

# EXECUTIVE SUMMARY

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## Overview

ON FRIDAY, OCTOBER 17, 2003 at approximately 5:00 PM a fire broke out on the 12<sup>th</sup> floor of the Cook County Administration Building at 69 West Washington Street in Chicago, Illinois. The fire, which originated in a storage closet in the southeast corner of the building, led to the deaths of six people. On Thursday, October 23, 2003, Governor Blagojevich retained James Lee Witt Associates (JLWA), to conduct an independent review in order to discover the facts associated with this fire that led to the deaths and injuries, to address lessons learned and to make recommendations to improve high-rise fire safety throughout the state.

Since 1980, there have been minimal instances of fire related fatalities nationwide in high-rise office buildings (excluding the terrorist incidents at the World Trade Center in 1993 and 2001 and the 1995 Oklahoma City Bombing). Like other historic and tragic fires in Chicago such as the Great Chicago Fire of 1871, the Iroquois Theater Fire in 1903, and the Our Lady of Angels Fire of 1958, the Cook County Administration Building Fire is not only tragic for those most directly connected to the victims and survivors, but serves as a significant incident from which we can learn a great deal. The findings and recommendations in this report will not only point the way to improved fire safety in Illinois, but will also add to the growing body of knowledge regarding emergency procedures for high-rise buildings. The lessons learned from this incident will serve to catalyze



Exterior view of 69 West Washington

positive change regarding how buildings are built and operated, how occupants and building staff are trained and the manner in which emergency personnel operate in Chicago, the State of Illinois, and throughout the country.

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## Methodology

James Lee Witt Associates based its approach to this Cook County Administration Building Fire Review, as it does for all crisis and consequence management reviews, on the four phases of emergency management — **Mitigation, Preparedness, Response, and Recovery**. Although each phase of emergency management has specific characteristics, the relationship among them is dynamic and interconnected. Mitigation includes actions taken to eliminate or reduce the impact of a hazard or future disaster; examples include changes to building codes or building systems. Preparedness includes all aspects of planning, preparing, training, and exercises. Response includes actions taken to save lives and property during an emergency. This may include search and rescue, fire suppression, evacuation, and emergency sheltering. It may also include behind-the-scenes actions that include the implementation of emergency plans, establishment of incident command centers, or activation of an Emergency Operations Center (EOC). Recovery involves actions taken to return a community to normal or near normal conditions. This may touch on reconstruction of facilities, securing financial aid or immediate assistance for disaster victims, and review / critique of response activities.

Reviewing the events of this fire through these four phases of emergency management has allowed JLWA to:

- **Identify the building systems, procedures, and personnel** that were in place at the time of the fire;
- **Document the actual performance** of these systems, procedures, and personnel during the fire;
- **Identify the gaps** between actual performance and expected performance;
- **Evaluate the adequacy** of the systems, procedures, and personnel in place at the time of the fire, including applicable building and emergency management code and standards, for attaining the desired results; and,
- **Recommend changes for improving the performance** of existing systems, procedures, and personnel and changes to these systems, procedures, and personnel where they were found to be inadequate.

This review focused on the contributing factors that led to the loss of life and the damage that occurred. No effort was made to determine the area of origin nor the cause of the fire. Information regarding the area of origin used in this review was based on eyewitness statements and information provided from official reports.

In support of this approach, data was collected from multiple sources that included:

- Interviews with close to 70 individuals;

- Survey responses of 551 building occupants as part of a Human Behavior Factors Study;
- Hearings related to the incident;
- Extensive review of operational procedures and research including a comparative analyses of other major city fire departments and of similar incidents, building history of renovations / improvements, and a codes review; and,
- Meetings with the: Chicago Building Owners & Manager's Association; City of Chicago / Chicago Fire Department (CFD); Cook County Commission; Cook County Public Guardian; Cook County State's Attorney; Illinois State Attorney General's Office; Illinois Association of Fire Chiefs; Illinois Department of Labor; Illinois Department of Professional Regulation; Illinois Emergency Management Agency; and, The Illinois State Fire Marshal's Office; and the, Northern Illinois Fire Sprinkler Advisory Board.

This collection of data includes, among other things: audio tapes, detailed timeline, floor plans, graphics, interview transcripts, photographs, reference materials, schematics and videotapes. This data was the foundation for a detailed analysis of:

- Building management operations;
- Building performance;
- Building codes;
- Fire protection systems;
- Fire behavior and spread (including fire behavior computer modeling);
- fire department operations and fire ground command, coordination and procedures; and,
- Human behavior factors.

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## Incident Summary

The following summary is intended to highlight the major events of Friday, October 17, 2003. A detailed narrative and timeline of the event can be found in the body of this report.

- At approximately 5:00 PM, a fire broke out in a storage closet in the office of the Secretary of State's Business Services Division (Suite 1240), on the 12<sup>th</sup> floor of the Cook County Administration Building.
- Security officers and building management personnel responded to the alarm, 9-1-1 was notified, and evacuation of the building commenced.
- Building occupants heard no audible fire alarm signal (such as a horn), but they were instructed by security personnel through the emergency voice / alarm communication (EVAC) system to evacuate by way of the stairways. occupants evacuated either through the stairways as they were instructed or via the elevators despite the public address system instructions.

- Those that evacuated via the northwest stairway and the elevators were able to safely exit the building. Those that evacuated early in the event via the southeast stairway, or evacuated from floors below the fire floor, also were able to safely exit.
- A group of occupants evacuating via the southeast stairway were unable to pass the fire floor due to firefighting operations. occupants reported that when they reached the 12<sup>th</sup> floor, they were instructed by a firefighter to go back up the stairway. In compliance with the firefighter's instruction, these occupants reversed course. They attempted to re-enter floors above the 12<sup>th</sup> floor, but the stairway doors were locked.
- However, one occupant discovered that the door to the 27<sup>th</sup> floor had not latched closed allowing a number of occupants to escape from the worsening conditions in the southeast stairway.
- Other occupants still in the stairway above the 12<sup>th</sup> floor were unable to reach the 27<sup>th</sup> floor and subsequently were overcome by the smoke and lost consciousness between the 16<sup>th</sup> and 22<sup>nd</sup> floors.
- The front desk security officer placed a call to 9-1-1 at 5:02 PM. The first units of the Chicago Fire Department arrived on the scene at 5:06 PM with the initial fire attack from the southeast stairway beginning at approximately 5:16 PM.
- The southeast stairway is located adjacent to the smoke ejection tower system located in a vestibule between the tenant space and the stairway. Once the stairway and smoke tower doors were breached by the fire department, heat and smoke escaped into the stairway thereby creating a toxic environment within the same area that the occupants were attempting to evacuate.
- The initial interior fire attack — from both the southeast and northwest stairways — was unsuccessful because intense heat and smoke prevented the firefighters from entering the floor to attack the seat of the fire. The interior attack team was withdrawn and an exterior fire attack was initiated using tower ladders at approximately 5:52 PM, which concluded at approximately 6:06 PM.
- Throughout the response operations, numerous calls for help, and notifications of missing persons were made to fire department and police department personnel via 9-1-1 operators and through on-scene, face-to-face encounters. Due to a multiplicity of command and communication failures, thorough search efforts were not immediately initiated and many calls regarding people who were missing, unaccounted-for, or trapped in the southeast stairway were not acted on in a timely fashion nor were reports received by the incident commander.
- Of the thirteen occupants who were not able to escape from the southeast stairway, six perished. They, along with 7 others who ultimately survived, were not discovered in the southeast stairway until approximately 90 minutes after the initial alarm.

## Major Findings

Our review process found more than 80 examples of failures, inconsistencies, ineffectiveness and/or non-compliance on the part of several agencies, organizations and individuals, several of which directly contributed to injuries and loss of life.

However, beyond all of the findings, it is our opinion that four key factors directly contributed to fatalities:

1. **Lack of automatic fire sprinklers that would have controlled or extinguished the fire in its early stages;**
2. **Failure by Chicago Fire Department to adequately search and account for occupants in the stairways prior to and during fire fighting operations;**
3. **Opening of the 12<sup>th</sup> floor southeast stairway door by the Chicago Fire Department that allowed smoke and heat into the stairway containing occupants; and,**
4. **Locked stairway doors that did not allow the trapped occupants to escape from the stairway.**

Properly addressing any one of the four key factors would have changed the outcome of this incident and prevented loss of life from occurring. In addition, other important findings included:

- Failures or inconsistencies on the part of City of Chicago and its fire department, Cook County and the State of Illinois;
- Inadequate evacuation training of building staff and occupants;
- Ineffective communication among police department and fire department 9-1-1 dispatchers and between the 9-1-1 communications center and fire commanders on the scene;
- Inadequate incident command procedures that did not allow for effective fire ground management and poor allocation of resources to address life safety demands; and,
- Failure to adopt and/or enforce required state fire code standards.

Injuries and loss of life could have been avoided if there had been better mitigation and preparedness actions initiated by responsible parties prior to the incident and more effective response and recovery actions taken by responsible parties during the incident.

The following discussion touches briefly on a few of the major findings and recommendations documented in much greater detail within the body of the full report.

### Cook County and Building Management

1. **Lack of an automatic fire sprinkler system.** The building was not equipped with an automatic fire sprinkler system that would have controlled or extinguished the fire in its incipient stage.

2. **Locked stairway doors.** Locked stairway doors in the southeast stairway prevented occupants from gaining re-entry into the building in order to find refuge from the smoky and hazardous conditions.
3. **Ineffective occupant training/ awareness regarding evacuation procedures.** A survey of building occupants and staff revealed that 80% of respondents were unaware of the building's evacuation plan and 48% were unaware that stairway doors would lock behind them.
4. **Ineffective building staff training.** Building staff (management, security and housekeeping) did not have a unified and clear understanding of the existing evacuations plans and procedures or how to execute them properly.
5. **Fire safety personnel.** At the time of the fire, the building's Fire Safety Director (FSD) was not in the building resulting in inadequate situation assessment and evacuation supervision. In addition at the time of the fire, the FSD's certification had lapsed. Furthermore, Building Management had not appointed a Deputy Fire Safety Director(s) as required by the Municipal Code of Chicago.
6. **Ineffective use of the fire alarm and communication system.** The messages and information being provided to the building occupants via the EVAC system was not changed throughout the incident despite the changing conditions that were evolving within the building.

## City of Chicago

1. **Non-compliant Municipal Code.** The City of Chicago promulgated a fire code that was less stringent than the requirements of the state fire code.

## City of Chicago — Fire Department

1. **Ineffective search and rescue/ occupant accountability operations.** CFD did not initiate an effective search and rescue operation to account for, or ensure for, the accountability and safety of all occupants that were evacuating through the southeast stairway prior to forcibly opening the stairway door on to the fire floor.
2. **Inadequate Incident Management/ Command System and Operating Orders/ Procedures.** CFD response was negatively affected by an inadequate Incident Management System and inadequate standard operating procedures. In many cases priority was placed on firefighting operations over considerations for occupant safety and search/ rescue activities. In addition, there is no evidence suggesting that those charged with on-scene fire incident management responsibilities have been provided even the most basic training in regards to their own standards, pointing to significant concerns regarding professional leadership development within CFD.
3. **Lack of knowledge and coordination in regards to building resources and information.** CFD did not properly coordinate with building management staff or security officers when initially arriving on the scene where they would have received vital information about the building's configuration or actions taken prior to their arrival.

4. **Poor coordination of resources, actions and information.** The inability to critically analyze and evaluate information provided during the incident for patterns/trends that made up the larger picture of the incident was evidenced by the failures to act on numerous reports of missing, unaccounted-for, or trapped individuals.

## State of Illinois

1. **Ineffective communication regarding changes to State Fire Code.** The Office of the State Fire Marshal did not effectively inform jurisdictions within the State of Illinois that changes were made to the State Fire Code in January 2002, specifically the adoption of the 2000 edition of the National Fire Protection Association *Life Safety Code*, which contained more stringent requirements than those within the Municipal Code of Chicago, with respect to the installation of sprinkler systems in high-rise buildings or an engineered life safety system.
2. **Uncertainty in code enforcement jurisdiction and lack of compliance mechanism.** There is ambiguity within the Office of the State Fire Marshal regarding the State's authority to enforce state fire codes within home rule jurisdictions.

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## Major Recommendations

### Cook County and Building Management

1. **Install automatic fire sprinklers.** An automatic fire sprinkler system should be installed as quickly as possible in the Cook County Administrative Building.
2. **Ensure that stairway doors are unlocked during emergencies.** A failsafe system for automatically unlocking stairway doors during emergencies should be installed as quickly as possible at the Cook County Administrative Building.
3. **Develop a building emergency action plan and incident management system.** Cook County, as the building's owner, together with Building Management and the building tenants should develop both a Building Emergency Action Plan and an Incident Management System to provide the framework for coordinated response to emergencies. The plan should include an accountability mechanism and address the roles and responsibilities of tenants, security and fire department personnel taking into consideration the needs of those with physical disabilities and language barriers.
4. **Management Oversight.** Cook County should ensure that proper and adequate oversight is maintained over the companies, individuals or entities contracted to provide management, security, emergency planning and operational functions in the Cook County Administrative Building.
5. **Require fire, life safety and evacuation training for security officers.** Security officers assigned to the Cook County Administrative Building should be required to receive more comprehensive training in general fire, life safety and evacuation training and education/training specific to the building. Their competency should be evaluated on a regular basis through exercises and evacuation drills.

## City of Chicago

1. **Ensure Compliance with State Fire Code.** The City of Chicago should institute an annual review of its Municipal Code to ensure its compliance with state law and regulations.
2. **Require Fire Sprinklers.** The City of Chicago should require installation of automatic fire sprinkler systems in all high-rise buildings.
3. **Require Unlocked Stairway Doors.** The City of Chicago should require installation of failsafe systems for automatically unlocking stairway doors during emergencies in all high-rise buildings.

## City of Chicago — fire department

1. **Adopt and implement nationally recognized incident management / command system (IMS).** CFD should immediately adopt and implement a nationally recognized Incident Management System (IMS). The complete implementation of an IMS, department-wide, will address many of the specific issues identified in this report relating to fire ground operations and leadership. A nationally recognized IMS will also address professional leadership development by establishment of clear standards and expectations for members of the department.
2. **Review and update General Orders regarding high-rise fire operations and search and rescue protocols / policies.** CFD must immediately review and update protocols, policies and training guidelines related to high-rise fire operations and search and rescue, to ensure that primary search in smoke filled or fire threatened areas of a structure is conducted as a priority for life safety, occupant accountability and life saving operations.
3. **Review Fire Safety Director training and certification program.** CFD should review and if necessary redesign its Fire Safety Director training program to reflect nationally accepted standards and to incorporate lessons learned from this incident.
4. **Increase comprehensiveness of inspections and review of building emergency plans.** CFD should increase the comprehensiveness of inspections and review of building emergency plans which will improve compliance and cross-coordination with CFD response personnel and the Office of Emergency Management and Communication (OEMC). All inspections should be completely documented and rigorous compliance efforts should focus on follow-up to ensure that violations are corrected in a timely manner. CFD should also actively market their subject matter expertise in support of the City's high-rise residential and commercial structures and to enhance their relationships with building managers and safety personnel. CFD should also periodically review the quality and quantity of training provided to building occupants while ensuring that plans adequately address the needs of individuals with limitations and clearly articulate protocols for the proper coordination and hand-off between building management, security, and fire department personnel.

