



सत्यमेव जयते

**SPEECH  
OF  
HIS EXCELLENCY**

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**ON THE OCCASION OF**

**INTERNATIONAL CONFERENCE-CUM-EXHIBITION**

**ON**

**“FIRE & LIFE SAFETY IN HOSPITALS**

**&**

**OTHER FACILITY BUILDINGS**

**ORGANISED BY**

**INDIAN CHAMBER OF COMMERCE”**

**AT**

**HOTEL ITC, SONAR, KOLKATA**

**22 FEBRUARY, 2014**

It gives me immense pleasure to participate in this special inaugural session of International Conference cum Exhibition on Fire and Life Safety in Hospitals and other facility buildings, organised by Indian Chamber of Commerce. I felicitate each and every member of the ICC for this conference and thank for providing me this wonderful opportunity.

I can see many eminent speakers and resource persons from India and different parts of the world taking part in this two-day International conference cum exhibition. It has provided a platform for people to share the best practices in the fire and life safety. I am pleased to note that important functionaries from fire services, disaster management, Health and Family Welfare, healthcare facilities, engineering are participating in the conference.

The recent fire incidents in Hospital of Kolkata, Collapse of residential buildings in Mumbai and other metros, and subsequent loss of Human life makes the subject highly relevant. Fire though one of the basic element in the universe for giving life can also be life taker and fires in the Hospitals is one of the sources of such disasters.

**Fire hazards can be of various types ranging from Jungle fire to nuclear fire, Earthquakes also cause fire.** As per the report appeared in a leading daily “**eight lakh people might die and over 55 lakh get injured if an earthquake measuring between 7 and 8.7 on the Richter scale occurs in the seismically active Northeast**”, says an estimate by the National Disaster Management Authority”. Hospitals are more prone to fire accidents due to the fire affinity consumables used. Also the fact that evacuation from Hospitals is hazardous and even the rehearsals of safety drills are not easy to do.

**It necessitates the need to look at prevention of fire as the fore most imperative**, I am certain that this conference would have stressed on the aspects of preventing these accidents, identify mistakes and evolve corrective actions so that precious resources and human lives are saved in future.

**In India we have well documented code for construction in ‘The National Building Code of India’, which is a comprehensive code for regulating building and construction activities.** It was first published in 1970 by the Bureau of Indian Standards. It serves as a model code for adoption by all agencies involved in building construction works in the country. It has since been revised in 1983, 1987, 1997 and 2005.

The Code covers aspects of administrative regulations, development control rules and general building requirements; fire protection requirements; stipulations regarding materials and structural design; rules for design of electrical installations, lighting, air conditioning and lifts; regulation for ventilation, acoustics and plumbing services such as, water supply, drainage, sanitation and gas supply; and measures to ensure safety of workers and the public during construction.

Fires continue to occur in hospitals all over the World. Mostly the fires are small or discovered early and extinguished promptly. However, one cannot predict when one of these minor occurrences will go out of hand and cause a major disaster. Therefore, while building a hospital, fire safety is one of the important parameter for the designers, administrators and the management.

**Let us now look at the causes of fire in the hospitals.** Fires in hospitals mostly originate from basements, first storey, upper attics, services areas, kitchen, closets, laundry, chutes, carpentry/ maintenance shops, linen room, incinerators, etc and are generally caused by defective electrical wiring, power consuming appliances, mishandled static sparks, cigarettes, matches, careless use of heating systems, flammable liquids, mishandling kitchen fires, combustible material close to heating, etc. **Hence, basic principles of fire safety should be kept constantly in mind during the design, construction, operation and maintenance of each hospital facility. These are to deal with fire hazards and have to follow the RACE protocol** ie Rescue, Alarm, contain, Extinguish/ Evacuate. Its planning can be divided into six steps-

### **Minimizing the Chances of Fire:**

- a) Building architects and engineers should select proper material and equipment, All materials used in building the hospital should be incombustible or flame-proof.
  
- b) Proper selection and installation of equipment to promote high standards of maintenance and operation.
  
- c) Sufficient space in and around mechanical equipment and electrical services, to permit safe operations and for good maintenance.
  
- d) Fuel fire equipment should be properly designed, adequate in size and correctly installed.
  
