, NBCI-2016 and exit requirements of Annexure-IX of Odisha Development Authorities (Planning and Building Standards) Rules, 2020.</p> <p>7) The escape routes should be well ventilated and provided with safety lighting and free from obstructions.</p> <p>8) Exits must be clearly visible and all routes to reach the exit have to be clearly marked and sign posted to guide the population of the floor concerned. Signages required to be illuminated and wired to an independent electrical circuit on an alternative source of supply.</p> <p>9) Access to the staircases be gained through automatic closing fire check doors of 02 hrs rating and certificate of same shall be obtained to that effect.</p> <p>10) The internal staircases not with external wall of the buildings shall be pressurized and the internal staircases constructed with external wall shall be cross ventilated or pressurized. Wherever pressurized staircase is to be connected to unpressurized area, the two areas shall be segregated by 120 min fire resistant wall. Pressurization of the staircases shall be done as per Clause-4.4.2.5, 4.6, 6.1.1.3 & Annexure-E of Part-4, NBCI-2016.</p> <p>In addition to above all other provisions for exits / doorways / stairways, means of escape and exit shall be made as per Clause 4.2 to 4.6.2 of NBCI-2016, Annexure- IX of Odisha Development Authorities (Planning and Building Standards) Rules, 2020.</p>
vi.	Firefighting Shaft	<p>1) Fire fighting shaft is required for aforesaid Residential-cum-Building (Tower-1) and Residential Buildings (Tower-2 & 3).</p> <p>2) The protected area of the firefighting shaft shall have 120 min. fire resistance rating & comprising of protected lobby, staircase & fireman's lift.</p> <p>3) It shall have connectivity directly to exit discharge or through exit passageway with 120 min fire resistance walls at the level of exit discharge to exit discharge.</p>



		<p>4) Besides, it shall have provision of fireman talk back, wet riser & landing valve in its lobby. Staircase & fire lift lobby of firefighting shaft shall be smoke controlled.</p> <p>5) Firefighting shaft (fire tower) shall be made as per Clause-2.24 of Part-IV, NBCI-2016.</p>
vii.	Lifts	<p>1) 06 Nos. of lifts have been shown in the plan for Tower – 1 which are continuing from lower basement to top floor. Besides, 07 Nos. of lifts have been shown in the plan for Tower – 2. Out of which 05 Nos. are continuing from lower basement to top floor and another 02 Nos. are connected from Ground to 3rd floor. Further, 06 Nos. of lifts have been shown in the plan for Tower – 3 which are continuing from lower basement to top floor.</p> <p>2) Provision of firemen lift shall be made in aforesaid all towers i.e. Tower-1, 2 & 3 as per Clause 4.4.2.5 of Part-4 of NBCI-2016 and “Building Services, Section 5 Installation of Lifts, Escalators and Moving Walks, Sub-Section 5-A Lifts of Part-8” of National Building Code of India, 2016.</p> <p>3) The Lifts shall not open in staircase landing. Grounding switch (es) at ground floor level shall be provided to enable the fire service to ground the lifts. Besides, telephone / talk back communication facilities shall be provided. Collapsible gates shall not be permitted for lifts and shall have solid doors with fire resistance of at least 1 hour and certificate of same shall be obtained to that effect.</p> <p>4) Lift lobby shall be cross ventilated or pressurized as per Clause-4.4.2.5 of Part-IV, NBCI-2016. The mechanism for pressurization shall act automatically with the fire alarm and it can also be operated mechanically. The lift lobbies at basement floor shall be pressurized with self-closing fire rated doors. Telephone or other communication facilities shall be provided in lift cars and to be connected to fire control room for the building.</p> <p>5) Construction and provisions of fire and life safety measures of lifts shall be in accordance with Annexure – IX of Odisha Development Authorities (Planning and Building Standards) Rules, 2020 and Clause 4.4.2.5 of Part-4 and ‘Building Services, Section 5 Installation of Lifts, Escalators and Moving Walks, Sub-Section 5 A Lifts of Part-8 of National Building Code of India, 2016.</p>
viii.	Building Services	
	Electrical Service	<p>1) An independent, ventilated or air conditioned MV panel room must be provided on the ground level. This room required to be provided with access from outside. The MV panel room must be provided with fire resistant walls and doors of fire resistance of not less than 120 min.</p> <p>2) A substation or a switch station with oil filled equipment must not be allowed to be functional inside the building.</p> <p>3) All transformers must be protected by high velocity water spray systems or nitrogen injection system. As per the plan the placement of transformer has not been clearly shown.</p> <p>4) The sub-station must not be located below the 1st basement and above the ground floor.</p> <p>5) A stand-by electric generator must be installed to supply power to staircase and corridor lighting circuits, fire lifts, the stand-by fire pumps, pressurization fans and blowers, smoke extraction and damper system in case of failure of normal electric supply.</p> <p>6) The staircase and corridor lighting must be on separate service and must be independently connected so as it could be operated by one switch installation on the ground floor, easily accessible to firefighting shaft at any time irrespective of the position of the individual control of the light points, if any.</p> <p>7) Staircase and corridor lighting required to be connected to alternate supply from parallel high-tension supply or to the supply from the stand-by generator. All wires and other accessories used for emergency light must have fire retardant property.</p> <p>8) The electric distribution cables or wiring shall be laid in separate duct which shall be sealed at every floor with non-combustible materials having the same fire resistance as that of the duct. Low and medium voltage wiring running in shaft and in false ceiling run in separate conduits. Water mains, telephone cables, intercom cables, gas pipes or any other service line need not be laid in the duct for electric cables.</p> <p>9) All the transformers shall be protected with high velocity water spray system / Nitrogen Injection System Carbon Dioxide total flooding system in case of oil filled transformer. In addition to this, manual control of auto high velocity spray system for individual transformers shall be located outside the building at ground floor.</p>