## State of Illinois

1. **Develop formal procedure to communicate changes in State Fire Code.** The Office of the State Fire Marshal should develop a formal procedure and process to officially notify all jurisdictions within the state of any changes to the State Fire Code.
2. **Ensure State Fire Code compliance.** The Office of the State Fire Marshal should verify that the state fire code has been adopted and is being enforced within all home rule jurisdictions in the state.
3. **Appoint task force to ensure consistency and enforcement of all applicable codes.**  
The State of Illinois should convene a task force — consisting of the appropriate local and State agencies and private sector stakeholders — to develop protocols and guidelines that provide for an ongoing review of current national model codes or standards and make recommendations to ensure that state and local building and fire codes meet national standards and that they are uniformly enforced at the local level.
4. **Develop high-rise fire, life safety and evacuation training for security officers.** The Illinois Department of Professional Regulation should work with appropriate local and State agencies, and private sector stakeholders regarding fire safety instruction requirements for security officers and the unique nature of high-rise building evacuations. Once standards of instruction are developed, there should be serious consideration for requiring high-rise specific training for security officers assigned to high-rise buildings.

### Special Note

The City of Chicago, Cook County, and the State of Illinois should carefully consider the recommendations contained in this report regarding building design, management and operations and emergency procedures, especially as they relate to fire and life safety and their application to all buildings they own and occupy.

It is understood, that implementation of the recommendations in this report will require significant investments of time and resources from various public and private stakeholders. In addition, implementation of these recommendations will require collaboration and cooperation between the public and private sector to address the application of scarce resources to multiple sets of competing priorities. The inherent challenges we face in implementing these recommendations are not excuses for inaction, but rather an acknowledgment that establishing timeframes for implementation cannot be done without considering the necessary time required to prioritize actions, identify resources, and complete appropriate or necessary administrative or legislative action. Nevertheless, time is of the essence. While some of the recommended actions have been initiated by appropriate parties, or are currently in the process of being addressed, many have not yet been acted on and could lead to similar incidents in the future in Chicago or in other parts of the state.

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## Brief Overview and Edited Timeline

On Friday, October 17, 2003 at approximately 5:00 PM a fire broke out on the 12<sup>th</sup> floor of the 37-story Cook County Administration Building at 69 West Washington Street in Chicago, Illinois. The fire originated in a storage closet in Suite 1240, in the office of the Secretary of State's Business Services Division.

Security officers and Building Management Personnel responded to the alarms, 9-1-1 was notified, and evacuation of the building commenced.

Building occupants heard no audible fire alarm, but through the public address system, they were instructed by security personnel to evacuate by way of the stairwells. Occupants evacuated either through the stairwells as they were instructed, or via the elevators despite the public address system instructions. Those that evacuated via the northwest stairwell and the elevators found safe egress. Those that evacuated early in the event via the southeast stairwell, or below the fire (12<sup>th</sup>) floor, were able to exit the building at the ground floor.

The remaining occupants descending via the southeast stairwell were unable to pass the 12<sup>th</sup> floor once firefighting operations had begun. Occupants reported that when they reached the 12<sup>th</sup> floor, they were instructed by a firefighter to go back up the stairwell. In compliance with this instruction, these tenants reversed course. They attempted to re-enter floors above the 12<sup>th</sup> floor, but found all stairwell doors were locked.

However, one occupant discovered that the door to the 27<sup>th</sup> floor was not latched in the locked position, allowing a number of occupants to escape from the worsening stairwell conditions. Other tenants still in the stairwell between the 12<sup>th</sup> and 27<sup>th</sup> floors, however, were unable to reach the 27<sup>th</sup> floor and subsequently were overcome by the smoke and lost consciousness between the 16<sup>th</sup> and 22<sup>nd</sup> Floors.

The front desk security officer placed a call to 9-1-1 at 5:02 PM. The first units of the Chicago Fire Department arrived on the scene at 5:06 PM initiating fire attack from the southeast stairwell beginning at approximately 5:16 PM. This southeast stairwell is located beyond a smoke ejection tower system located in a vestibule between the tenant space and the stairwell. Once the stairwell and smoke tower doors were breached by the fire department to attack the fire, the smoke ejection tower system was rendered ineffective and heat and smoke escaped into the stairwell thereby creating a toxic environment within the same area that the occupants were attempting to evacuate.

Due to intense heat and smoke conditions, the interior fire attack from the northwest and southeast stairwell was unsuccessful. The interior attack team was withdrawn and an exterior fire attack tactic was initiated using tower ladders at 5:52 PM, and concluded at 6:07 PM.

Throughout the response operations, numerous calls for help to the City 9-1-1 Center were made, including from people trapped in the building. In addition, notifications of missing persons were made to fire department and police department personnel via 9-1-1 operators and through on-scene face-to-face encounters. Due to a multiplicity of command and communication failures, thorough search efforts were not immediately initiated and many calls regarding people who

were missing, unaccounted-for, or trapped in the southeast stairwell were not acted on or were never received by the incident commander.

Of the thirteen individuals who were not able to evacuate safely, six were overcome by the smoke in the southeast stairwell and perished. They, along with 7 others who ultimately survived, were not discovered until approximately 90 minutes after the initial alarm.

The following is an abbreviated time line compiled from security video tapes, 9-1-1 OEMC transcripts and CFD Main radio transcripts and our editorial comments describing the actions that we believe were occurring that outline the significant events of this incident.

Timeline of Significant Events		
Time	Elapsed Time	Event
17:00:16	0:00:00	Security guards react to fire alarm signal at fire alarm control panel in the lobby. Building engineer dispatched to the 12 <sup>th</sup> floor to investigate.
17:02:15	0:01:59	Initial call to Chicago Police Department (CPD) 9-1-1 reporting a fire in the storage closet on the 12 <sup>th</sup> floor.
17:02:29	0:02:13	Call transferred from CPD to Chicago Fire Department (CFD) 9-1-1 Console.
17:03:30	0:03:14	High-rise still alarm units dispatched by Chicago Fire Department (CFD).
17:03:56	0:03:40	Emergency Voice / Alarm Communications (EVAC) system on the fire alarm panel activated.
17:06:29	0:06:13	Battalion 1 on the scene reports nothing showing and assumes command.
17:07:22	0:07:06	Incident Commander, not wearing protective clothing, meets with building engineer in lobby.
17:07:31	0:07:15	Incident Commander leaves the building.
17:07:44	0:07:28	First fire crews (Fire Investigations Team [FIT]) observed moving through the lobby to the low-rise and freight elevators.
17:07:48	0:07:32	Security officer and three women, believed to be from Suite 1240, exit from the elevator.
17:09:09	0:08:53	Incident Commander returns to the lobby wearing protective clothing.
17:10:23	0:10:07	Incident Commander requests additional units (box alarm assignment) on the basis of the report from the FIT that there is a working fire.
17:10:41	0:10:25	CFD Aerial Tower 1 assigned to Lobby Control.
17:11:32	0:11:16	Fire fighters obtain elevator control keys from box on lobby wall.
17:11:48	0:11:32	Battalion 3 on the scene in the lobby.
17:12:20	0:12:04	Battalion 3 assumes command. Battalion 1 becomes Forward Fire Command.
17:14:40	0:14:24	Deputy District Chief 1 (DDC1) on the scene.
17:15:55	0:15:39	Call to 9-1-1 from a third party reporting that a friend of hers had called saying she was trapped in the building, the smoke's really thick, and she cannot come down the stairs.

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**Timeline of Significant Events** — continued

17:16:10	0:15:54	Standpipe water flow alarm indicates that the fire fighters are flowing water on the 12 <sup>th</sup> floor.
17:18:09	0:17:53	Transfer of command from Battalion 3 to DDC1.
17:18:21	0:18:05	Call to 9-1-1 reporting that they are locked in the stairway and there's a fire.
17:18:35	0:18:19	Call to 9-1-1 from occupants in southeast stairway reporting that they are trapped. Call lasts 8 minutes 14 seconds. Can hear people moaning and yelling in the background as well as the announcement to evacuate the building.
17:18:47	0:18:31	Call to 9-1-1 from party in the northwest stairway. Call lasts 8 minutes 25 seconds as CFD dispatcher guides the occupant out of the building.
17:19:55	0:19:39	Main (CFD Dispatch) advises 271 (Communications Van on the fire ground) that there are people on the 21 <sup>st</sup> floor in the stairway who can't get out. 271 acknowledges.
17:21:05	0:20:49	271 requests a 2-11 assignment.
17:21:55	0:21:39	Call to 9-1-1 from occupants who had escaped from the southeast stairway into the 27 <sup>th</sup> floor conference room. Caller advises 9-1-1 that the stairway is filling up really bad with smoke and there may be 15 to 20 people trapped in the stairway because the doors won't open.
17:22:45	0:22:29	Main advises 271 that there are people in the northwest stairway on the 21 <sup>st</sup> floor. This is an incorrect assumption on the part of Main.
17:23:00	0:22:44	Another call to 9-1-1 from the conference room on the 27 <sup>th</sup> floor advising 9-1-1 that there are people trapped on the 27 <sup>th</sup> floor.
17:23:07	0:22:51	Security officer in the lobby hands telephone to building management staff member who takes notes during conversation. Believe this is a conversation with one of the individuals trapped on the 27 <sup>th</sup> floor.
17:23:31	0:23:15	Conversation between CPD and CFD 9-1-1 console operators. CPD advises CFD that there was a call from an occupant on the 27 <sup>th</sup> floor reporting people trapped.
17:25:00	0:24:44	Occupant in the southeast stairway on cellular telephone call with 9-1-1 (since 17:18:35) stops responding to the dispatcher.
17:25:05	0:24:49	Building management staff member who had been speaking on the telephone at the security desk passes a piece of paper to another member of building management.
17:25:37	0:25:21	Building management staff member speaks with the Incident Commander.
17:25:45	0:25:29	Main advises 271 that there are people trapped in Suite 2700. 271 acknowledges.
17:26:59	0:26:43	Incident Commander leaves the lobby Command Post and walks outside of building to observe conditions and meets with the Plans Chief, who left the Communications Van, and orders him to set up an exterior master stream operation.
17:27:36	0:27:20	Building management staff member on the telephone at the security desk, taking notes. Believe this is another telephone conversation with the individual on the 27 <sup>th</sup> floor who had been left behind when the lieutenant from Engine 42 who left his assignment after hearing that people may be trapped. He unilaterally went up to the 27 <sup>th</sup> floor and escorted some occupants down the northwest stairway as far as the 12 <sup>th</sup> floor and then rejoined his crew and left the occupants to continue unaided.

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## Timeline of Significant Events — continued

17:28:07	0:27:51	Incident Commander re-enters the building.
17:28:15	0:27:59	Building management staff member meets with the Incident Commander and advises him of the telephone call from the occupant on the 27 <sup>th</sup> floor.
17:29:02	0:28:46	Incident Commander seen directing fire fighters in the elevator lobby. Believe the fire fighters are being assigned to check the 27 <sup>th</sup> floor.
17:29:45	0:29:29	271 requests a 3-11 assignment per the Incident Commander.
17:32:00	0:31:44	Deputy Fire Commissioner (2-1-12) reported that he was responding to the incident for the 3-11.
17:35:11	0:34:55	Call to CPD 9-1-1 from a third party reporting that brother-in-law is trapped on the 27 <sup>th</sup> floor.
17:38:45	0:38:29	271 advises Main that District Chief (2-1-23) assuming command. No evidence of formal transfer of command occurred between the existing Incident Commander and 2-1-23.
17:39:30	0:39:14	271 requests a field officer to report to the Communications Van at 2-1-23's direction because the previous Plans Chief (Battalion 4) had been reassigned by the previous Incident Commander to the exterior master stream operation without making provisions for a replacement.
17:46:30	0:46:14	271 requests another battalion chief to report to staging to "take control and find out who we got there ..."
17:47:10	0:46:54	Call to 9-1-1 with a third-hand report of a missing party in the building.
17:52:45	0:52:29	Main advises 271 that they are still getting calls from the 27 <sup>th</sup> floor. 271 acknowledges.
17:59:47	0:59:31	Fire Companies outside the building start applying water from elevated master streams / aerial towers.
18:01:11	1:00:55	271 requests a 4-11 assignment (fourth alarm) per the Incident Commander (2-1-12).
18:06:14	1:05:58	Companies shut down exterior master streams (approximately 13.5 minutes).
18:39:30	1:39:30	Progress report by 271 that the fire is out and companies are involved in overhaul.
18:47:17	1:47:01	Patient on stretcher moves through the west courtyard. At least 14 patients are seen being transported out of the building on stretchers up until 19:29:05.
18:50:35	1:50:35	Main advises 271 that the Incident Commander has requested an EMS Plan II.
18:53:53	1:53:37	Four victims removed from the mid-rise elevators.
18:54:45	1:54:29	EMS Plan III ordered by senior medical officer on the scene.
19:02:12	2:01:56	Call to 9-1-1 from Battalion 3 on the 17 <sup>th</sup> floor requesting that Main relay a message to 271 asking for EMS personnel on the 17 <sup>th</sup> floor and to release the elevators for them to use. Unable to communicate via radio.
19:04:15	2:03:59	Main advises 271 that Battalion 3 is requesting assistance on the 17 <sup>th</sup> floor.
19:29:05	2:28:49	Last civilian victim observed being transported by stretcher out of the building. Total elapsed time from the first patient transport observed was 41 minutes.

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## Index of Findings

1. Building Management Failed To Provide Full Evacuation Procedure.

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2. Building Management Failed to Provide Compliant Partial Evacuation Procedure.

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3. Building Management Failed to Appoint Certified Deputy Fire Safety Director.

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4. Building Management Personnel Not on Premises as Required.

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5. Building Management Personnel Lacked Proper Certification.

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6. Building Management Failed to Provide for Life Safety Leadership in Absence of the Fire Safety Director.

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7. Building Management Failed to Conduct Quarterly Evacuation Drills per Building/ Tenant Safety Plan.

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8. Building Management Failed to Produce Uniform Emergency Management Documents.

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9. Building Management Failed to Provide Adequate Emergency Training for occupants and Staff.

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10. Building Management Failed to Provide Emergency Training Consistent with Emergency Plan.

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11. Building Management Failed to Fully Develop Emergency Protocols for occupants with Disabilities and Limitations.

