National Emergency Training Center
16825 S. Seton Avenue
Emmitsburg, MD 21727-8998

FEMA

N0314

Dear National Fire Academy Student:

Congratulations on being selected to attend the U.S. Fire Administration (USFA), National Fire Academy (NFA) "Command and Control of Fire Department Operations at Target Hazards" (CCTH) course.

This course is designed for the fire officers who have responsibility to conduct fire and rescue operations at incidents involving high-risk occupancies. Some of the subject areas covered in this course are advanced application in incident command, command and control, decision-making, strategic and tactical considerations, pre-incident preparation, documentation, and post-incident analysis.

The course is very comprehensive, relying heavily on simulations and case studies as the primary instructional media. You, as well as other class members, will be assigned command and general staff roles during simulations and, together as an Incident Command team, will be responsible for bringing these simulated incidents to closure. Fire and rescue emergencies at penal institutions, bulk oil storage facilities, nursing homes, colleges, chemical/agricultural plants and grain elevators are just some of the incidents that will be simulated. A solid foundation in command and control procedures is imperative for this course, and, because of this, you should be familiar with the Incident Command System (ICS). On the first day of class, you will be evaluated regarding your competency in this area. In an effort to assist you in this goal, the USFA has developed two web-based, self-study courses that are equivalent to ICS-100 and ICS-200 and meet National Incident Management System (NIMS) requirements. Q0462, "ICS-100: An Introduction to the Incident Command System" and Q0463, "ICS-200: Basic Incident Command System for Initial Response" are both available on our website at https://www.usfa.fema.gov/nfa/courses/online/.

This is a six-day class, with evening classes possible. Check with your host site for the schedule.

The Student Manual (SM) for this course is now available in a Bring Your Own Device (BYOD) format that will function on any electronic device. Please see the page following this letter for complete instructions on successfully downloading your SM. Please note: If you plan to bring/use an iPad, you may experience issues saving/storing/printing course assignments since there is no USB/thumb drive capacity for these devices.

If you need additional information related to your course's content or requirements, please contact Mr. Richard Sexton, Incident Policy and Analysis Curriculum training specialist, at 301-447-7687 or email at richard.sexton@fema.dhs.gov.

Sincerely,

Eriks J. Gabliks, Superintendent
National Fire Academy
U.S. Fire Administration

Enclosures

December 2023

National Fire Academy Bring Your Own Device (BYOD)
Course Materials/Download Instructions

If you own an electronic device (laptop computer, tablet, etc.) and are familiar with its document reader functions, we are asking you to download the Student Manual (SM) before you travel to class and bring the preloaded device with you.

The **first step** is to download Adobe Acrobat Reader to your device. This will enable you to read and manipulate the course materials. Adobe Acrobat Reader can be used to comment and highlight text in PDF documents. It is an excellent tool for note-taking purposes.

For laptops and computers

Adobe Acrobat Reader can be downloaded from www.adobe.com/downloads/. It is a free download. Please note that depending on your settings, you may have to temporarily disable your antivirus software.

For tablets and other similar hand-held devices

Adobe Acrobat Reader can be downloaded onto devices such as iPads, Android tablets and other hand-held devices. The application can be found in the device's application store using the search function and typing in "Adobe Acrobat Reader." Follow the instructions given. **It is a free application.**

After you have successfully downloaded the Adobe Acrobat Reader, please use the following web link to download your SM. You may copy/paste this link into your web browser.

https://apps.usfa.fema.gov/ax/sm/sm_0314.pdf

Note: In order to have the editing capabilities/toolbar, the SM needs to be opened with Adobe Acrobat Reader. There should be a function on your device to do this.

If you need assistance, please contact nfaonlinetier2@fema.dhs.gov.

Pre-Course Assignment Directions

Read the article *The Emergency Operations Center: A Vital Preparedness Tool* (pages 2-9).

Read the pre-course reading *Command and General Staff Functions in ICS* (pages 10-50).

Complete the pre-course workbook (pages 51-60), and bring the completed workbook to the first day of class. Instructors will collect the workbooks from each student. This is information that is a necessary prerequisite for participation in the in-class simulation activities.