		<p>10) Electric substation transformer shall have clearance on all sides as per BBL/relevant electric rules.</p> <p>11) Electrical Installations in the building must be comply to the provisions given in Clause 3.4.6 to 3.4.7.4 of Part-4 NBCI-2016 and Annexure-IX of Odisha Development Authorities (Planning and Building Standards) Rules, 2020.</p> <p>12) The electric substation shall have electric supply from alternate source for operation of vent System lighting arrangements.</p> <p>13) Cable trenches shall be filled with sand.</p> <p>14) Party walls shall be provided between two transformers as per the rules.</p> <p>15) Electric control panels shall be segregated.</p> <p>16) Provision for lightning protection must be made in the proposed building as per IS/IEC 62305-4:2010.</p>
	Air Conditioning	<p>1) Air conditioning systems circulating air to more than one floor area should be provided with dampers designed to close automatically in case of fire and thereby prevent spread of fire or smoke.</p> <p>2) Escape routes like staircases, common corridors, lift lobbies must not be used as return air passage.</p> <p>3) Air ducts serving main floor areas, corridors, must not pass through the staircase enclosure.</p> <p>4) The air-handling units must be separate for each floor and air ducts for every floor must be separated and in no way inter-connected with the ducting of any other floor.</p> <p>5) Wherever the ducts pass through fire walls or floors, the opening around the ducts must be sealed with materials having fire resistance rating of the compartment. Such duct required to be provided with fire dampers at all fire walls and floors unless such ducts are required to perform for fire safety operation.</p> <p>6) The Air Conditioning required to be coupled with fire detection and alarm system.</p> <p>7) Metallic ducts must be used even for the return air instead of space above the false ceiling.</p> <p>8) The materials used for insulating the duct system (inside or outside) must be of non-combustible material.</p> <p>9) Air Conditioning & mechanical ventilation requirements of different rooms or areas of the building must be as per the provisions given in Part-8, NBCI-2016 and Annexure-IX of Odisha Development Authorities (Planning and Building Standards) Rules, 2020.</p>
	Fire Command Centre	<p>1) There must be a Fire Command Centre on entrance floor of the building having direct access. The Fire Command Centre must have the main fire alarm panel with communication system (suitable public-address system). All controls and monitoring of fire alarm systems, Detection system, pressurization systems, smoke management systems must be operated from this room. Integrated building management system must be provided for Fire Command Centre.</p> <p>2) Fire Command Centre must have provisions in accordance with Clause-3.4.12 of Part-4, NBCI-2016.</p> <p>3) The owner/occupier shall provide any additional fire requirements in future if the recommendation is issued by this department.</p> <p>4) The site is suitable for construction of above proposed structure subject to condition that the owner/occupier shall provide any additional fire requirements in future if the recommendation is issued by this department.</p>
	Other requirements	The following fixed firefighting installations are required to be provided in the aforesaid towers as per NBCI-2016 and relevant BIS specifications.
B.	Fixed Fire Fighting Installations :	
i.	Fire Extinguisher	Provision of fire extinguishers must be made in entire buildings of all towers i.e. Tower-1, 2 & 3 as per BIS:2190:2010.