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12. Building Management Failed to Develop Emergency Response Protocol for their personnel Management.

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13. Building Management Personnel Failed to Adequately Assess and Respond to Situation.

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14. Building Management Failed to Provide Immediate Notification of Fire Alarm Activation.

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15. Building Management Personnel Failed to Serve as Single Point of Liaison with fire department.

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16. Building Management Failed to Provide a Failsafe System to Unlock Stairway Doors.

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17. Building Management Failed to Maintain Fire Life Safety Systems (Louvers) in Operable Condition.

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18. Building Management Failed to Produce a Usable List of Self Identified occupants with Disabilities/ Limitations.

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19. Building Management Failed to Identify All Critical fire department Concerns in Pre-Fire Plan.

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20. Building Management Failed to Provide Adequate Oversight of Security Operations Related to Fire Emergencies.

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21. Security Company Failed to Provide Adequate Training to Security Officers Regarding Performance of Duties Outlined in Security Manual.

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22. Security Company Personnel Failed Provide Supervisory Leadership.

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  23. Security Company Personnel Failed to Maintain Effective Access Control.

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  24. Municipal Code of Chicago Doesn't Adequately Address Fire Safety Director Coverage.

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  25. Municipal Code of Chicago Doesn't Require Mandatory Safety Drills in all High-rises

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  26. Municipal Code of Chicago Doesn't Require Failsafe System to Automatically Unlock Stairwell Doors in Existing Buildings.

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  27. Municipal Code of Chicago Doesn't Require Designated Areas of Refuge for Persons with Disabilities / Limitations On All Floors of High-rise Buildings.

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  28. Municipal Code of Chicago Doesn't Adequately Address Needs of occupants with Limitations or Disabilities.

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  29. Municipal Code of Chicago Is Not Equal to State Fire Code.

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  30. Municipal Code of Chicago Doesn't Require Automatic Fire Sprinkler Systems in Existing High-rises Buildings.

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  31. Municipal Code of Chicago Lacks Standards or Procedures for Submittal, Review and Approval of High-rise Emergency Plans and Supervision of Safety Drills.

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  32. The Municipal Code of Chicago Lacks Appropriate Provision for Areas of Separation in Existing Buildings.

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  33. The Municipal Code of Chicago Failed to Provide Meaningful Requirements for Recertification.

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  34. The Municipal Code of Chicago Mandates Questionable Relocation Procedures.

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  35. The City of Chicago's fire department (CFD) Failed to Provide Sufficient Information to Develop Proper Emergency Action Plans.

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  36. CFD Failed to Develop Protocols for Determining Need for Assistance of Individuals in Areas of Refuge.

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  37. CFD Personnel Failed to Obtain Copy of Pre-Fire Plan at Lobby Security Console.

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  38. CFD Failed to Implement an Organized and Comprehensive Incident Command / Management System.

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  39. CFD Personnel Took Inappropriate Actions on Fire Ground.

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  40. CFD Personnel Failed to Conduct Systematic Search and Rescue in Timely Fashion.

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  41. CFD Personnel Failed to Initiate Search and Rescue Prior to Forcibly Opening Fire Floor Door.

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  42. CFD Personnel Failed to Take Control of EVAC System.

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  43. CFD Personnel Failed to Communicate Critical Information to Forward Fire Command.

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  44. CFD Personnel Failed to Secure / Develop a Floor Plan and Locate Stairways to be Utilized.

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45. CFD Personnel Failed to Communicate Designation of Evacuation Stairwells.
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46. CFD Personnel Failed to Account for Civilian Traffic within Lobby.
- 
47. CFD Personnel Failed to Conduct Adequate Ventilation Operations.
- 
48. CFD Personnel Failed to Maintain Lobby Control Responsibilities for Duration of Incident.
- 
49. CFD Personnel Failed to Establish Adequate Incident Command Post.
- 
50. CFD Personnel Failed to Remain at Post of Duty.
- 
51. CFD Personnel Re-Assigned Plans Chief Without Designating Replacement.
- 
52. CFD Personnel Failed to Properly Transfer Command.
- 
53. CFD Personnel Failed to Provide Progress Reports.
- 
54. CFD Personnel Failed to Provide Oversight of Functional Areas.
- 
55. CFD Personnel Failed to Adequately Size Up Emergency Situation.
- 
56. CFD Personnel Failed to Establish and Maintain Liaison with Building Management / Security.
- 
57. CFD Personnel Failed to Respond in Timely and Effective Manner to Reports of Unaccounted occupants.
- 
58. CFD Failed to Provide Sufficient Command and Support Staff.
- 
59. CFD Personnel Failed to Provide Progress Reports.
- 
60. CFD Personnel Failed to Remain in Staging Area.
- 
61. CFD Personnel Implemented Inadequate personnel Accountability Tracking System.
- 
62. CFD Failed to Provide Adequate Communication and personal Protective Equipment.
- 
63. CFD Personnel Took Independent Actions Outside of Command Structure.
- 
64. The City of Chicago's Office of Emergency Management and Communications (OEMC) Failed to Provide Sufficient Radio Channels for Fire Ground Operations.
- 
65. OEMC Failed to Provide Sufficient Recording and Archiving of Electronic Communications.
- 
66. OEMC Operators Failed to Effectively Communicate.
- 
67. OEMC Failed to Ensure Information Regarding Unaccounted-For or Trapped occupants was Relayed and Actually Received by Incident Commander.
- 
68. Cook County Failed to Properly Monitor the Building, Building Management and Building Operations.
- 
69. Cook County Failed to Ensure that the Cook County Administrative Building was Compliant with the Municipal Code of Chicago through Installation of a Continuous Protected Path from the Bottom of Both Exit Stairways to the Exterior of the Building.
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70. Cook County Failed to Ensure that the Cook County Administrative Building was Compliant with State Fire Code through Installation of an Automatic Fire Sprinkler System or Engineered Life Safety System.
- 
71. The State of Illinois Failed to Effectively Inform Jurisdictions Regarding Changes to State Fire Code.
- 
72. The State of Illinois is Ambiguous Regarding its Authority to Enforce State Fire Codes at the Local Level.
- 
73. Security Company Personnel and Building Management Personnel Failed to Provide Copy of Pre Fire Plan at Lobby Security Console to CFD.
- 
74. Security Company Personnel and Building Management Personnel Failed to Provide Stairway Master Keys (available at lobby security console) to CFD.
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75. Building Management Personnel and Security Company Personnel Failed to Provide Adequate Information to occupants.
- 
76. Building Management and Security Company Failed to Develop Effective Emergency Response Protocols for Security Officers.
- 
77. Building Management and Cook County Failed to Correct Structural Flaws that Allowed Smoke to Spread.
- 
78. The City of Chicago's Code Enforcement Agencies Failed to Effectively Enforce Existing Codes.
- 
79. Local and State Codes Not Uniform.
- 
80. Both Local and State Code Enforcement Officials Failed to Provide Leadership Towards Harmonizing Applicable Codes between Jurisdictions.
- 
81. The City of Chicago and State of Illinois Allow for the Use of Ineffective Smoke Removal System.
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## Summary of Findings and Recommendations

### 1. Building Management Failed To Provide Full Evacuation Procedure.

#### Finding

Building Management did not have in place a procedure for a full evacuation of the building as mandated in the Municipal Code of Chicago.

#### Recommendation

Building Management should develop a procedure for a full evacuation of the building as mandated in the Municipal Code of Chicago.

In addition, Cook County and Building Management develop a Building Emergency Action Plan (BEAP) for the Cook County Administrative Building. A BEAP is a comprehensive document that includes all mandatory requirements of the municipality, but also addresses actions that are taken in response all hazards, including fires and fire alarms. The BEAP will provide the frame work for coordinated and consistent planning, exercise and training, and response to emergencies by all parties including building management, staff and security, and occupants. The plan should address the specific roles and responsibilities of building management, staff and security, and occupants and their coordination with public safety agencies. It should also include an accountability mechanism to record and track these efforts. The full evacuation procedure should be included into the BEAP.

**Background:** All building emergency action plans must include clear and comprehensive procedures to fully evacuate a building. These procedures should include:

Specific instructions for security personnel;

Specific instructions for building management personnel that are involved in emergency operations; and,

Detailed instructions for occupants.

Both the full and partial evacuation plan should be evaluated and exercised on a regular basis to ensure that everyone involved in its implementation understands the actions that they are to take. These exercises would also serve as an opportunity to evaluate the effectiveness of the plan and make any changes indicated.

## 2. Building Management Failed to Provide Compliant Partial Evacuation Procedure.

### Finding

Building Management failed to provide a partial evacuation procedure that was compliant with the requirements of Municipal Code of Chicago.

### Recommendation

Building Management should develop a procedure for a partial evacuation of the building as mandated by the Municipal Code of Chicago and include in the building's BEAP.

**Background:** The building emergency action plan outlined in the Building / Tenant Fire Safety Plan did not adequately detail the steps needed for the occupants to take when evacuating the building. Furthermore, this plan was not harmonized with the procedures outlined in the Security Manual.

## 3. Building Management Failed to Appoint Certified Deputy Fire Safety Director.

### Finding

Building management failed to appoint a Certified Deputy Fire Safety Director as mandated by the Municipal Code of Chicago.

### Recommendation

Building Management should appoint Certified Deputy Fire Safety Director(s) as mandated by the Municipal Code of Chicago.

**Background:** It is not reasonable to expect a single individual to fulfill the duties of the Fire Safety Director. For this reason, the Municipal Code of Chicago requires buildings to be staffed with Deputy Fire Safety Director(s) to serve as backup. There were no appointed Deputy Fire Safety Directors at the Cook County Administration Building.

Because of this failure, there were times when the building was not staffed by certified personnel. During an emergency, the minutes before the fire department arrives on the scene and takes command of the incident can be critical ones in determining how the incident will be handled.

## 4. Building Management Personnel Not on Premises as Required.

### Finding

The Fire Safety Director was not on premises as required by the Municipal Code of Chicago.

### Recommendation

Building Management shall ensure that a certified Fire Safety Director or Deputy Fire Safety Director is on site as required by the Municipal Code of Chicago.

**Background:** The Municipal Code of Chicago requires that a Fire Safety Director or Deputy Fire Safety Director be on the premise during the hours of 7 AM to 7 PM or be

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within 20 minutes of the building. The Fire Safety Director was not on-site at the time of the fire and returned to the building approximately 40 minutes from the time he was contacted.

During an emergency, the minutes before the fire department arrives on the scene and takes command of the incident can be critical ones in determining how the incident will be handled. Therefore, it is paramount that a qualified individual be present that can make correct decisions on what actions should be taken.

**5. Building Management Personnel Lacked Proper Certification.**

**Finding**

At the time of the fire, the appointed Fire Safety Director lacked current certification for his position; his certification had lapsed.

**Recommendation**

Building management and Cook County shall institute a policy and procedure to ensure that all certifications required for the positions of Fire Safety Director and Deputy Fire Safety Director are current and valid.

The City of Chicago Fire Department shall institute an enforcement program to ensure that all high-rise buildings within the city shall have personnel with current and valid certifications for the positions of Fire Safety Director and Deputy Fire Safety Director.

**Background:** At the time of the fire, there was no Certified Fire Safety Director on staff as required by the Municipal Code of Chicago. The code mandates that there should be a person in each high-rise building that is trained in developing a building emergency action plan and is capable of coordinating activities in the building during an emergency. The CFD developed a program for training and certifying these individuals on an annual basis.

**6. Building Management Failed to Provide for Life Safety Leadership in Absence of the Fire Safety Director.**

**Finding**

Building Management failed to provide life safety leadership in the absence of the Fire Safety Director.

**Recommendation**

Building Management shall institute a policy and procedure to ensure that the proper certified fire safety personnel are present on site at all times as required by the Municipal Code of Chicago.

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**Background:** By not being present in the building until later in the incident the Fire Safety Director was not in a position to provide critical direction to building occupants and to function as the coordinator or liaison with the fire department. The Fire Safety Director left the building at 4:00 PM on the day of the fire. At the time of the fire he was on a train when he was notified shortly after 5:00 PM. According to his own estimate he reported that he was not able to return to the building until approximately 5:40 PM.

## 7. Building Management Failed to Conduct Quarterly Evacuation Drills per Building / Tenant Safety Plan.

### Finding

Building Management failed to conduct quarterly drills in accordance with the directives in the Building / Tenant Fire Safety Plan.

### Recommendation

Building Management should institute a policy and procedure to ensure that drills are held in accordance with the BEAP.

**Background:** The Building / Tenant Fire Safety Plan stated that evacuation drills would be conducted on a quarterly basis. The value of evacuation drills is to ensure that the occupants, security and building management personnel are well versed in the actions that should be taken during an emergency.

By failing to meet the self-stated requirement of quarterly drills, the opportunity to train the occupants and others involved in emergency operations was missed. In addition, conducting full-scale evacuation drills that would mirror the conditions and actions to be taken during actual emergencies would be an opportunity to identify the shortcomings in the Building / Tenant Fire Safety Plan.

## 8. Building Management Failed to Produce Uniform Emergency Management Documents.

### Finding

Building Management produced several emergency management documents for the building that did not provide consistent nor compatible information.

### Recommendation

Building Management should adopt policy and procedure to ensure that all documentation and emergency plans for tenants, staff and security are consistent and compatible. This policy and procedure should be included in the building's BEAP. They should also circulate and post the building's BEAP.

**Background:** It is vitally important that each of the different groups within a building (occupants, security, building management, housekeeping, etc.) are fully aware of their

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responsibilities during an emergency. The documentation that each group receives should focus on their areas of concern and should not be a compendium of all of the activities that will occur yet are not relevant to them.

However, each of these documents should be an accurate reflection of the requirements outlined in the master plan. In other words, they should dovetail together seamlessly to ensure that they do not adversely impact the overall response within the building to an emergency. Each tenant (employer) in the building is also responsible for ensuring that their respective employees are knowledgeable and familiar with emergency evacuation plans. If a tenant develops their own emergency evacuation plan it needs to be compatible with the building's overall emergency evacuation plan.

**9. Building Management Failed to Provide Adequate Emergency Training for occupants and Staff.**

**Finding**

Building Management failed to provide adequate training on the emergency evacuation plan and evacuation procedures to all building occupants and staff.

**Recommendation**

Building Management should adopt policy and procedure to ensure that all occupants and staff are trained biannually at the proper level and participate in exercises that train them in the safe evacuation of the building. They should also implement measures that will verify and track those efforts. This policy and procedure should be included in the building's BEAP. In addition, consideration of non-English speakers should be made in the development and delivery of curriculum and exercises.

