INDICATIVE GUIDLINES FOR HIGH RISE CONSTRUCTIONS

(i) Emergency preparedness and response plan

1. Identification of potential accidents and emergency situations.
2. Availability of appropriate emergency equipments and regularly testing their response capabilities through practice drills.
3. Identification of the persons to take charge during the emergency.
4. Details of actions to be taken by the personnel during an emergency (including the persons who are on the site of emergency such as visitors who are required to move to specified assembly points).
5. Responsibility, Authority and duties of personnel with specific roles during emergency e.g. fire wardens, first-aid staff etc to be identified.
6. Evacuation plan/procedure.
7. Internal and external communication plan.
   a. Interface with external emergency services e.g. fire brigade, medical services etc.
   b. Communication with statutory bodies.
   c. Communication with neighbour and the public.
8. Conducting periodic emergency and fire drill for testing the effectiveness of the plan.
9. Availability and display of information during emergency for example layout drawing (floor wise) exist signage, assembly point etc.
10. Installation of availability of suitable warning and alarm system testes at regular intervals.
11. Availability of emergency rescue equipment which is to be maintained a good condition.
    Examples of emergency equipment:-
    a) Alarm systems, b) Emergency lighting and power, c) Means of escape, d) Safe refuges,
    e) critical isolation of switches and cut outs. F) fire fighting equipment, g) first aid equipment,
    h) communication facilities.

(ii) Micro Climate requirements

In the Microclimate study report, among other things -the following should be included:

A. Shadow effect
Map of Shadow tracks during different seasons, showing the project boundary and all the currently existing features (and those proposed in the project) like buildings, roadways, water bodies, green areas etc.

B. Temperature Related
a. Estimate of inside temperature and differences between temperatures outside and inside during various seasons- without any artificial conditioning- heating/cooling. Temperatures inside and outside may depend on positions- so an appropriately weighted mean or a positional temperature map may be provided.

b. Expected A/c power load for cooling in summer/ heating in winter (along with the basis for calculation) should be included.
Whether the expected conditioning system - cooling/heating is central or distributed.
Locations where heat is released- particularly for A/c systems- should be mapped.

c. Expected total power consumption inside the building in operation phase and consumption per unit land area of the buildings of the project

C. Air Circulation Related
a. Expected air circulation velocities- magnitude and directions without artificial circulation (exhaust fans/ blowers/ A/c systems) in different parts of the building- particularly passages, stairways, common and service areas- to be provided.

b. A CFD study is desirable, but simpler methods/models available in literature may be used. Expected paths of smoke in case of fire in relation to stairways and evacuation passages should be included.

c. External airflow pattern at ground level horizontal flow/ wind canyon effect, vertical flow close to the building (chimney effect) to be included- a quantitative CFD study is desirable, but simpler methods/models available in literature may be used.

D. If building uses large glass shell/ reflective external shell, reflection tracks during different seasons/ times of the day should be mapped showing all the features within this region. The amount of reflected solar power on the features should be quantified.

E. An estimate of total power load for lighting of common and service areas (24 hours for covered areas and night time for open areas) and what fraction of it is provided by natural lighting.

F. Total area from which solar energy is to be collected - to be expressed as maximum area at any instant normal to solar radiation- for both photovoltaic and thermal capture.

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