ii.	First- Aid Hose Reel	<p>First-aid hose reel must be provided on each floor of all towers i.e. Tower-1, 2 & 3 in accordance with BIS 884:1985 & BIS 3844:1989.</p> <p>Adequate Hose reels shall be provided so that the same shall be available within 30 mtrs. from any point at each floor level and the horizontal distance between any two adjacent points need not exceed 50 mtrs on each floor and Hose reels hose must be directly connected to Wet riser.</p>
iii.	Wet Riser	<p>The aforementioned proposed towers i.e. i.e. Tower-1, 2 & 3 are required to be provided with risers adequately so that available within 30 mtrs. from any point at each floor level and horizontal distance between any two adjacent risers must not exceed 50 mtr. Provision of wet riser shall be made conforming to BIS standards.</p>
iv.	Yard Hydrant	<p>Yard hydrant required to be provided around the aforesaid towers i.e. Tower-1, 2 & 3. The yard hydrants installation should have provision of landing valves at every 30 m apart. The yard hydrant installation should be in accordance to BIS specifications.</p>
v.	Automatic Sprinkler System	<p>Automatic water sprinkler system with sprinkler heads shall be provided in all floors including corridors, lobbies and rooms of aforesaid towers i.e. Tower-1, 2 & 3 along with both the basement floors. Sprinkler shall fed water from both underground static water storage tank and terrace tank.</p>
vi.	Manually Operated Electronic Fire Alarm System	<p>Manually operated electronic fire alarm system at conspicuous places in each floor of all towers i.e. i.e. Tower-1, 2 & 3 including basement floor shall be provided. (IS/ISO 7240-11:2011).</p>
vii.	Automatic Detection Alarm System	<p>Automatic Detection and Alarm Systems required to be provided both below and above the false ceiling (If void space exceeds 800 mm) in aforesaid all towers i.e. Tower-1, 2 & 3 including inside the electrical shafts & lift machine rooms etc. Electrical rooms, cabins & other areas in car parking shall have also provision of fire detection system. Installation of automatic fire detection and alarm system must be in accordance to IS 2189:2008.</p>
viii.	Underground Static Water Storage Tank	<p>The proposed aforesaid all towers i.e. i.e. Tower-1, 2 & 3 are required to be provided with Underground Static Water Storage Tank of capacity 2,00,000 ltrs. All static tanks must entirely be accessible to fire appliances of the local Fire Service. Provision of suitable manhole shall be made available for inspection, repair and insertion of suction hose etc. Provision of additional water shall be made if basement floor is compartmented through water curtain. Static Underground tank must be constructed in accordance to Clause-5.1.2.1 of Part-IV, NBCI-2016.</p>
ix.	Terrace Tank	<p>Terrace tank of 20,000 ltrs. capacity must be provided at the top of the Commercial-cum-Residential Building (Tower-1) and 10,000 ltrs. of capacity of terrace tank at top of the both residential towers i.e. Tower-2 & 3 for firefighting purpose. It should be ensured that water in the tank is not utilized for any other purpose other than firefighting.</p>
x.	Pump Near Underground Static Water Storage Tank	<p>Pump house should preferably be installed at ground level. It shall be situated so as to be directly accessible from the surrounding ground level. When installed in the basement staircase with direct accessibility or through enclosed passageway with 120 min fire rating from the ground shall be provided. Required number of sets of pumps each consisting of two Electric & one Diesel pumps (Stand by) of capacity 2850 LPM & two electric pumps of capacity 180 LPM shall be provided for entire building. The pumps are to be automatic in action. Installation of negative suction arrangement and submersible pumps shall not be allowed. In addition to above provision of another pump of desired capacity shall be provided if basement floor is compartmented through water curtain. In addition to above provision of another pump of desired capacity shall be provided if basement floor is compartmented through water curtain. Lower levels in high rise buildings 60 m or above in height are likely to experience high pressure and therefore, it is recommended to consider multi-stage, multi-outlet pumps (creating pressure zones) or variable frequency drive pumps or nay other equivalent arrangement.</p> <p>Installation of pumps shall be made in accordance to Clause-5.1.2.2 of Part-IV, NBCI-2016.</p>
xi.	Fire Safety Supervisor	<p>As the aforementioned Residential Towers of height more than 45 mtrs. and if there is provision of more than 400 dwelling units a Fire Safety Supervisor shall be appointed before occupancy as per Rule – 15 (e) of Odisha Fire Prevention and Fire Safety Rules, 2017.</p>
xii.	Basement	<p>1) Basement shall be separately ventilated. Vents with cross-sectional area (aggregate) not</p>