**Background:** The Human Behavior Study conducted as part of this review and in the interviews and testimony provided by the occupants indicated there was little retention of the information provided in what level of training and exercises provided by the building management. More troubling, we found no evidence that the housekeeping staff received any training or education regarding the building's evacuation plan. This is an important group of people that should be very familiar with the components of the plan as it relates to them. Furthermore, the plan should address specifically how to account for a group of occupants that will be in the building after hours and scattered throughout the building, working alone. In some cases, English was a second language for these staff. The effectiveness of training and education cannot be understated. It helps to ensure that everyone involved in the response to an emergency is aware of the actions that should be taken. During this emergency, some of the occupants reacted as they had been trained others didn't or were not knowledgeable. Security personnel were unaware of the procedures outlined in their security manual. All of this relates to a lack of education and training that could be accomplished by conducting regular training and safety drills.

## 10. Building Management Failed to Provide Emergency Training Consistent with Emergency Plan.

### Finding

Building Management failed to provide training to occupants and staff that was consistent with the emergency evacuation plan.

### Recommendation

Building Management should improve education and training to ensure that all occupants and staff are fully aware and trained in the emergency evacuation plan.

**Background:** There were different documents used by different occupant groups within the building (tenants, security, building management). These documents contained different instructions for the reader to follow in the event of an evacuation and the instructions were not consistent with each other. This led to a disconnect in terms of the actions that should be taken.

Furthermore, the training did not follow the steps outlined in the various documents so the occupants did not have the opportunity to learn the correct set of actions to take. All of the training and education should mirror, as closely as possible, the conditions that will occur during actual emergencies.

## 11. Building Management Failed to Fully Develop Emergency Protocols for occupants with Disabilities and Limitations.

### Finding

Building management failed to fully develop adequate and effective protocols within the emergency plan for occupants with disabilities and limitations.

### Recommendation

Building Management should ensure that the Building Emergency Action Plan includes procedures for the occupants with disabilities and limitations. Also, develop a training program for use of special equipment related to the needs of these individuals. These procedures and training program should be included in the building's BEAP.

**Background:** Building management made an attempt to address the evacuation needs of occupants with disabilities and limitations. However, these protocols were not sufficient to ensure that the locations of these occupants could be quickly ascertained and that there were areas of refuge located throughout the building. The directions provided to at least one disabled occupant regarding the area of refuge differed from the stated plan. He had been told to enter and remain in the stairway and fire department personnel would respond to his location. The stated procedures in the Building / Tenant Fire Safety Plan were that the disabled occupant should remain on the tenant side of the stairway door and wait for assistance.

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It is important that these procedures be consistently communicated so that everyone involved in the emergency operations understands what actions are necessary, where the areas of refuge are located throughout the building, that there is a mechanism in place to quickly communicate this information to the building's emergency command post and that the information is relayed quickly to the fire department. Since this is a public building, and an occupant with a disability or limitation can be on any floor at any time, it should be assumed that this is the case until verified otherwise. Therefore, there should be standardized provisions to protect and identify any such occupant. Furthermore, provisions should be made in the event that a disabled occupant is in the building and the person normally assigned to assist him / her is not present. Other personnel should be trained and prepared to assist as needed.

**12. Building Management Failed to Develop Emergency Response Protocol for their personnel Management.**

**Finding**

Building Management Personnel failed to develop an effective response protocol for their personnel to use during an emergency.

**Recommendation**

Cook County should ensure that building management at the Cook County Administrative Building implements an incident management system to facilitate effective emergency response by their personnel. This system should be documented in the building's BEAP.

**Background:** Other than for the building engineer, there were no provisions in the building emergency action plan for the functions that building management personnel would fulfill during an emergency. In this incident, there were several members of building management that used their best judgment as to how to best support the activities of the fire department.

The building management personnel also may have vital information about the building operation and design that would be of value to the incident commander.

By using an incident management system to coordinate the activities of all building management personnel, a structure can be developed that is scalable and would dovetail with the fire department incident management system. Specific functional roles would be defined and building management personnel could be trained to fill these roles as needed, depending upon the scope or type of incident.

**13. Building Management Personnel Failed to Adequately Assess and Respond to Situation.****Finding**

Building Management Personnel failed to properly assess the fire situation and took inappropriate action (called for a full evacuation of the building).

**Recommendation**

Cook County should ensure that building management in the Cook County Administrative Building provides education and training to building management personnel at a level commensurate with their emergency roles and responsibilities in regards to the building's BEAP and the building's incident management system.

**Background:** The building engineer made a decision for a full evacuation of the building based on the risk to his personal safety, not one that was based on the overall risk to the building occupants. This person made the decision based on his limited scope of knowledge of the size of the fire, how far it had spread and what areas of the building were in danger.

At the time that he made his decision the fire had not spread beyond the suite of origin. The building emergency action plan placed the responsibility for determining the response to a fire situation solely upon the building engineer. There are several problems with this procedure.

First, the building engineer was not trained or certified as a Fire Safety Director or Deputy Fire Safety Director. He had not received any training that would prepare him for making the type of decision that would impact upon the safety of all of the occupants of the building. secondly, the person that is directly confronted with an emergency situation where his or her life is potentially in danger is not in a position to make a calm, reasoned decision as to what actions are necessary to safeguard the occupants of the building.

This decision should be made by someone other than the individual directly affected by the emergency situation. This individual making the decisions should have an overall view of the conditions throughout the building. By placing the decision-making responsibility with a person such as the Fire Safety Director or Deputy Fire Safety Director who is located at the lobby security console, better choices can be made based on an overall perspective of the situation.

**14. Building Management Failed to Provide Immediate Notification of Fire Alarm Activation.****Finding**

Building Management failed to provide a protocol, procedure or system to immediately notify authorities of the activation of the fire alarm.

**Recommendation**

Building Management should develop and implement protocol, procedure or system that ensures an immediate notification of emergency authorities in the event of emergencies and ensure that the it integrates with the building's incident management system.

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**Background:** Whenever a fire occurs it is absolutely critical to minimize the amount of time between the outbreak of fire and its suppression. To reduce this amount of time between ignition and suppression the fire department should be notified immediately of any fire alarm system activation. Building management personnel should also begin investigating the cause of the alarm, but fire department resources should initiate an immediate response, at minimum an engine company. If there are additional reports of an actual fire then the number of responding units can be increased while the initial company is en route. In this incident, building management personnel contacted emergency operators approximately 2 minutes after fire alarm activation.

**15. Building Management Personnel Failed to Serve as Single Point of Liaison with fire department.**

**Finding**

Building Management Personnel failed to identify a single point of contact to liaison with the fire department upon their arrival.

**Recommendation**

Building Management should identify a person / position as liaison between building operations and emergency response personnel. This position's roles and responsibilities should be clearly identified within the building's incident management system.

**Background:** While not specifically stated in the Municipal Code of Chicago, it would be a reasonable expectation and best practices dictate that the Fire Safety Director or Deputy Fire Safety Director would serve as the liaison with the fire department throughout the incident.

During this emergency, there were a number of building management personnel who communicated with the fire department during the incident that could have filled the position of liaison between building operations and the fire department. At no time did anyone assume this leadership position, which, as this review learned, resulted in a significant lack of communication and coordination.

This person would be a crucial resource for the fire department to utilize to ensure that all activities of all agencies operating at the emergency are in concert and working towards identical objectives.

## 16. Building Management Failed to Provide a Failsafe System to Unlock Stairway Doors.

### Finding

Building Management failed to provide a failsafe system to rapidly unlock stairway doors.

### Recommendation

Cook County should as quickly as possible install into the Cook County Administrative Building, a failsafe system for automatically unlocking all doors involved with evacuation, in the event of an emergency.

**Background:** Locked stairway doors did not allow the trapped occupants to escape from a fatal environment. The Human Behavior Study showed that occupants were unaware that the stairway doors would lock behind them once they left the occupant space. Building management had installed signage on the doors that indicated that the next exit level was at the lobby to inform the occupants. Building management had established that security officers would be responsible for opening the stairway doors in the event of a partial building evacuation. This is not realistic or effective, however, to expect the security officers to quickly use the master keys located at the lobby security console and to walk up the stairways and unlock doors on numerous floors to allow for occupants to re-enter on the floors below the fire. In addition, there were no provisions for unlocking doors above the fire floor, which, in this case, is where occupants were trying to escape from the smoke created by the fire. The need to provide for alternative routes of egress is one of the significant lessons that has emerged from this fire. There are existing electro-mechanical systems that are in widespread use throughout the country that provide failsafe automatic opening of doors.

## 17. Building Management Failed to Maintain Fire Life Safety Systems (Louvers) in Operable Condition.

### Finding

Building Management failed to maintain fire / life safety systems (smoke-proof tower louvers) in an operable condition.

### Recommendation

Building Management should establish policy and procedure to ensure that fire / life safety systems undergo scheduled maintenance and testing. This policy and procedure should be included in the building's BEAP.

**Background:** The louvers in the smoke-proof tower were expected to operate in the event of an emergency. As with any mechanical system, they need periodic maintenance and exercise to ensure that they will work when called upon.

It would appear from testimony and interviews that the louvers did not operate as expected during the emergency. Furthermore, during testing conducted after the fire, the heat actuated devices that were supposed to open the louvers failed to do so 46% of the time.

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Any fire safety system in a building should be maintained in top operating condition to ensure that all of the components will operate as expected and in concert with one another when an emergency occurs. The overall effectiveness of the type of smoke-proof tower in the Cook County Administrative Building should be evaluated.

**18. Building Management Failed to Produce a Usable List of Self Identified occupants with Disabilities / Limitations.**

**Finding**

Building Management produced a list of occupants that had self-identified as requiring assistance that was not maintained in an organized, easily read and usable format.

**Recommendation**

Building Management should produce a policy and procedure to collect and report information regarding self-identified parties with disabilities or limitations. The report should be organized and formatted for use by emergency response personnel. It should be maintained at the lobby security console. The policy and procedure should be documented in the building’s BEAP at the lobby.

**Background:** A list of occupants that had self-identified as having disabilities or limitations was maintained at the lobby security console. However, this list was comprised of a series of pages and was not compiled succinctly to identify the normal location of the occupant, the nature of the disability and the special rescue resources that would be needed. This unwieldy document would not have been usable during an emergency and should be re-compiled and formatted to meet the needs of emergency responders.

**19. Building Management Failed to Identify All Critical fire department Concerns in Pre-Fire Plan Incident.**

**Finding**

Building Management failed to document that stairway doors were locked and could not be automatically unlocked under the “Critical fire department Concerns” section of the Pre-incident plan summary (Massey Plan) which was provided prior to the incident to the Chicago Fire Department.

**Recommendation**

Building Management should re-evaluate their Pre-incident plans and clearly document any and all factors that will have an immediate and critical impact upon the life safety of the occupants.

**Background:** The fact that the doors were locked and that the occupants in the stairway could not re-enter the building was a critical piece of information that apparently was

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not effectively communicated to the incident commander. This, and any other building design or operation features that would directly impact upon the safety of the occupants or their ability to self rescue should be included in any Pre-incident plan prepared for the fire department.

## 20. Building Management Failed to Provide Adequate Oversight of Security Operations Related to Fire Emergencies.

### Finding

Building Management failed to adequately provide oversight for security operations related to fire emergencies.

### Recommendation

Cook County should adopt policy and procedures to assess their management company's oversight of security operations and their policy and procedures to ensure that they are prepared for emergency response as a whole.

**Background:** Overseeing the security operations is a shared responsibility between building management and Cook County administration. It is critically important to ensure that the contract company, Aargus and any associated subcontractors, was not only fulfilling the terms of its contract but that the policies and procedures it was putting into place were proper and effective.

By monitoring the operation and evaluating the effectiveness of the procedures through periodic evacuation drills and exercises it would have become clear that the procedures developed were not sufficient. Furthermore, these exercises and drills would have pointed out that the security personnel were not well trained in what their duties and responsibilities were and the lack of knowledge that they had regarding the procedures outlined in the security manual.

## 21. Security Company Failed to Provide Adequate Training to Security Officers Regarding Performance of Duties Outlined in Security Manual.

### Finding

Security Company failed to properly train the Security Officers to perform some duties as outlined in security manual related to emergency response.

### Recommendation

Cook County should require that all security officers receive comprehensive training in regards to their duties, especially as it relates to emergency response in the buildings in which they are assigned.

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In addition, the State of Illinois should consider directing the Illinois Department of Professional Regulation to work with appropriate local and state agencies, and private stakeholders to establish fire safety instruction requirements for security officers working high-rise buildings. Once standards of instruction are developed there should be serious consideration for requiring specific training for licensing security officers working in high-rise buildings in the state.

**Background:** As outlined in the Security Manual, security officers were expected to unlock the doors in the partial evacuation in the stairway to allow for occupants to exit the stairway. Statements from the Security Officers stated that they were neither knowledgeable or prepared to carry out these in such an event. The manual did not contain any procedures for the security officers to follow in the event of a full building evacuation.

During interviews and testimony the security officers stated that they were unaware that they were expected to unlock stairway doors during an evacuation. Furthermore, they stated that the only master keys they were aware of were held by the building engineer or the security supervisor (who was not on duty at the time of the fire). They were not aware of the master keys located at the lobby security console as outlined in the security manual.

## 22. Security Company Personnel Failed to Provide Supervisory Leadership.

### Finding

Lead security officer was the acting-Security Supervisor, but did not fulfill the leadership role of the position.

### Recommendation

The Security Company in the Cook County Administrative Building should provide education, training and certification to senior security officers regarding all the possible rolls and responsibilities they may have in the event of an emergency. This training should be consistent with building BEAP.

**Background:** Four out of five days that the personnel from this shift were on duty there was a security supervisor also working. Friday was his normal day off, as was the case on the day of the fire. The lead security officer then assumed the duties and responsibilities of the security supervisor.

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A person in this position would be expected to serve as a focal point for security operations during an emergency, directing Personnel and making operational decisions. In addition, this person could also serve as a liaison between building security operations and the fire department until the arrival of a more senior person from building management.

However, in this case the lead security officer did not assume a leadership role and instead staffed the emergency voice / alarm communication system for approximately two hours. This allowed other security officers to operate without direct supervision in either of her roles, lead security officer and acting Security Supervisor.

### 23. Security Company Personnel Failed to Maintain Effective Access Control.

#### Finding

Security Officers failed to maintain effective access control to the building during the emergency.

#### Recommendation

The Security Company working at the Cook County Administrative Building should develop policy and procedure regarding access control with focus on evaluating access points, responsibilities, and integration with law enforcement during emergencies.

**Background:** During the course of the incident civilian personnel were seen walking in and out of the building. It is important during any emergency that strong access control to the building be maintained to ensure that people are not placed in danger, emergency responders can operation without interference and that any civilians leaving the building are provided medical attention.

### 24. Municipal Code of Chicago Doesn't Adequately Address Fire Safety Director Coverage.

#### Finding

Municipal Code of Chicago does not require the presence of a Fire Safety Director or Deputy Fire Safety Director at all times when a building is occupied.

