

Fire Safety Audit of PGIMER, Chandigarh

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Abstract

Fire safety in hospitals is critical due to the high occupancy, presence of vulnerable patients, and complex infrastructure.

PGIMER, Chandigarh is the most premier and largest hospital and medical college of the country. This is a hospital of national importance. It has many departments in many buildings. PGIMER, Chandigarh has assigned the task of carrying out Fire Safety Audit of few of the buildings to CSIR – CBRI.

This project involves conducting a comprehensive fire safety audit of few buildings of hospital to assess its preparedness against fire hazards. The audit follows the guidelines of the National Building Code (NBC), local fire safety regulations, and hospital-specific standards.

The study includes evaluating fire prevention measures, active and passive fire protection systems, and building design to assess egress and evacuation of people and response of fire fighters. A detailed inspection was conducted to identify potential fire hazards, compliance gaps, and areas requiring improvement. Additionally, exit route assessments, were performed to analyze the hospital's overall fire safety resilience.

Findings from the audit highlight deficiencies in fire safety infrastructure, maintenance issues, and the need for enhanced training and awareness among hospital staff. Based on the assessment, recommendations were proposed to improve fire safety compliance, enhance emergency preparedness, and minimize fire risks. The study underscores the significance of regular fire safety audits in healthcare facilities to ensure the safety of patients, staff, and assets while adhering to regulatory standards.

Objectives:

The primary objective of the fire safety audit is to provide a comprehensive understanding of fire safety risks and recommend measures to improve overall fire preparedness, ensuring the safety of patients, staff, and hospital infrastructure.

1. Evaluate Fire Safety Measures – Assess the effectiveness of active (fire alarms, extinguishers, sprinklers) and passive (fire-resistant materials, compartmentalization) fire protection systems to ensure comprehensive coverage of all safety aspects.
2. Identify Fire Hazards – Identification of high-risk areas, such as ICUs, operation theaters, radiology departments, and kitchens, storage areas, oxygen supply systems, and other critical zones.

3. Evaluation of Fire Protection Systems – Design review of fire alarm and detection system, sprinklers, extinguishers, smoke detectors, and fire suppression systems.
4. Assess Compliance – Verify adherence to fire safety standards, including the National Building Code (NBC), hospital fire safety guidelines, and local fire department regulations.
5. Review Emergency Preparedness – Analyze exit routes.
6. **Prepare Detailed Reports:** Developed thorough reports outlining fire safety findings and providing actionable recommendations for mitigation and improvement.