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 shall be provided so as to permit 12 air changes per hour in case of fire or distress call. Ventilation system shall start automatically on actuation of detector provided in the basement area in addition to provision of manual control. Doors provided in such exit passageway shall be fire rated doors of 2 hrs rating. Smoke exhaust and pressurization of areas shall be done as per the provisions given in clause- 4.6 of part-4, NBCI-2016.

2) The basement shall be used for designated purpose only. Adequate provision of exits and ramps shall be made in the basements as per Odisha Development Authorities (Planning and Building Standards) Rules, 2020 and NBCI-2016. The ramp providing access to basement shall be constructed leaving required open space around the building. Door openings leading from upper floors to basement shall need to be protected with fire doors with 120 min. fire rating except for exit discharge doors from the basements. Adequate arrangement shall be made, so that surface drainage does not enter the basement. The wall and floors of the basement shall be water-tight and be so designed that the effect of the surrounding soil and moisture, if any, are taken in to account in design and adequate damp proofing treatment is given.

3) All floors shall be compartmented/zoned with area of each compartment being not more than 750 m². The maximum size of the compartment shall be as follows, in case of sprinklered basement/building:

- i) Basement car parking - 3000 m²
- ii) Residential Building - 750 m²
- iii) Mercantile & Assembly – 2000 m²
- iv) Business – 3000 m²

4) Basement floor of the building shall be compartmented / zoned into two compartments with fire barrier or with water curtain nozzle (K-23) or with combination thereof. The fire barrier of each compartment shall have fire resistance rating of 120 min. Automatic deluge system comprising deluge valve, piping nozzles, etc shall be used to zone the compartment in case of water curtain system. In case of water curtain, required additional provision of water with independent electric pump of adequate capacity shall be made. Compartmentation of floors in the building shall be done as per the provisions given in clause 4.5 and Annexure-H of Part-IV, NBCI-2016.

5) As per Odisha Development Authorities (Planning and Building Standards) Rules, 2020 in case of parking spaces provided in basement and upper storey of parking floors, at least two ramps of one way of width 03 mtrs. each and the minimum one ramp of two way of width 06 mtrs. shall be provided to the parking floors.

6) In Multi-Level basements, independent air intake and smoke exhaust shafts (masonry or reinforced concrete) for respective basement levels and compartments therein shall be planned with its make-up air and exhaust air fans located on the respective level and in the respective compartment. Alternatively, in multi-level basements, common intake masonry (or reinforced cement concrete) shaft may serve respective compartments aligned at all basement levels. Similarly, common smoke exhaust/outlet masonry (or reinforced cement concrete) shafts may also be planned to serve such compartments at all basement levels. All supply air and exhaust air fans on respective levels shall be installed in fire resisting room of 120 min. Exhaust fans at the respective levels shall be provided with back draft damper connection to the common smoke exhaust shaft ensuring complete isolation and compartmentation of floor isolation to eliminate spread of fire and smoke to the other compartments/floors.

7) The use and construction of the basement shall confirm to the provisions given in Clause-41 of Odisha Development Authorities (Planning and Building Standards) Rules, 2020 and Clause – 4.4.2.5, 4.5 & 4.6 of NBCI – 2016.