#### Recommendation

The City of Chicago should amend the Municipal Code of Chicago to require that a certified, Fire Safety Director, Deputy Fire Safety Director or evacuation supervisor (as appropriate) is on premise in all non-residential high-rise buildings when they are occupied.

**Background:** If the Fire Safety Director / Deputy Fire Safety Director is not present in the building in the critical moments between the onset of the emergency and the arrival of

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the fire department decisions will then be made by untrained and unqualified personnel or not at all. By allowing the building to not be staffed by a Fire Safety Director / Deputy Fire Safety Director during certain periods of time, or permitting the Fire Safety Director / Deputy Fire Safety Director to have a 20-minute response time to an emergency negates the concept of having such an individual present in the building at all times.

**25. Municipal Code of Chicago Doesn't Require Mandatory Safety Drills in all High-rises**

**Finding**

Municipal Code of Chicago does not mandate that safety drills be conducted in all high-rise buildings regardless of occupancy.

**Recommendation**

The City of Chicago should amend Municipal Code of Chicago to mandate that biannual safety drills be conducted in all high-rise buildings, regardless of occupancy type or height.

**Background:** All occupants of high-rise buildings should be prepared to respond to an emergency, no matter what occupancy type or height of building they occupy. Basing this requirement solely on height, as the Municipal Code of Chicago does, is a serious oversight that places people at risk.

Regular, ongoing drills should be mandated for all building occupants to ensure that they are knowledgeable in what actions to take. These drills should include both partial and full evacuation training, which are an opportunity to not only train the occupants but to test the various components of the Emergency Evacuation Plan.

**26. Municipal Code of Chicago Doesn't Require Failsafe System to Automatically Unlock Stairwell Doors in Existing Buildings.**

**Finding**

Municipal Code of Chicago does not require failsafe systems for automatically unlocking all doors from the stairwell onto each floor in existing buildings.

**Recommendation**

The State of Illinois and the City of Chicago should amend codes to require existing buildings to install failsafe systems for automatically unlocking doors in the event of an emergency.

**Background:** This incident demonstrated the need to provide flexibility and alternatives to the occupants in the event that conditions in the stairway should become untenable. National model building codes and local codes that apply to existing high-rise structures should be modified to ensure that this critical change is made.

## 27. Municipal Code of Chicago Doesn't Require Designated Areas of Refuge for persons with Disabilities/ Limitations On All Floors of High-rise Buildings.

### Finding

Municipal Code of Chicago does not currently contain provisions for the establishment of designated areas of refuge for persons with disabilities/limitations on all floors of a high-rise.

### Recommendation

The City of Chicago should amend the Municipal Code of Chicago to require that areas of refuge be established on every floor for use by the building occupants and visitors with disabilities/limitations. This information shall be maintained at the lobby security console and provided to the fire department upon arrival.

**Background:** The Cook County Administration Building is public building accessible to workers and visitors with disabilities or limitations. Since it is not possible to predict where these people may be when an emergency occurs, it is vital that each floor must have an area of refuge for persons with disabilities/limitations that is both identifiable and known to building security. This will provide a higher level of safety for the occupants and will streamline the process of identifying any occupants that may need special assistance in evacuating the building.

## 28. Municipal Code of Chicago Doesn't Adequately Address Needs of occupants with Limitations or Disabilities.

### Finding

Municipal Code of Chicago does not adequately address the emergency needs of occupants with disabilities and/ or limitations.

### Recommendation

The City of Chicago should amend the Municipal Code of Chicago to make provisions for adequate and mandatory procedures that ensure the safety of all occupants with disabilities or limitations during an emergency.

**Background:** With the implementation of the American with Disabilities Act, provisions were detailed for providing access to buildings for occupants with various disabilities and/ or limitations. However, the procedures and methods for safely evacuating disabled/limited occupants were not as clearly spelled out. Local codes should be amended to provide guidance to building owners on how to either safely evacuate disabled/limited occupants or to protect-in-place. Both of these strategies involve training all occupants, security personnel and building management on the proper actions to take during an emergency. It also requires that the fire department be prepared to identify and assist occupants as needed.

**29. Municipal Code of Chicago Is Not Equal to State Fire Code.**

**Finding**

The City of Chicago promulgated a fire code that was less stringent than the requirements of the state fire code as adopted on January 2002.

**Recommendation**

The City of Chicago should amend the Municipal Code of Chicago as needed to ensure that it is equal to requirements of the State Fire Code. In addition, the city should institute an annual review of the Municipal Code of Chicago to ensure its compliance with state law and regulations.

**Background:** Under provisions of the Illinois Fire Investigation Act, the City of Chicago was allowed to promulgate a fire code as long as it was equal to, or more stringent than the state fire code. On January 1, 2002, the 2000 Edition of the NFPA Life Safety Code was adopted by reference into the State Fire Code. The Life Safety Code contains provisions that are more stringent than the Municipal Code of Chicago. Specifically, the Life Safety Code requires all high-rise buildings to either be equipped with an automatic fire sprinkler system or an engineered life safety system. In our view, these requirements are more stringent than the provisions of the code enforced in Chicago. The effectiveness of automatic fire sprinkler systems in controlling fires and protecting the lives of the occupants of high-rise buildings is unquestionable.

**30. Municipal Code of Chicago Doesn't Require Automatic Fire Sprinkler Systems in Existing High-rises Buildings.**

**Finding**

Municipal Code of Chicago does not require the installation of automatic fire sprinklers into all existing high-rise structures.

**Recommendation**

The State of Illinois and City of Chicago should amend their codes to include provisions for the mandatory retrofit installation of complete automatic fire sprinkler systems in all existing high-rise structures.

**Background:** If the Cook County Administration Building had been equipped with an automatic fire sprinkler system, tests conducted for this review by the National Institute of Standards and Technology (NIST) indicates that the fire would have been controlled or extinguished with the activation of a single sprinkler head within five minutes of fire ignition. Smoke production would have been significantly reduced, conditions in the stairways would not have been untenable and fire fighters would have been able to easily advance into the fire floor.

In the 31 months since the change in the state level code requirements there would have been sufficient time to begin the process of installing an automatic fire sprinkler system.

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Other large cities have mandated the installation of automatic fire sprinklers in high-rise buildings. For example, in New York City on June 24, 2004, legislation was signed into law requiring the mandatory retrofit installation of automatic fire sprinklers in buildings over 100 feet by the year 2019. Based on discussions with sprinkler industry representatives, a similar 15-year window for the installation of sprinkler systems in all high-rise buildings within the city of Chicago would be a reasonable goal.

### 31. Municipal Code of Chicago Lacks Standards or Procedures for Submittal, Review and Approval of High-rise Emergency Plans and Supervision of Safety Drills.

#### Finding

The Municipal Code of Chicago Lacks: standards or procedures for submittal, review and approval of high-rise emergency plans and supervision of safety drills.

#### Recommendation

The Municipal Code of Chicago should be amended to include; standards for preparation and submittal of emergency plans for all high-rise buildings regardless of occupancy; standards and procedures for review and approval by the appropriate city agency; and, a requirement for the CFD to supervise at least one of the annual safety drills conducted at all high-rise buildings in the city. Chicago Fire Department should develop a policy and implement a procedure for evaluating the adequacy of building emergency action plans. Additional evacuation drills may be required by the Chicago Fire Department if, in its opinion, the plan does not effectively provide for the safe evacuation or relocation of the occupants or the evacuation drill does not demonstrate the effectiveness of the plan.

**Background:** This review found no evidence of policy nor procedures used to review building emergency action plans within the City of Chicago. Per the Municipal Code of Chicago, certain buildings are required to file their plans with the Office of Emergency Management and Communications. However, there is no requirement or procedure for evaluating these plans.

Creating a plan does not ensure that it will be an effective one. This can only be done by reviewing the plan and then evaluating its procedures in action during evacuation drills and other exercises. This accomplishes several objectives:

- Trains all personnel involved in the operation of the plan;
- Helps to identify any potential flaws or weaknesses;
- Familiarizes emergency responders with the building, its personnel and systems.

**32. The Municipal Code of Chicago Lacks Appropriate Provision for Areas of Separation in Existing Buildings.**

**Finding**

No provision exists in Municipal Code of Chicago requiring area separations on all floors above the first floor in existing non-sprinklered buildings.

**Recommendation**

The City of Chicago should amend the Municipal Code of Chicago to comply with the minimum standard set forth in the State Fire Code with regard to area separation in existing buildings.

**Background:** Compartmentalization is a fire safety design whereby the area that could conceivably be involved in fire is limited in size to that which can be managed by the fire department. In this case, the area on the 12<sup>th</sup> floor exceeded the maximum area permitted, allowing the fire to grow and spread to a size that could not be suppressed with interior attack lines. This fire has demonstrated that it is critically important to limit the size of the fire so that it can be suppressed using an interior attack. The fact that they were successful in suppressing the fire using exterior master streams should be considered “the exception and not the rule” when it comes to fighting high-rise fires. If the fire had been one or two floors higher, the master streams may not have been able to reach the fire.

**33. The Municipal Code of Chicago Failed to Provide Meaningful Requirements for Recertification.**

**Finding**

Municipal Code of Chicago does not specify meaningful recertification requirements for the positions of Fire Safety Director and Deputy Fire Safety Director(s)

**Recommendation**

The City of Chicago should amend Municipal Code of Chicago to specify the requirements for the annual recertification for the positions of Fire Safety Director and Deputy Fire Safety Director(s). These requirements shall include annual training and proficiency and knowledge testing.

**Background:** Municipal Code of Chicago is silent on any recertification requirements for Fire Safety Director or Deputy Fire Safety Director. The CFD developed a set of procedures for recertification but these procedures only require that an individual pay a fee and provide the proper paperwork to become recertified. This does nothing to ensure that the person is still knowledgeable and capable of fulfilling the role. The objective of the requirements should be not only are the individuals certified, but also that they are proficient and knowledgeable in their duties. Currently, this is not mandated.

**34. The Municipal Code of Chicago Mandates Questionable Relocation Procedures.****Finding**

The Municipal Code of Chicago calls for the relocation of occupants on the fire floor, two floors above and five floors below. Relocating the occupants of eight floors in a high-rise building will result in a large number of people moving through stairwells and competing with emergency workers who also need to use the stairwells.

**Recommendation**

Conduct a study to determine the criteria for a partial evacuation, what is the optimal number of people that should be relocated, what levels above and below the fire should be relocated and under what conditions triggers a partial evacuation.

**Background:** A partial evacuation of a building may be, under certain conditions, a prudent course of action. In doing so, a balance has to be achieved between minimizing the number of people being moved from one floor to another, yet ensuring that those at maximum risk are being relocated. The policy of relocating people on the two floors above an emergency may be sufficient in some situations. In other cases it may be necessary to relocate more individuals, especially in an unsprinklered building. However, relocating the occupants from five floors below the fire may not be necessary; evacuating them may needlessly put them in danger. A study should be conducted to determine the criteria for a partial evacuation and what is the optimal number of people that should be relocated and under what conditions this should be done.

**35. The City of Chicago's fire department (CFD) Failed to Provide Sufficient Information to Develop Proper Emergency Action Plans.****Finding**

The CFD's Emergency Preparedness Certification Study Guide does not include sufficient information to fully develop a high-rise building emergency action plan.

**Recommendation**

The CFD's Emergency Preparedness Certification Study Guide, and the associated training program, should be revised to include information specific to the requirements of the Municipal Code of Chicago and to include information on how to develop an effective building emergency action plan. These revisions should emphasize the role of the Fire Safety Director and Deputy Fire Safety Director and the training necessary to carry out their roles in an effective building emergency action plan.

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**Background:** The current procedure for an individual to obtain certification as a Fire Safety Director / Deputy Fire Safety Director is to download a study guide from the fire department’s website, study it and then take a test. The questions from the test are based on the content in the study guide.

Based upon our review, the study guide does not contain sufficient information to educate the Fire Safety Director / Deputy Fire Safety Director on how to develop an effective building emergency action plan, how to communicate the information to the occupants and staff and how to conduct training and evacuation drills. It does not address areas such as:

- The format of an effective building emergency action plan;
- The information that should be contained in the building emergency action plan;
- How to conduct effective training and evacuation drills; and,
- How to communicate the contents of the plan in an effective manner to occupants of the building.

The importance of effective communication and training was highlighted in interviews with the occupants, security officers and building management personnel. Our Human Behavior Study demonstrated how much the occupants rely on training and evacuation drills.

This Fire Safety Director role is critical in developing a plan that is effective and then communicating this plan to the occupants and others and finally developing and conducting training to the plan. This person is key in ensuring that all of these actions occur and therefore should be trained to the highest level possible.

**36. CFD Failed to Develop Protocols for Determining Need for Assistance of Individuals in Areas of Refuge.**

**Finding**

The CFD failed to establish protocols for determining if there are any occupants that may need assistance in evacuating a building from areas of refuge.

**Recommendation**

CFD should develop protocols for determining if there are any occupants in an area of refuge that may be in immediate danger. These protocols shall include procedures for assigning sufficient numbers of personnel to rescue these occupants or ensure they are protected-in-place.

**Background:** No consideration was given in the CFD to protocols for identifying if there are occupants that require special rescue assistance, their location and the type of resources that may be needed. Given that in some cases it may require an entire company to rescue an individual, the incident commander should be ready to devote resources as needed to identify, locate and initiate rescue if needed.

### 37. CFD Personnel Failed to Obtain Copy of Pre-Incident Fire Plan at Lobby Security Console.

#### Finding

CFD failed to obtain a copy of the Pre-incident plan summary available at the lobby security console.

#### Recommendation

CFD should develop protocol and procedures to ensure that first arriving company obtains copies of documents prepared expressly for their use during an emergency.

**Background:** A Pre-incident plan summary had been prepared by the building management for the fire department to use during an emergency. The information in the Pre-incident plan summary, while incomplete, could have provided the incident commander with useful information regarding the building design and operation. In addition to the summary a manual with more complete information accompanied this summary that also could have provided more information to the incident commander or the lobby control officer.

### 38. CFD Failed to Implement an Organized and Comprehensive Incident Command / Management System.

#### Finding

The CFD failed to implement an organized and comprehensive incident command / management system.

#### Recommendation

The Chicago Fire Department should implement, and use on all incidents, a nationally recognized incident management system (NIMS) and regularly train all levels of personnel in its use. The competency of all personnel in the use of the IMS should be evaluated on an annual basis.

**Background:** An incident management system is a basic component of emergency operations across the country. Using a structured reporting system, IMS is a mechanism for ensuring that emergency resources are used effectively and safely. It provides for an effective span of control, a recognized reporting structure and greatly enhanced responder safety.

This review has identified a number of problems involving the Chicago Fire Department that occurred at the Cook County Administration Building fire, and we believe that many of them are not unique to this fire but, instead, are indicative of a method of incident management that is widely used within the fire department yet is not sufficient to the demands of a major metropolitan fire department.