- e) Electrical devices and appliances should be of approved types. Hospital refrigerators are often used to store flammable liquids like ether, with low boiling points. These liquids can cause an explosive mixture that is ignited when the thermostat operates or the doors are opened and the electric switch for the interior light operates. Such explosions are caused by storing such chemicals (ether) in ordinary refrigerators. While purchasing refrigerators for hospitals, only those should be procured which are safe to use in explosive atmosphere
  
- f) Proper facilities for handling and disposal of linen and trash will do much to minimize the chance of a hospital fire.
  
- g) Hospital hazardous waste should be properly disposed.

**Hospital Disaster Management Plan:** Each hospital should formulate a DM Plan, nominate incident commander with alternate incident commander, nominate incident response teams and their team leaders, as per Concept of Incident Response System Guidelines, issued by NDMA in July 2010 and conduct periodic table top and mock exercise to test the DM plan.

**Early Detection of Fire:** All large fires start from small ones and early the fire is detected, sooner the extinguishing process can begun. Following actions are recommended:

- a) Installation of automatic fire detection and alarm system
- b) All hospital buildings should be provided with internal alarm system, which should be inter-connected to the nearest fire station to eliminate any possible delay in calling them.
- c) To avoid effect of harsh sounds of alarm to certain patients, use of visual signal alarm panels should be permitted in patients' sleeping wards.

**Restricting Fire Spread:**

- a) The Hospital fire emergency SOP should usually direct the employee who first discover the fire, to remove any occupants from the room involved, close the door and then sound the alarm.
- b) The door is closed to confine the fire to its point of origin until the fire fighting is brought into play.
- c) The furred space behind the wall finishes and other concealed spaces should be suitably fire blocked to preclude the passage of smoke and gases from one room to another.
- d) Solid wood doors or equivalent are recommended for hospitals because they retard the spread of fire.

**Extinguishing the Fire:**

- a) Isolate each storey, all stairways, elevator shafts, ventilating shafts & chutes. Other vertical openings must be enclosed.

b) Fire doors should be used in all openings.

c) Door closures should be used in all doors to ensure that the door will close after each use.

d) Fire doors are required to isolate the area of greater than normal hazards from the remainder of the structure. These doors are especially designed to resist passage of fire through the openings, in the walls or partitions in which they are installed.

e) Certain type of fire if not handled properly at their start may quickly become a threat to the entire population of the building.

f) Each hospital should be equipped with proper fire extinguishers (latest is Advanced Fire Technology or AFT in short, also called mist technology fire extinguishers). Adequate number of persons should be trained in use of installed fire extinguishers.

**Evacuation:** Evacuation is ordered if there is a danger to the life of the patients and the employees. The usual route for exits in hospitals is well understood, i.e. 44" wide door openings and 8 ft wide corridors. Exit stairways located at the end of each corridor should preclude dead-end where occupants may be trapped. Compartmentalise the floor into 2 or more sub areas by use of transverse fire resistive partitions and corridor doors.

**Conclusion:** Hospitals are life line buildings. Their buildings must be disaster resistant as evacuation of patients, especially critically ill, is the most daunting task for the management and the first responders. Moreover hospitals also have to be prepared to receive casualties which may be arriving after a disaster. Each hospital should have a DM Plan, nominate Incident Commander and heads of various Response Teams and carry out resource mapping, both from inside and outside sources. The DM Plans must be practiced regularly by conducting Mock Exercises under professional experts, to test their worthiness.

As I said earlier, this conference will facilitate in sharing the best practices in mitigating disaster through precautions all over the world. I definitely look forward to the recommendations and Papers presented by eminent speakers and resource persons. I appreciate Indian Chamber of Commerce for organising this conference which facilitates interaction between expertise of Government and private sector, in dealing with this problem.

**I would also like to invite the Indian Chamber of Commerce to my State and conduct such seminars as also on topics to investigate economic potential and trade opportunities in Arunachal Pradesh.** This remind me of our beloved Prime Minister Dr. Manmohan Singh's speech during his visit to Arunachal Pradesh in 2008, where he said, I quote, **'I sincerely hope that like the Sun, Arunachal Pradesh will rise from the East as a new star and become one of the best regions of our country'**. Unquote.

Finally, as I conclude, on behalf of people of Arunachal Pradesh and on my own behalf, I extend warm greetings to all the participants and the organizers. I wish the Conference a tremendous success.

Thank you all.

Jai Hind.