xiii.	Refuge Area	<p>1) Refuge area shall be approachable from the space they serve by an accessible means of egress. High rise apartment buildings with apartments having balcony, need not be provided with refuge area; however, apartment buildings without balcony shall provide Refuge Areas for apartment buildings of height above 60 mtrs. while having balconies shall be provided at 60 mtrs. and thereafter at every 30 mtrs.</p> <p>2) Refuge area shall be made as per Annexure-E-4 of Part-IV, NBCI-2016.</p>
xiv.	Construction	<p>1) Non-combustible materials with appropriate fire resistance rating shall be used for construction of the buildings. During construction of the buildings the following fire protection measures shall be provided.</p> <ul style="list-style-type: none"> a. Dry riser of minimum 100 mm diameter pipe with hydrant outlets on the floors. b. Drums of 2,000 liters capacity filled with water with 02 fire buckets on each floor. c. A water storage tank of minimum 20,000 ltrs. capacity. <p>2) Installation of chimney & heating apparatus shall be in accordance to relevant BIS</p>



		<p>specification. All kitchens should have one or more opening such as windows and ventilators opening directly to the external air or into an open veranda for the admission of light and air.</p> <p>3) The basement and upper floors shall be compartmented / zoned with area of each compartment should be not more than 3,000 sqm. The fire barrier of such compartments shall have fire resistance rating of 120 min.</p> <p>4) Smoke exhaust system having make-up air and exhaust air system shall be planned for large lobbies and which have exit through staircase leading to exit discharge. All exit passageways (from exit to exit discharge) shall be pressurized or naturally ventilated. The mechanical pressurization system shall be automatic in action with manual controls in addition. Doors provided in such exit passageway shall be fire rated doors of 2 hrs rating. Smoke exhaust and pressurization of areas shall be done as per the provisions given in clause- 4.6 of part-4, NBCI-2016.</p>
xv.	Service Ducts and Shafts	Openings in walls or floors which are necessary to be provided to allow passages of all building services like cables, electrical wirings, telephone cables, plumbing pipes, etc. must be protected by enclosure in the form of ducts /shafts and such shaft and inspection doors fitted thereto must have fire resistance rating not less than as specified in Clause 3.4.5.4 of NBCI-2016 and Annexure-IX of Odisha Development Authorities (Planning and Building Standards) Rules, 2020.
xvi.	Stand-By Source of Power Supply	There shall be provision for dedicated emergency power supply to fire pumps, lifts, fire alarm system, pressurization system, emergency lighting, escape route lighting, exit signage, public address system, lighting in fire command centre, magnetic door hold open devices, etc. The power supply to the panel /distribution board of these fire and life safety systems shall be through fire proof enclosures or circuit integrity cables or through alternate route in the adjoining fire compartment to ensure supply of power is reliable to these systems and equipment. Cables for fire alarm and PA system shall be laid in metal conduits or armoured to provide physical segregation from the power cables.
xvii.	Lightning Protection	Provision for lightning protection shall be made in the proposed building as per NBCI-2016 and in corporate to relevant BIS specifications. Routing down of conductors (Insulated or Un-Insulated) of lightning protection shall not be made through electrical or other service shafts and certificates of the same provisions shall be obtained to that effect.
C.	Opinion :	<p>After completion of the construction work including installation of fixed firefighting measures as suggested, the applicant shall be required to apply for Fire Safety Certificate as per Rule-13 (1) of Odisha Fire Prevention and Fire Safety Rules, 2017 along with following documents: -</p> <p>i) The applicant shall produce a certificate to be issued by the office/person concerned to the effect that all the provisions of Bye-laws / Regulations of Odisha Development Authority and Recommendations issued from Chief Fire Officer, Fire Prevention Wing, Cuttack have been incorporated in the building.</p> <p>ii) The applicant shall produce a certificate of the Competent Authority concerned to the effect that electrical installations have been done as recommended and as per provisions given in Part-8 "Building Services, Section-2 Electrical and allied installations" of NBCI-2016 and Section-7 of National Electrical Code, 2011.</p> <p>iii) The Applicant shall produce a certificate of the agency concerned to the effect that installation of firefighting measures has been done as recommended and as per provisions given in Part-4 of National Building Code of India-2016 and relevant BIS specifications.</p>

Signature valid

Signed by : SHR
SUKANTA SETHI
Date : 01-06-2021 20:28:01

Chief Fire Officer, Odisha

NOTE

- (i) It is a digitally signed electronically generated certificate and therefore needs no ink-signed signature.
- (ii) This Certificate is issued as per section 4, 5, & 6 of Information Technology Act 2000 and its subsequent amendments in 2008.
- (iii) For any Query or Verification , Agency /Department / Office may visit <http://agnishamaseva.odisha.gov.in>
- (iv) Tampering of this Certificate will attract penal action.