By implementing, and using on every single incident, a nationally recognized incident management system, a number of these deficiencies noted in this review will be addressed in future operations.

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By using an incident management system on every incident, personnel will develop a familiarity with the terminology and operation of the system. Furthermore, the structure of the system can easily grow with the size of the incident. It is far more preferable to expand the incident management system rather than attempting to suddenly implement it partway through an emergency.

**39. CFD Personnel Took Inappropriate Actions on Fire Ground.**

**Finding**

CFD took actions during this incident that demonstrated a failure to implement appropriate command and control responsibilities and fire ground tactics and strategy, and to ensure protection of life and property.

**Recommendation**

The CFD should develop, deliver and document training programs to all fire department personnel that will prepare members to make proper tactical and strategic fire ground decisions. The competency of all personnel should be evaluated on an annual basis.

**Background:** Fighting a fire is a series of interrelated tasks that must be done in concert with one another to ensure a high level of success in saving lives and protecting property from fire. At the Cook County Administration Building fire it was clear that there was a basic lack of knowledge and understanding as to how actions on the fire ground would have a dramatic and negative impact upon the conditions in the building.

For example, actions taken on the fire ground indicate that the incident commander failed to place life safety of the occupants as the highest priority and deploy his resources appropriately, despite the fact that there was a full building evacuation in process.

Companies operating in the stairway focused exclusively on fire fighting operations without apparent regard as to how their actions could endanger lives.

Companies operating above the fire were well aware of the untenable conditions in the stairway yet failed to bring this to the attention of chain of command on the fire ground.

**40. CFD Personnel Failed to Conduct Systematic Search and Rescue in Timely Fashion.**

**Finding**

CFD Incident Commander failed to designate companies for a systematic search and rescue operation in a timely fashion as required by the CFD Incident Command Management System.

**Recommendation**

CFD should adopt policy, procedures, and training program to ensure that life safety is given the highest priority at all incidents and that protocols are developed and personnel are trained and educated as to these protocols.

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**Background:** At any fire, the safety of the occupants should be the highest priority of the incident commander and everyone operating on the fire ground. All efforts should be directed towards this objective.

There are two ways to accomplish this objective-remove the threat of the fire from the occupants by extinguishing it or removing the occupants from the danger of fire by rescuing them or protecting them in place.

Because of the large number of occupants in a high-rise building, the most feasible solution is often to extinguish the fire rather than having to relocate the occupants. However, in this case the evacuation process had already begun, occupants had been seen in the stairway and there was an ongoing announcement over the emergency voice / alarm communication system advising occupants to use the stairways to leave the building. Therefore, it could be assumed with certainty that there would be occupants in the stairway that would be exposed to the products of the fire when the door was opened.

Furthermore, it could be safely assumed that there would still be people in the building, on the floors above the fire. Determining how many people were in danger and either providing them with information as to what actions they should take or sending crews to search these floors would have been an appropriate action based on the circumstances.

At this incident, actions on the fireground indicate that the operations were focused on suppressing the fire rather than determining the level of life safety risk in the building. Priority at every incident should always be on life safety of the occupants.

#### 41. CFD Personnel Failed to Initiate Search and Rescue Prior to Forcibly Opening Fire Floor Door.

##### Finding

CFD Fire Investigation Team failed to initiate search and rescue effort prior to forcibly opening the door on fire floor as required by the CFD Incident Command Management System.

##### Recommendation

CFD should adopt policy, procedures and training program to ensure that primary search in smoke filled or fire threatened areas of the structure is conducted in a timely fashion prior to the door breach.

**Background:** Based on statements from both fire personnel and occupants there was contact between both groups in the southeast stairway at the 12<sup>th</sup> floor landing before the door was opened. Based on this, and the high probability that there would have been occupants in the stairway evacuating the building, the Fire Investigation Team should have ensured that the stairway was clear of occupants before opening the door.

At this incident, actions on the fireground indicate that the operations were focused on suppressing the fire rather than determining the level of life safety risk in the building. Priority at every incident should always be on life safety of the occupants.

**42. CFD Personnel Failed to Take Control of EVAC System.**

**Finding**

Lobby Control failed to take control of the emergency voice / alarm communication (EVAC) system (Building Communications) as required by the CFD Incident Command Management System.

**Recommendation**

CFD should adopt policy, procedures, and training program to ensure that Lobby Control immediately takes control of the emergency voice / alarm communication (EVAC) system.

**Background:** Throughout the course of the incident no effort was made to take control of the information being provided over the EVAC system. As indicated in the Human Behavior Study conducted for this review, people had been trained during fire drills and through the documentation they received to expect to be given the correct information they needed through the EVAC system.

When the fire department arrived on the scene, one of the missteps that occurred was that the initial incident commander, and the subsequent incident commanders, failed to properly evaluate the incident and the actions being taken. Furthermore, the occupants had indicated in the survey that they had taken some time to evacuate because it was a Friday afternoon and they were gathering together their belongings before departing for the weekend. This resulted in some people delaying their evacuation rather than responding immediately to the directions given over the EVAC system.

If the fire department had taken control of the EVAC system there may have been time to either stop the full building evacuation process or direct it to the northwest stairway prior to the door being opened on the 12<sup>th</sup> floor.

**43. CFD Personnel Failed to Communicate Critical Information to Forward Fire Command.**

**Finding**

CFD Lobby Control failed to notify Forward Fire Command that lobby control was established as required by the CFD Incident Command Management System.

**Recommendation**

CFD should adopt policy, procedures and training program to ensure that Lobby Control notifies appropriate parties that Lobby Control has been established.

**Background:** As with many of the Findings and Recommendations concerning the CFD, this finding relates to a lack of communication and a weak incident command structure. The incident commander should have a series of benchmarks that he or she should ensure are met as the incident progresses. Training personnel in the use of a nationally recognized incident management system and the requirements for communication and reporting structures will help to correct these issues.

**44. CFD Personnel Failed to Secure / Develop a Floor Plan and Locate Stairways to be Utilized.****Finding**

CFD Lobby Control failed to secure / develop a floor plan and locate the stairways that would be utilized as required by the CFD Incident Command Management System.

**Recommendation**

CFD should adopt policy, procedure and training program to ensure that Lobby Control immediately acquires all related documents, plans and building information to be able to develop an incident action plan.

**Background:** A Pre-fire incident had been developed by the building management company for use by the fire department that was comprised of a single page summary along with a book containing more details about the building. This plan was stored at the lobby security console. While the summary did not contain all of the critical information needed by the fire department, the plan did contain information and building schematics that would have provided the incident commander with a greater understanding of the building.

Since the first arriving companies or command officers did not obtain this plan, Lobby Control should have secured this plan and evaluated the building design features for the Incident Commander but failed to do so. In addition, no effort was made on the part of building management or security to provide this information to the fire department.

**45. CFD Personnel Failed to Communicate Designation of Evacuation Stairwells.****Finding**

CFD Lobby Control failed to notify Forward Fire Command of location of the stairwells and determine which stairwell would be used for occupant evacuations as required by the CFD Incident Command Management System.

**Recommendation**

CFD should adopt policy, procedures and training program to ensure that Lobby Control immediately notifies the Forward Fire Command of stairway location, and determines which stairway should be used for occupant evacuation.

**Background:** This finding points to a lack of communication on the fire ground between the various functional units. Training for all personnel on the responsibilities of the units and the need for effective communications is needed to overcome these issues. Implementation and regular use of a recognized incident management system will help to provide personnel with the necessary familiarity with these procedures.

**46. CFD Personnel Failed to Account for Civilian Traffic within Lobby.**

**Finding**

CFD Lobby Control failed to control and account for civilian traffic within the lobby as required by the CFD Incident Command Management System.

**Recommendation**

CFD should adopt policy, procedures and training program to ensure that Lobby Control maintains accountability control and establishes controlled access points.

**Background:** Civilian personnel were seen on the security videos moving through the lobby during the incident. In addition, as civilians left the stairway they were not directed to EMS personnel for evaluation. In one case, a member of building management had to assist one of the occupants and obtain medical care for her.

It is important to ensure that all access through the lobby is closely controlled to provide a single point of entry / exit for fire fighters so that an accurate personnel accountability system can be implemented.

**47. CFD Personnel Failed to Conduct Adequate Ventilation Operations.**

**Finding**

CFD Personnel did not ensure that adequate ventilation operations were conducted.

**Recommendation**

CFD should adopt policy and procedure and training program to ensure that command staff properly are considering and performing ventilation as required at all fire operations. This training and education should also include the various ventilations options available specifically for high-rise structures.

**Background:** Command personnel must consider all possible ventilation operations at a fire that has smoke conditions that may effect the overall operations. As stated in the CFD General Orders, “smoke spread is unquestionably the most significant life hazard problem existing at the time of a fire in a high-rise building. The movement of smoke, often to locations far removed from the floor of origin, appears to be the result of several different factors and is not always simple to predict.”

CFD members did provide break out windows on the 11<sup>th</sup> floor (it is unclear why) and windows on the 12<sup>th</sup> floor broke out as a result of the fire itself, but no attempt was made to perform any ventilation on floors above the fire.

There were indications from fire personnel during testimony that there was severe smoke conditions above the fire floor but no attempt was made to control the smoke movement above the actual fire operational area on the 12<sup>th</sup> floor.

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Even though ventilation operations are difficult at best in a severe fire fighting operation, attempts to control the spread of the fire, heat and smoke conditions should have been attempted above the fire. Ventilation operations above the fire, particularly in the southeast stairway, may have created a more tenable environment for the people trapped in the stairway. Furthermore, if personnel had been operating in the stairway above the fire they may have observed that there were occupants in distress.

#### 48. CFD Personnel Failed to Maintain Lobby Control Responsibilities for Duration of Incident.

##### Finding

CFD failed to perform Lobby control responsibilities for the duration of the incident as required by the CFD Incident Command Management System.

##### Recommendation

CFD should adopt policy, procedure and training program to ensure that all positions are continually staffed as outlined by the General Order.

**Background:** It is critically important to ensure that all of the positions specified in any incident management system are staffed throughout the duration of the incident. If it should be necessary for an individual to be reassigned, another qualified individual should be assigned to fill the position before any change is made. This will ensure continuity in the command structure and allow for the personnel to exchange information prior to the changeover.

This finding points to a failure to follow the requirements of the Chicago incident management system. Further training is needed to ensure that all personnel at all ranks understand the importance of operating within the parameters of an incident management system to ensure maximum effectiveness and safety of all concerned.

#### 49. CFD Personnel Failed to Establish Adequate Incident Command Post.

##### Finding

CFD Incident Commander failed to establish an appropriate command post location and remain in place as required by General Order 91-002, CFD Incident Command Management System for High-rise Operations.

##### Recommendation

CFD should adopt policy, procedure and training program to ensure that the Incident Commander establishes a command post that provides for sufficient isolation and sufficient space for command staff and support personnel and that the Incident Commander remains at the command post at all times until relieved by another equally qualified officer.

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**Background:** The command post location at the Cook County Administration Building was in a high-traffic area that did not provide the proper environment for an incident commander to be operating in. Companies that were being deployed were reporting directly to the incident commander for tactical assignments, civilians were directly approaching the incident commander, the incident commander was seen moving throughout the lobby area and even outside of the building, leaving the command post for a short period of time.

Furthermore, the command post location was not one where it would have been possible to easily review building plans, interact with building management, law enforcement, city officials, etc.

Optimally, an effective command post location should be one that is not in a high-traffic area and where access to the incident commander can be controlled. The incident commander should be focusing on the strategic, long-term objectives of the incident and not giving tactical assignments directly to engine and truck companies. The command post should also provide space for additional command officers to operate in, supporting the incident commander.

**50. CFD Personnel Failed to Remain at Post of Duty.**

**Finding**

CFD Plans Chief failed to remain at the Command Van as required by the CFD Incident Command Management System.

**Recommendation**

CFD should adopt policy, procedure and training program to ensure that all positions are continually staffed as outlined by the General Order.

**Background:** The Plans Chief during this incident left the Command Van without ensuring that there was a qualified individual present to fulfill the duties required of that assignment. Even though he was directed to do so by the Incident Commander, it is incumbent upon the individual filling a position to ensure that a qualified replacement is available and is present before leaving the position. This ensures continuity of operations throughout the incident.

**51. CFD Personnel Re-Assigned Plans Chief Without Designating Replacement.**

**Finding**

CFD Incident Commander reassigned the Plans Chief without replacement as required by the CFD Incident Command Management System.

**Recommendation**

CFD should adopt policy, procedure and training program to ensure that all positions are continuously staffed as required by the CFD Incident Command Management System.

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**Background:** Positions were not continuously staffed as required under the Chicago incident command management system and as required under nationally recognized incident management systems. It is critically important that all of these positions be staffed on an ongoing basis and that any individual must be replaced by another qualified individual before being reassigned. This ensures continuity of operations throughout the duration of the incident.

## 52. CFD Personnel Failed to Properly Transfer Command.

### Finding

CFD Incident Commanders failed to provide proper transfer of command as required by the CFD Incident Command Management System.

### Recommendation

CFD should adopt policy, procedure and training program to ensure that there is proper transfer of information between officers as command is transferred.

**Background:** When a transfer of command occurs between command officers there is a protocol that should be followed to ensure that information is passed between the individuals. In one case, a command officer assumed command without a face-to-face meeting with the previous command officer, nor did he notify the previous incident commander that he was assuming command. There was no transfer of information when command was transferred.

As with a number of the Findings related to the fire department operations, this Finding indicates a need to train all personnel in the use of the incident management system.

Within a span of forty minutes there were five changes in the incident commander position. This many changes, coupled with the failure to conduct proper transfer of command actions, created the environment where critical information was not properly communicated from one officer to another and that chief officers incorrectly assumed that a previous incident commander had addressed particular issues.

## 53. CFD Personnel Failed to Provide Progress Reports.

### Finding

CFD Incident Commander failed to provide progress reports as required by the CFD Incident Command Management System.

### Recommendation

CFD should adopt policy, procedure and training program to ensure that Incident Commanders provide progress reports and ensure for the development of an incident action plan.

**Background:** Ongoing progress reports and development of incident action plans are fundamental to nationally recognized Incident Command Management System. Ongoing

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progress reports ensure that everyone in the command structure is aware of what has been accomplished on the fire ground and what current activities are being undertaken. This also aids the incident commander to make sure that all of the operational objectives have been addressed and identify areas needing further attention by summarizing the incident in concise, regular progress reports.

**54. CFD Personnel Failed to Provide Oversight of Functional Areas.**

**Finding**

CFD Incident Commander failed to provide oversight of functional areas as required by the CFD Incident Command Management System.

**Recommendation**

CFD should adopt policy, procedure and training program to ensure that Incident Commander provides oversight of all functional areas through an established command structure.

