

# Fire and life safety audits for hospitals and care centers





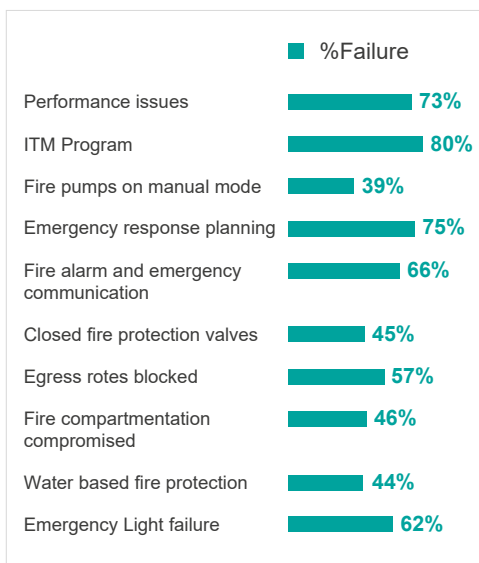
## Why are these important

Taking care of the patients is the top-most priority for any hospital and care center. But maintaining the critical infrastructure is also of paramount importance for proper functioning of the facility. Fire and life safety system is one such area which is critical to the entire facility, yet, we have often seen that inspection, testing and maintenance activities at the facilities are considered as low priority items, resulting in negligence.

Consequently, these systems may malfunction when they are needed most and even a small fire event can lead to devastating consequences.

Since the COVID-19 pandemic hit us in early 2020, new hospitals and temporary COVID-care facilities are being set-up to take care of the infected patients. The rate at which these temporary facilities are built, fire and life safety protocols followed during its construction remains questionable. Given most of these facilities are temporary in nature, the investment in fire and life safety installations are often found to be inadequate.

Such makeshift facilities pose a number of fire and life safety concerns such as fire compartmentations, fire protection and detection installations, egress management and emergency planning. Compromise on any of these critical elements could lead a small fire to a major inferno claiming many lives.



**Figure 1:** % failure issues identified during Marsh's FLS audits

## Fact check

In Maharashtra, 17 hospital fires have occurred in last five years, where 20 lives were lost in one particular incident.

In 2020, among the 484 hospitals audited by one of the state governments, 90% did not have fire NOC in Maharashtra.

<https://indianexpress.com/article/india/maharashtra-among-484-medical-facilities-audited-90-dont-have-noc-from-fire-dept-7145494/>

The local governments and the fire authorities have noticed major lapses and non-compliances at many hospitals when it comes to Fire Safety.

It has surfaced that basic fire protection and detection systems were either missing or compromised.

During a number of FLS audits, Consulting Solutions experts have seen instances of closed valves in the fire protection networks, disconnected smoke extraction fans, and Insufficient illumination from emergency lights.

At few facilities, integration of smoke detection system with other life safety systems was absent or inadequate making the situation further worse.

The bar chart (see figure 1) provides a snapshot of the possible failure points observed during hundreds of fire and safety audits conducted by Marsh.

### Hospital Fires in India are at all time High

**24** Fire incidents at hospitals have been reported since August 2020. More than half of these incidences were reported between March and April 2021.

**13** of the 24 fires began in the ICU, which are now functional at their peak capacity unlike ever before.

**11** Of these incidents were reported as "major" fire resulting loss of life and property damage.

**Source:** Indianexpress.com and Vijay Systems Engineers



## Personal involvement

One of the major reasons for fire spread in such occupancies has been the non-functional fire life safety (FLS) systems aided by poorly trained staff and administration. The FLS system's failure becomes pronounced in hospitals, with patients requiring special support in case of emergency evacuations.

The most essential component of FLS management is the training and skills of the emergency response team. One can have all the latest technology and systems in place, but if the emergency response team is not well equipped to handle those systems, then objective of a fire-safe building will not be achieved and the facility will remain at risk.

## What are these audits

In these audits, our consultants closely examine each factor that is critical to fire and life safety of any hospital or care centers. The scope ranges from evaluating current FLS infrastructure, reviewing emergency response planning to set up training for on-site emergency responders.

- While we know that, it is not possible to go for evacuation in every fire event in such occupancies, the consultants provide special focus on compartmentation at the site. Such compartmentations not only stop fire from spreading, but also provide a holding or refuge area for patients till external help arrives at site.

- Existing FLS infrastructure is reviewed for their installation adequacy and defects. Possible mitigation solutions are provided to improve the reliability of existing FLS installations.
- Performance evaluation of the key FLS systems is one of the major agenda of these audits. Sample functional tests are conducted for fire pumps, fire alarm systems, smoke control and extraction systems, public address system, lift homing and closure of automatic fire doors.
- A special focus is provided on skillset and knowledge of the emergency responders, frequency of training and mock drills and availability of additional support infrastructures like medical equipment, oxygen and additional ambulances etc.

Some of the applicable standards to which these audits are carried out are:

- National Building Code of India
- NFPA 101
- NFPA 25

## Audit focus

Marsh's consultants work with clients and independently inspects their fire and life safety arrangements in their premises.

The practice provides reports to highlight the gaps in FLS systems as well as recommendations to bridge these gaps, including the priority level for each of the non-compliance areas.





The key pillars of fire and life safety evaluations are:

- National Building Code of India
- NFPA 101
- Fire compartmentation
- Ignition source control and hazard identification
- Active fire protection
- Fire alarm system
- Life safety
- Electrical safety
- Emergency power supply
- Means of Egress
- Emergency response planning
- Training and awareness

### Our experience

Our consulting solutions team has worked very closely with some of the leading hospital chains in India for past couple of years. We have conducted 250 plus FLS audits for their various properties spread across India and helped them in improving overall FLS infrastructure at these locations.

The consulting team has also assisted one of the leading Hospital client in developing FLS standards, design and conducting installation reviews of the FLS systems in new hospitals and care centers.

### The Marsh difference

As the world's leading insurance broker and risk advisor, Marsh offers unmatched experience, knowledge, and insight required to identify and manage property exposures in the current risk environment. Marsh was the first in our field to establish specialized industry practices for property risk consulting.

Our risk professionals are knowledgeable about the regulatory, technical, and business challenges of all major industries. We continually monitor research development, building codes, and local regulations to ensure that our risk solutions reflect the current local codes and best practices.

We can help establish your risk profile and recommend cost-effective strategies to mitigate property related risks.



## Contact

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