Attached you will also find a copy of the new National Incident Management System, ICS Forms Booklet, Federal Emergency Management Agency (FEMA) 502-2. Please review as these are the forms we will be using during our class exercises.

Central City Light Reading Assignment

- Browse Units 1.0 to 9.0, pages 1-130.
- Focus on:
  - Unit 3.0 — Hazards Vulnerability Analysis, pages 46-66 (print range 71-89).
  - Appendix E: Fire Service Resources, pages 161-197 (print range 184-220).
  - Appendix G: Emergency Medical Services Resources, pages 239-259 (print range 264-283).

Central City Manual Link: https://apps.usfa.fema.gov/ax/pcm/central_city_manual.pdf.

The Emergency Operations Center: A Vital Preparedness Tool

Reprinted with Permission from *Fire Engineering*
May 1, 2010

By William Shouldis

The emergency operations center (EOC) is a generic tool for coordinating on-scene operations during low-frequency and high-risk incidents. Every community, large and small, faces the likelihood of an overwhelming emergency event. Often, these incidents will lack a common operating picture and can transcend political jurisdictional boundaries. The ability of a community to acquire and allocate necessary resources hinges on being prepared. The roots of a community's "all-hazard" preparedness program involve intergovernmental relations and a detailed planning process that includes mutual-aid assistance agreements. Emphasis must be on technical information based on an accurate assessment of risk, vulnerability, and capabilities. Resources will be scarce during a large-scale incident, and the EOC can identify and obtain additional assets that are not always available to the on-scene incident commander (IC).

The EOC mobilizes people and equipment to handle incidents that are outside the ability of any single agency to resolve. The purpose of the EOC is to ensure that departmental response capabilities are maintained and authoritative information is disseminated to the general public. Capturing important incident-related information at an EOC will provide senior officials with data to set strategic directions; establish priorities; allocate resources; and, under extreme circumstances, declare a disaster. These actions allow field commanders to focus on the incident objectives while the EOC handles supportive endeavors.

The EOC is an integral component of the larger Multiagency Coordination System (MACS). The entire MACS consist of initial dispatch, on-scene command, coordination resource centers, coordination entities, and the EOC. Often, major incidents require the activation of all components of the MACS during the response and recovery phases. The establishment of an EOC is a "time-tested" link in a stronger public safety system when the use of critical resources requires decisive actions. The EOC serves as a message center among the IC, elected officials, and nearby jurisdictions. Under ideal conditions, the EOC is centrally located where representatives from various agencies can gather during an emergency. The EOC becomes the pipeline of information for organizations that work behind the scenes to protect the population at risk during a potential disaster.

An important criterion for selecting an EOC is easy access for agency representatives and elected officials. Large displays assist in the transfer of critical information and create a common operating picture for organizations staffing the EOC.

TYPES OF EOCS

Fixed Facility

The primary EOC is a central location usually found in an existing multipurpose government building that will reduce delays in the arrival of senior officials and staff personnel. Usually the EOC is a permanent location with permanent equipment. In addition to the main location, it is important for financial and logistical reasons to identify potential alternate sites for reliability and suitability as part of an overall community risk management plan. It would be chaotic if, during an emergency event, the center were damaged or had to be evacuated. Local government should follow the federal government guidelines that suggest a need for Continuity of Government and Continuity of Operations (COOP). It should take no longer than 12 hours to "ramp up," or convert, a backup facility into a fully operable (hot) facility. All communities should have a checklist for doing this.

Mobile EOC

The mobile EOC is used when a disaster is widespread and there is an urgent need for a face-to-face briefing with the incident management team (IMT) to reduce confusion. The flexibility of a mobile EOC allows for optimal interaction between the IMT and the Policy Group when jointly reviewing critical information. A tractor-trailer-style vehicle offers a degree of comfort and a full communications center with software that can tie together radio frequencies. Vehicles should have linkage to the Internet, and most have a security camera system that monitors all six sides. The mobile EOC allows for planning from various locations and can provide valuable insight for executive decision makers in a stable situation with short-term recovery challenges.