**Background:** The Incident Commander assumed that the functional areas under his command, such as the Forward Fire Command and Lobby Control, were carrying out their expected duties. However, our review indicates that this was not the case.

The Incident Commander is ultimately responsible for all activities on the fire ground. As part of this responsibility he or she must ensure that each area is continuously staffed and accomplishing the tasks as assigned. Ongoing progress reports from the functional areas will provide this type of feedback to ensure that they are all working towards a common strategic objective.

This is another finding that points to the need for more training on the use and application of a nationally recognized incident management system.

**55. CFD Personnel Failed to Adequately Size Up Emergency Situation.**

**Finding**

CFD Incident Commander failed to adequately size up the emergency situation.

**Recommendation**

CFD should adopt policy, procedure, and training program to ensure that Incident Commanders immediately perform a thorough and on-going assessment of the emergency situation including the determination of: what evacuation procedures are in effect, the location of those in need of assistance, and review of Pre-incident plan.

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**Background:** When the first Incident Commander arrived on the scene there was a full building evacuation in process. He failed to determine what actions were occurring and deploy his resources accordingly to ensure the safety of the occupants who were responding to the orders being given over the emergency voice / alarm communication system. The strategy was focused exclusively on gaining access to the fire floor and suppressing the fire instead of determining what life safety risks existed and reacting appropriately to them.

At this incident, actions on the fireground indicate that the operations were focused on suppressing the fire rather than determining the level of life safety risk in the building. Priority at every incident should always be on life safety of the occupants.

#### 56. CFD Personnel Failed to Establish and Maintain Liaison with Building Management / Security.

##### Finding

CFD Incident commander failed to establish and maintain a liaison with building management / security upon arrival.

##### Recommendation

CFD should adopt policy, procedure and training program to ensure that Incident Commanders immediately establish a liaison with building management and security operations.

**Background:** In any emergency it is critical that a liaison be established between the incident commander and the responsible party for the building. It is impossible for the fire department to know all of the details about every building in the city, and for this reason it is vital that the incident commander utilize all of the available information and resources to effectively and safely deploy fire department personnel and to coordinate all activities in the building.

By establishing this liaison the incident commander would have had timely access to information such as the building's Pre-incident plan could have been advised of the availability of the master keys and could have coordinated the activities of the security personnel with the supervising security officer.

#### 57. CFD Personnel Failed to Respond in Timely and Effective Manner to Reports of Unaccounted occupants.

##### Finding

CFD Incident commander failed to respond in a timely and effective manner to numerous reports of occupants missing, unaccounted-for, or trapped in life threatening conditions.

##### Recommendation

CFD should adopt policy, procedure and training program to ensure that all reports of occupants missing, unaccounted-for, or trapped in life threatening conditions are acted upon immediately.

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**Background:** There were numerous credible reports of either missing or trapped occupants provided, either to 9-1-1 or in face-to-face discussions with fire department personnel. Some of these reports were given either directly to the incident commander or relayed to him; others did not make it completely through the command and communications structure.

A single report should have been sufficient cause for the incident commander to take action to investigate and determine if there were occupants at risk in the building. There was no organized plan in place to respond to these reports, and the incident commander reacted in an ad hoc manner to individualized reports rather than developing a cohesive strategy to evaluate the life safety risk that fire fighting operations may be creating rather than solving.

There were sufficient personnel on the fire ground for the incident commander to have directed to investigate the reports of missing or trapped occupants.

At this incident, actions on the fireground indicate that the operations were focused on suppressing the fire rather than determining the level of life safety risk in the building. Priority at every incident should always be on life safety of the occupants.

**58. CFD Failed to Provide Sufficient Command and Support Staff.**

**Finding**

CFD Provided Insufficient command and support staff for an incident of this magnitude.

**Recommendation**

CFD should adopt policy and procedure to provide for a manageable span of control and effective unity of command to meet the needs of an emergency incident.

**Background:** At any incident of this magnitude it is critical to provide the incident commander with sufficient command staff and support staff to allow the incident commander to focus on the larger, strategic issues and to not become closely involved in the immediate, tactical issues of the incident. It also placed the incident commander in the position of having to react to numerous people approaching him requesting assignments and providing him with information. This placed the incident commander in the position of “information overload” which should normally be handled by subordinates. By delegating responsibilities to a command staff, only critical information relating to the larger, strategic issues should be brought to the attention of the incident commander for action.

Such as staff was not in place, nor is it called for, in the Chicago Incident Management System. Furthermore, the location of the command post for this incident would not have allowed for this command and support staff to be in a single location to work effectively together, communicate and review information.

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Failure to have an effective command and support structure also led to a failure to assimilate the numerous reports of missing or trapped occupants.

Lack of an effective command and support structure also directly impacted upon fire fighter safety by having an ineffective and inadequate fire fighter accountability system.

Lack of an effective command and support structure also directly impacted upon communications failures when companies were given assignments because there was no follow through to determine what actions they had taken and what conditions they had encountered.

Lack of an effective command and support structure also contributed to the failure of the incident commander to provide sufficient oversight of functional areas on the fire ground.

### 59. CFD Personnel Failed to Provide Progress Reports.

#### Finding

Some CFD units failed to provide status and progress reports to command.

#### Recommendation

CFD should adopt policy, procedures and training program to ensure that that all fire companies and chief officers provide progress reports and findings to their immediate supervisors.

**Background:** Units were given assignments yet did not routinely provide progress reports or reports of conditions to the incident commander. Furthermore, other units were freelancing (operating independently) on the fire ground and did not report their actions or the conditions that they encountered to the incident commander. For example, in one case a fire officer on his own initiative and without advising command evacuated some, but not all, of the occupants on the 27<sup>th</sup> floor. Because he did not advise command of his actions, and because he did this without sufficient support, additional personnel had to be sent to the floor to complete the evacuation.

One of the companies that was deployed to the 27<sup>th</sup> floor opened the door to the southeast stairway and encountered heavy heat and smoke. They did not report this information, nor the results of their search to the incident commander. This information could have been a significant factor in modifying the fire ground strategy if it had been communicated to the incident commander.

### 60. CFD Personnel Failed to Remain in Staging Area.

#### Finding

Some CFD units failed to remain in staging pending receipt of a specific tactical assignment.

#### Recommendation

CFD should adopt policy, procedures and training program to ensure that units remain in staging until they receive a specific tactical assignment.

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**Background:** The procedure that was used at the Cook County Administration Building Fire was for companies to leave their apparatus parked in staging and then walk to the lobby and report to the Incident Commander for assignment.

The Incident Commander should not have been involved in providing tactical assignments to the companies. This should have been delegated to a member of the command staff. However, there were insufficient command staff personnel to fulfill these duties.

Furthermore, because of the poor location chosen for the command post, having companies reporting directly to the command post created a high traffic environment that made it difficult for the Incident Commander to focus on the larger strategic issues at the incident.

**61. CFD Personnel Implemented Inadequate personnel Accountability Tracking System.**

**Finding**

CFD Incident Commander implemented an inadequate personnel accountability tracking system at the fire scene.

**Recommendation**

CFD should adopt policy, procedures and training program to ensure that all personnel responding and operating on the fire scene are part of a functional accountability system.

**Background:** The personnel accountability system used at the Cook County Administration Building fire involved a fire fighter using a grease pencil to write unit assignments on the lobby wall. This is not an adequate method of identifying the location of companies. Furthermore, if the command post had been moved to a more desirable location, this information could not have easily been transferred.

The importance of a personnel accountability system cannot be emphasized enough. It is critical to know the specific individuals that are working on the fire ground, their location, assignments and who is supervising their activities. In the event that an emergency should occur on the fire ground, such as a structural collapse, or if a firefighter should become injured or missing, it would not have been possible to quickly identify the locations of companies.

The lack of an accountability system is also related to the freelancing activities that occurred at this incident. A strong accountability system that personnel adhere to will be a step towards helping to reduce the instances of freelancing and will increase the level of fire fighter safety.

**62. CFD Failed to Provide Adequate Communication and Personal Protective Equipment.****Finding**

CFD does not provide adequate communications and personal Protective Equipment (PPE) to personnel.

**Recommendation**

CFD should provide adequate equipment to all fire department personnel to ensure effective communications, safety of personnel and improve the ability of fire fighters to effectively conduct fire fighting and rescue operations.

**Background:** There were reports that personnel could not communicate effectively with either the Incident Commander or Main using their portable radios. Effective, reliable fire ground communications is critically important to ensure that information can be transferred between the command staff and personnel operating in the building about progress reports.

Furthermore, if an emergency should occur on the fire ground such as structural collapse, or if a fire fighter should be in distress, it may not be possible to communicate this information to all of the personnel on the fire ground to evacuate the building or the fire fighter may not be able to transmit an emergency signal indicating that he or she is in distress.

Reports from fire fighters indicate that this was a very intense fire and that they were unable to make an interior attack because of the volume of fire and the high heat conditions. To make entry into such conditions, fire fighters must be equipped with protective clothing that provides personnel with a high level of thermal protection.

The Chicago Fire Department is the last large municipal fire department in the United States that allows its personnel to wear three-quarter length boots and does not mandate the use of a full protective ensemble for fire fighters that include protective trousers. Failure to do so creates a significant risk for the personnel because they are not provided with the commonly accepted and the highest level of personal protective clothing that is currently and widely available. The protective ensemble that is in use in Chicago does not meet the requirements of the National Fire Protection Association's standard 1971, Protective Ensemble for Structural Fire Fighting.

The failure to mandate the use of protective trousers also limits their effectiveness on the fire ground when it comes to fighting fire and rescuing trapped victims. Because they do not have a full protective ensemble providing a higher level of protection from heat they are not able to safely endure exposure to the high temperatures which limits their ability to penetrate as deeply into a building as they would be able to if they were equipped with state-of-the-art equipment.

Also, in the event that a fire fighter should become trapped in a flashover or other significant incident, their ability to survive such a significant event would be greatly improved.

**63. CFD Personnel Took Independent Actions Outside of Command Structure.**

**Finding**

CFD members initiated independent actions without coordinating with the Incident Commander (freelancing).

**Recommendation**

CFD should adopt policy, procedures and training program to ensure that members do not deviate from established Incident Management Command System protocols.

**Background:** In at least two instances at this fire, a lieutenant and a command officer were freelancing. This is an unacceptable practice because it places the individuals at a significantly higher risk and their actions may run counter to the overall incident objectives.

Furthermore, this may exacerbate conditions on the fire ground or require additional resources to be deployed to either rescue them if they should become injured or if they are not able to safely complete their self-appointed tasks.

When a chief officer freelances on the fire ground this can create confusion as to what role he is fulfilling in the command structure. In this case, the chief officer assumed duties normally assigned to engine or truck companies and was therefore working completely outside of his areas of responsibility.

When the lieutenant left his company who was making entry onto the fire floor with a hose line to single-handedly evacuate occupants on the 27<sup>th</sup> floor he left his company with fewer personnel than may have been needed to complete the task that they had been assigned to complete. This could have placed the remaining members of his company in jeopardy as well as himself.

Training should strongly emphasize the need to remain together as cohesive units and to operate within the parameters of the incident management system.

**64. The City of Chicago’s Office of Emergency Management and Communications (OEMC) Failed to Provide Sufficient Radio Channels for Fire Ground Operations.**

**Finding**

OEMC did not provide sufficient communications channels for effective communications for fire ground operations.

**Recommendation**

OEMC should evaluate the adequacy of fire ground channels in the city and provide input to the CFD on policy, procedures and training to ensure for the development of an adequate communication plan at an incident.

**Background:** Fire personnel reported that they had difficulty communicating because of the volume of radio traffic. It is critically important that personnel be able to communicate

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effectively on the fire ground so that they can provide progress reports to the Incident Commander. Furthermore, in the event of an emergency command would then be able to communicate quickly and effectively with personnel in the building and a fire fighter in distress would be able to communicate this information immediately.

#### 65. OEMC Failed to Provide Sufficient Recording and Archiving of Electronic Communications.

##### Finding

OEMC did not provide sufficient recording and archiving of electronic communications for subsequent review.

##### Recommendation

OEMC should adopt policy and procedure regarding the recording and and archive of electronic communications relevant to emergency incidents.

**Background:** This review was hampered by the inability to accurately reconstruct the events on the fire ground based on the radio transmissions that were made on the two fire ground frequencies. Recording and archiving all fire ground frequencies would enhance the ability of the fire department to conduct post-incident critiques and to reconstruct the actions taken on the fire ground in an unbiased manner.

#### 66. OEMC Operators Failed to Effectively Communicate.

##### Finding

OEMC Police Department call takers did not pass on all information obtained from callers to fire department call takes, and some information was mis-communicated.

##### Recommendation

OEMC should adopt policy and procedures to to ensure that all incoming 9-1-1 calls are captured and relayed accurately to appropriate personnel.

**Background:** When a call is received at 9-1-1 it can be transferred to several different call takers. In doing so, information given to the first call taker may not be accurately repeated by the caller to the next call taker. In addition, the call takers did not accurately relay information between themselves during this incident.

Training and procedures are needed to ensure that all information obtained during a telephone call to 9-1-1 is compiled and relayed to the appropriate personnel to ensure that proper action is taken.

**67. OEMC Failed to Ensure Information Regarding Unaccounted-For or Trapped occupants was Relayed and Actually Received by Incident Commander.**

**Finding**

OEMC failed to ensure that information regarding the numerous reports of missing, or unaccounted-for people were relayed and actually received by the Incident Commander.

**Recommendation**

OEMC should adopt policy, procedures and training program to ensure that:

1. Reports of missing, trapped or unaccounted-for occupants are immediately relayed to the Incident Commander for action and
2. That critical information has, in fact, been relayed, received and if necessary, coordinated.

**Background:** There was a significant disconnect involving the collection and relaying of information provided to the 9-1-1 call takers regarding the trapped and missing occupants. The number of calls and the severity of the conditions that the callers were facing was not properly or adequately relayed to the incident commander. There was no coordination between the 9-1-1 call takers, Main and 271 during the eight-minute telephone call with the trapped occupant in the southeast stairway that would have helped to direct personnel to her location.

A single report of a missing or trapped occupant should be sufficient cause for the Incident Commander to react and deploy resources in response to the report. The fact that there were multiple reports received at 9-1-1 (in addition to the face-to-face reports in the lobby of the building) was a strong indicator that there were a significant number of people at risk and that the rescue needs were not being either adequately or effectively addressed.

**68. Cook County Failed to Properly Monitor the Building, Building Management and Building Operations.**

**Finding**

Cook County failed to properly monitor building management operations of the Cook County Administration Building relative to building design, systems, security, emergency planning, education, and training.

**Recommendation**

Cook County should adopt policy and procedures to exercise closer oversight for all aspects of the Cook County Administrative Building’s management, operations, security, emergency planning and education and training.