Virtual EOC

This innovative concept has combined with "next-technology" to replace the traditional "brick-and-mortar" EOC facility. A virtual EOC is a state-of-the-art emergency management solution that exists solely or partially in cyberspace with private networks and satellite communication. Remote locations will reduce the reflex time and limit vulnerability that exists when all senior officials are assembled at a central location. With a virtual EOC, authorized individuals have anytime, anywhere access with a user name, password, and multiple secure server with software application to a high-tech terminal that can provide a higher-level knowledge of emergency management principles. A technical specialist can be provided for a global perspective on specific hazards and mitigation steps needed in a local community. Smartphones, three-dimensional digital blueprints to improve visualization features, make the visions of yesterday today's reality.

In any type of EOC, whenever a complex incident or widespread disaster strikes a community, the efforts of traditional and nontraditional first responders [for example, a community emergency response team (CERT) must be closely coordinated and fully supported]. This is essential to managing the numerous resources from different disciplines. The reporting

relationship between the EOC and the IC is important to avoid conflicts, confusion, and duplication of efforts on the front line.

The staff at an EOC will need different competencies based on the kind of damage or destruction caused by a manmade or natural disaster. After-action reports from major incidents clearly reveal that local resources will be overwhelmed and will require external assistance. History has shown that there can be a serious disconnect between the IC and the EOC when a joint planning process is not practiced. The EOC will fail in its unique mission without adequate and accurate information. The EOC staff and the IC need sufficient time to create a meaningful plan of action based on factual data. The EOC is responsible for organizations' working together and being aware of one another's mission.

Just as the IC needs a stationary incident command post (ICP) for effectiveness at the emergency scene, a single EOC facility that is well-designed and sufficiently staffed will improve coordination and support endeavors. Any major emergency situation can cause large losses. A partnership between the EOC and the IC will protect lives and property and will minimize the impact of response and recovery problems.

ESSENTIAL FUNCTIONS OF THE EOC

The EOC depends on maintaining situational awareness. Planning enables agencies' representatives to focus on vital services to maintain the safety and well-being of the public at risk. The proper time to develop and practice an emergency operation plan (EOP) is before a community suffers a high-risk/low-frequency incident. Document the following essential functions during EOC activation to ensure a fair distribution of resources:

- Damage assessment reports.
- Resources, acquired and used.
- Media and public requests for assistance.
- Accounting of public safety expenses.
- Response plan for providing evacuation and sheltering.
- Support services for food, water, ice, and utilities.
- Incident log (ICS #214) form.

ORGANIZATIONAL STRUCTURE OF THE EOC

EOCs exist in many forms, and there is no single organizational structure that is correct for all jurisdictions. The key is to maximize the staff's efforts and allow decision making at the lowest practical level. Presidential Directive #5, which outlines "Command and Management" procedures, does not mandate that any community adopt any particular model as its organizational structure. However, in the future, federal grant money may be linked to the specific way an EOC is organized. An EOC should be organized with the intent of facilitating a smooth operation with data collection, documentation, and executive decision making to

maintain public confidence under ever-changing conditions while acting on routine, priority, and classified information.

The local government is entirely responsible for the management of emergency activities within its jurisdictional boundaries. Response priorities will focus on getting the right resources to the right place at the right time. This promotes total uniqueness in the concept of operations at local and state EOCs.

Typically, there are four ways to organize an EOC facility. Each has some recognized coordination and support challenges. Over time, many jurisdictions have used these structures very successfully.

1. Major Management Activities Structure

Policy Group--comprised of "high-level" elected officials and department heads who focus on the overall objectives and priorities of the community. Decisions made by the Policy Group set the direction for implementation by the Coordination, Resource, and Operations Groups.

Coordination Group--personnel responsible for collecting and analyzing data, including advanced predictions based on the essential functions of damage, resource allocation, public information, and expenditures that an EOC must gather.

Resource Group--comprised of representatives from agencies or organizations that provide or could be asked to supply resources to the scene. These organizations may include transportation agencies, utility companies, business and industry representatives, and mutual-aid partners.