**Background:** Cook County, the building owner, had delegated responsibilities for daily operations of the Cook County Administration Building to a management company. However, this did not remove the responsibility from Cook County to ensure that all applicable codes and standards are being complied with and that best practices are being used in the management and operation of the building.

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There are a number of findings relating to the management or operation of the building that Cook County, as the building owner, was ultimately responsible for that included:

### Findings

1. Building Management Failed To Provide Full Evacuation Procedure;
2. Building Management Failed to Provide Compliant Partial Evacuation Procedure;
3. Building Management Failed to Appoint Certified Deputy Fire Safety Director;
4. Building Management Personnel Not on Premises as Required;
5. Building Management Personnel Lacked Proper Certification;
6. Building Management Failed to Provide for Life Safety Leadership in Absence of the Fire Safety Director;
7. Building Management Failed to Conduct Quarterly Evacuation Drills per Building/ Tenant Safety Plan;
8. Building Management Failed to Produce Uniform Emergency Management Documents;
9. Building Management Failed to Provide Adequate Emergency Training for occupants and Staff;
10. Building Management Failed to Provide Emergency Training Consistent with Emergency Plan;
11. Building Management Failed to Fully Develop Emergency Protocols for occupants with Disabilities and Limitations;
12. Building Management Failed to Develop Emergency Response Protocol for their personnel Management;
13. Building Management Personnel Failed to Adequately Assess and Respond to Situation;
14. Building Management Failed to Provide Immediate Notification of Fire Alarm Activation;
15. Building Management Personnel Failed to Serve as Single Point of Liaison with fire department;
16. Building Management Failed to Provide a Failsafe System to Unlock Stairway Doors;
17. Building Management Failed to Maintain Fire Life Safety Systems (Louvers) in Operable Condition;
18. Building Management Failed to Produce a Usable List of Self Identified occupants with Disabilities/ Limitations;
19. Building Management Failed to Identify All Critical fire department Concerns in Pre-Fire Plan;
20. Building Management Failed to Provide Adequate Oversight of Security Operations Related to Fire Emergencies;
21. Security Company Failed to Provide Adequate Training to Security Officers Regarding Performance of Duties Outlined in Security Manual;
22. Security Company personnel Failed Provide Supervisory Leadership;
23. Security Company personnel Failed to Maintain Effective Access Control;
24. Security Company personnel and Building Management Personnel Failed to Provide Copy of Pre Fire Plan at Lobby Security Console to CFD;
25. Security Company personnel and Building Management Personnel Failed to Provide Stairway Master Keys (available at lobby security console) to CFD;
26. Building Management Personnel and Security Company personnel Failed to Provide Adequate Information to occupants;
27. Building Management and Security Company Failed to Develop Effective Emergency Response Protocols for Security Officers; and,
28. Building Management and Cook County Failed to Correct Structural Flaws that Allowed Smoke to Spread.

**69. Cook County Failed to Ensure that the Cook County Administrative Building was Compliant with the Municipal Code of Chicago through Installation of a Continuous Protected Path From the Bottom of Both Stairway Exits to the Exterior of the Building.**

**Finding**

The Cook County Administrative building does not have a continuous protected path from the bottom of both stairway exits to the exterior of the building as required by the Municipal Code of Chicago.

**Recommendation**

Building Management and Cook County should conduct the necessary review and take appropriate action to ensure that the Cook County Administrative Building is compliant with local and state fire code.

**Background:** In the Cook County Administration Building, the occupants were required to leave the stairway and then cross an unprotected lobby to exit the building. In the event that the fire involved the lobby area, the lower level or any of the adjacent offices on the ground floor, the occupants may well have been faced with the situation where they could not safely exit the building. The exit route should be a secure, safe continuous path that will provide the maximum level of protection to the exiting occupants until they reach a public way.

**70. Cook County Failed to Ensure that the Cook County Administrative Building was Compliant with State Fire Code through Installation of an Automatic Fire Sprinkler System or Engineered Life Safety System.**

**Finding**

An automatic fire sprinklers or an engineered life safety system are required by state fire code, but were not installed in the Cook County Administrative Building. An alternative to an automatic fire sprinkler system permitted under the NFPA Life Safety Code, 2000 Edition, was the use of an engineered life safety system. No evidence of an engineered life safety system or a study to install a system were found as a part of this review.

**Recommendation**

Cook County should as quickly as possible install an automatic fire sprinkler system in the Cook County Administrative Building.

**Background:** The Life Safety Code recognized the importance of automatic fire sprinklers in high-rise building because of the unique challenges of fighting a fire in these buildings. Given that there may be engineered alternatives, it does allow for the flexibility for other life safety systems to be used as long as an equivalent level of life safety can be obtained. Many of the other safety systems referenced in this study (e.g. fire alarms systems, smoke-proof towers, and compartmentalization) are designed to all work in concert with one another and sprinkler systems in providing the highest feasible level of life safety to the occupants of the building. However, even though the Life Safety Code does permit the use of an approved engineered life safety system as an alternative to a full automatic fire sprinkler system, it is our belief that in a high-rise building it would not be possible

to achieve an equivalent level of life safety as that provided by an automatic fire sprinkler system.

#### 71. The State of Illinois Failed to Effectively Inform Jurisdictions Regarding Changes to State Fire Code.

##### Finding

The State of Illinois' Office of the State Fire Marshal failed to effectively inform jurisdictions within the state of the changes that had been made to the state fire code in January 2002, specifically the adoption, by reference, of the 2000 edition of the NFPA Life Safety Code.

##### Recommendation

The Office of the State Fire Marshal should develop and implement a formal procedure and process for officially notifying jurisdictions within the state of any changes to the State Fire Code.

**Background:** A significant change was made in the state fire code, yet this change was not effectively communicated to jurisdictions within the state. Therefore, unless a community was closely monitoring activities at the state level, they may not be aware of the new (and more stringent) changes to the codes.

Since Chicago had authority under home rule provisions to promulgate its own fire code, the city should have been formally notified so that they could review their local fire code to determine if changes would be needed based to assure the local code was equal to or more stringent than the state code.

#### 72. The State of Illinois is Ambiguous Regarding its Authority to Enforce State Fire Codes at the Local Level.

##### Finding

The State of Illinois' Office of the State Fire Marshal is ambiguous in regards to their authority to enforce state fire codes within a Home Rule jurisdiction.

##### Recommendation

The Office of the State Fire Marshal should verify that the state fire code has been adopted and is being enforced within all home rule jurisdictions in the state.

**Background:** The issue of what code is enforceable within Chicago and who has authority for enforcing the code creates an environment where ultimately public safety is compromised.

**73. Security Company Personnel and Building Management Personnel Failed to Provide Copy of Pre-Incident Plan at Lobby Security Console to CFD.**

**Finding**

Security company personnel and building management personnel failed to provide the fire department with the Pre-incident plan during the incident on October 17, 2003.

**Recommendation**

Building management and the security company should develop training that focuses on their personnel’s roles and responsibilities in an emergency.

**Background:** Security company personnel and building management personnel made no efforts to provide the Pre-incident plan to the fire department. During interviews and testimony the rationale given was that the fire department did not ask for this information and they felt there was no reason to offer it.

While the fire department should have inquired if this information was available, the lead security officer or senior building management person present should have also advised the fire department that this information was at their disposal.

**74. Security Company personnel and Building Management Personnel Failed to Provide Stairway Master Keys (available at lobby security console) to CFD.**

**Finding**

Security officers and building management personnel failed to provide the stairway master keys to the fire department that were available at the lobby security console.

**Recommendation**

The City of Chicago should provide standards through the Municipal Code of Chicago for building owners and / or management to make master keys available immediately to incoming fire department personnel. To facilitate this transfer, a location and key storage system should be developed for standardization within all high-rise buildings.

**Background:** Building management had made provisions for unlocking the stairway doors by placing a series of master keys in a lock box at the lobby security console. These were to be used during an emergency to quickly unlock the stairway doors.

At no time were these keys made available to the fire department. Instead, the only attempt to provide the fire department with a master key was when the building engineer handed a key ring with a large number of unmarked keys on it to the first arriving companies.

While it is recommended that a system be put into place to ensure that the stairway doors automatically unlock as a backup the fire department should be made aware that these keys are present and available for them to use as needed.

### 75. Building Management Personnel and Security Company personnel Failed to Provide Adequate Information to Occupants.

#### Finding

The Building Management's Fire Safety Director and Security Officers did not provide adequate information to the occupants during the emergency.

#### Recommendation

We have recommended that Building Management adopt an incident management system, which should stress the timely transfer of accurate information to occupants during an emergency using the public address system (emergency voice / communications alarm system {EVAC system}).

**Background:** During the course of the incident the lead security officer continued to make the same announcement over the emergency voice / alarm communication system to the occupants to evacuate the building by the stairways, not the elevators despite the changing conditions in the building.

The results of the Human Behavior Study conducted for this review showed that the occupants expected to be given specific information as to the nature of the emergency and actions that they should take.

Furthermore, the instructions given continued to direct the occupants into the both stairways, even though it was known by the fire department that conditions in the southeast stairway had become untenable when they had opened the door to the fire floor.

Since the fire department failed to take control of the emergency voice / alarm communication system and failed to direct the actions of the lead security officer making the announcement, no changes were made to the message despite the fact that conditions in the building changed dramatically when fire fighting operations were started.

### 76. Building Management and Security Company Failed to Develop Effective Emergency Response Protocols for Security Officers.

#### Finding

Building Management and Security Company failed to develop effective emergency response protocols for security officers.

#### Recommendation

The Security Company should develop emergency response protocols for security personnel that will ensure an appropriate response during all emergency situations. Ensure that training and education is conducted to these protocols. Building Management should institute process to ensure that the Security Company's emergency response protocols integrate with the building's incident management system.

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**Background:** The procedures in the security manual did not properly reflect what could or should have been done during either a partial or full evacuation of the building. They did not detail the specific steps or actions that were to be taken and they did not address all of the possible scenarios that may occur that security personnel would have to respond to.

The building’s security officers are the first responders to any emergency and as such should be knowledgeable and well prepared in what actions to take. This requires that the procedures be well thought out and that the security personnel be well trained in their implementation. Neither was the case at the Cook County Administration Building.

**77. Building Management and Cook County Failed to Correct Structural Flaws that Allowed Smoke to Spread.**

**Finding**

Building Management and Cook County failed to correct structural flaws that were violations of Municipal Code of Chicago identified prior to the fire, which allowed smoke to migrate out of the area of fire origin.

**Recommendation**

Building Management and Cook County should conduct the necessary review and take appropriate action to ensure that the Cook County Administrative Building is compliant with local and state fire code.

**Background:** In any building, but in a high-rise building in particular, vertical fire spread presents a significant danger to the occupants and a more challenging situation for fire department personnel to address. Any time that smoke or fire spreads vertically beyond the floor of origin the magnitude of the incident, the risk to the occupants and the resources needed to address the emergency grows exponentially. By failing to correct the flaws that had been identified in several fire inspection reports prior to the October 17<sup>th</sup> fire, an avenue allowing for the vertical spread of smoke throughout the building was allowed to exist.

**78. The City of Chicago’s Code Enforcement Agencies Failed to Effectively Enforce Existing Codes.**

**Finding**

The City of Chicago’s code enforcement agencies (Building Department, fire department, and Police Department) failed to enforce existing codes. Several examples of code violations in the Cook County Administrative Building indicate a lack of comprehensive code enforcement.

**Recommendation**

The City of Chicago should convene a task force of its code enforcement agencies (Building Department, fire department, Office of Emergency Management and Communication, and Police Department) to evaluate and implement policy, procedures, and authorities for code enforcement within the city to improve coordination among the inspection

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agencies, increase frequency of inspections, improve outreach regarding best practices, and improve compliance among building owners.

**Background:** There are several examples of code violations at the Cook County Administrative Building including but not limited to lack of current certification of fire safety personnel, deficiencies in emergency plans, and structural deficiencies that point to a need to improve code enforcement. For example, inspections conducted prior to October 17, 2003 identified openings that would have allowed the vertical spread of smoke and fire. The fact that these violations were found on several inspections, yet no corrective action taken by the building management nor was there any enforcement action taken by the city, points to a failure to enforce the existing codes. Since there is no punitive action applied by the city for owners failing to meet code requirements, the provisions of the code the building owner is not as motivated to make the corrections needed to ensure a safe environment for the occupants.

#### 79. Local and State Codes Not Uniform.

##### Finding

The Municipal Code of Chicago and the state fire code are not uniform. The City of Chicago is allowed to develop its own code, while the state fire code is based on a national model. At the time of the fire, there were two codes in force simultaneously, one at the local level and one at the state level that had different requirements.

##### Recommendation

The State of Illinois should consider requiring a national model building and / or fire code as the basis of developing a single code that is applicable both at the local and state level.

**Background:** By using a code that is developed locally instead of using a national model code, with local amendments, the codes may not be less than current and may not reflect the state-of-the-art in fire protection.

#### 80. Both Local and State Code Enforcement Officials Failed to Provide Leadership Towards Harmonizing Applicable Codes between Jurisdictions.

##### Finding

Local and state code enforcement officials failed to provide leadership towards harmonizing applicable codes between jurisdiction.

##### Recommendation

The State of Illinois should convene a task force — consisting of the appropriate local and State agencies and private sector stakeholders — to develop protocols and guidelines that provide for an ongoing review of current national model codes or

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standards and make recommendations to ensure that state and local building and fire codes meet national standards and that they are uniformly enforced at the local level. Areas to evaluate for harmonization include but are not limited to standards and best practices: for high-rise building emergency action plans, building emergency fire personnel certification and their roles and responsibilities, Pre-incident fire plans, safety drills, and building smoke removal systems, evacuation procedures.

**Background:** Having multiple codes in place creates confusion among the building owners and enforcement personnel as to which code should apply. There are codes in place at the state and local levels that have different provisions that create the confusion and a lack of clarity as to who is responsible for enforcing the different provisions. As stated, codes should be harmonized between the different jurisdictions and preference should be given to adopting a national model code that can be uniformly applied across all jurisdictions within the state.

**81. The City of Chicago and State of Illinois Allow for the Use of Ineffective Smoke Removal System.**

**Finding**

The smoke removal system in the Cook County Administrative Building, a passive smoke tower, was not effective in preventing smoke from entering the evacuation stairway.

**Recommendation**

The State of Illinois should evaluate the use / installation of passive smoke towers like the one at the Cook County Administrative Building. An engineering study should be conducted to determine the effectiveness of these systems for removing smoke or preventing smoke from entering an evacuation stairway and recommend design modifications as needed. Code changes should be made based on this engineering study.

**Background:** This fire has raised questions regarding the effectiveness of using an interior shaft passive ventilation system to prevent smoke from entering into stairways. By limiting the fire department to using only one stairway for fire fighting operations seriously hampers their ability to effectively fight a fire.