Emergency Management Operations Group--representatives from any agency with responsibility for any portion of the response or recovery. Units within this group are dictated by the specific incident for a tactical assignment, including law enforcement, fire, public works, emergency medical services, and numerous other agencies.

The advantage of this model is that the organizational structure is relatively simple, with straight lines of communication and chain of command. With this model, all key problem solvers and representatives from participating agencies can contribute to decision making and resource allocation.

The disadvantage of this model is the linkages with on-scene commanders. There is not a one-to-one match between the organization of the on-scene incident command structure and the EOC organization.

2. Incident Command System (ICS) Structure

The EOC's emergency program manager or designee fills the top position. The EOC commander serves a similar role as the Policy Group and makes executive decisions that

establish the overall objectives "concept of operation" at the EOC. Often under this format, the emergency program manager is viewed as the EOC commander. This military-style command structure can increase the interaction and provides a heightened level of situational awareness.

Emergency Management Operations is responsible for coordinating with and supporting on-scene responders. Position titles of branches, divisions, and groups are organized as necessary to support the incident.

Emergency Management Planning is responsible for gathering and analyzing information and informing decision makers of changes in the use of resources. A technical specialist may be used to provide special insight and expertise.

Emergency Management Logistics serves as the single ordering point from the ICP. Coordinating the network of primary and backup communications equipment will assist in any large-scale incident, but it is especially meaningful during an evacuation or reentry with special transportation and housing needs.

Emergency Management Finance/Administration is responsible for designing financial projections.

The advantage of this model is the clarity of roles and functional integrity, which leads to a clear contact point between the IC and the EOC. The coordination and support of logistical and financial duties will relieve the workload at the incident scene and dispatch center.

The disadvantage of this model is the potential for confusion about authority at the incident scene vs. in the EOC facility.

3. Emergency Service Functions (ESF) Structure

An operation manager is in charge of the EOC. The Operation area can include branches such as firefighting, public works/emergency engineering, public health and medical service, urban search and rescue, mass care, and law enforcement. Currently, there are 15 branches under the National Response Framework (NRF).

The Planning area includes situation analysis, documentation, advanced planning, technical services, damage assessment, resources status, and geographic information system technology. The Logistics area includes a service and support branch.

The Finance/Administration area includes compensation claims; purchasing/procurement; cost concerns; timesheets for personnel; and disaster financial assistance based on legal records such as contracts, accounting records, and property management photos.

The advantage of this model is that it appeals to local and state EOCs because there is a clear one-to-one relationship with the NRF as well as with on-scene ICS organizations.

The disadvantage is that local and state EOCs may not correspond directly at the Operations level with the federal ESFs. This potential misunderstanding with the ICS positions in the on-scene Operation Section is a serious drawback and necessitates an enormous amount of additional training to ensure that the agencies responsible for ESFs are able to competently perform their assigned duties.

4. Multiagency Coordination (MAC) Group Structure

A MAC Group is made up of organization, agency, or jurisdiction representatives who are authorized to commit resources and funds. The success of the MAC Group depends on its current membership. Sometimes membership is obvious by the organizations that are directly impacted and have a resources commitment to an incident. Often, organizations that should be members of a MAC Group are less obvious. These organizations may include the local Chamber of Commerce, volunteer groups, the Salvation Army, the American Red Cross, faith-based charities, and other organizations with special expertise or knowledge. These groups may not have "hard" resources or funds to contribute in the response and recovery phase, yet their contacts, political influence, and technical expertise are the foundation for a collaborative effort.

The MAC Group coordinator is an optional position that provides supervision to the various components. Members of the MAC Group directly distribute the result of their deliberation to their own organizations as well as through the chain of command (MAC entities, dispatch centers).

The MAC Group Situation Assessment Unit collects and assembles information needed for the MAC Group to fulfill its role. At times, a MAC Group Resource Status Information Unit will gather information on the status of resources.

The Joint Information Center (JIC) is a public information unit that has access to local information sources and governmental entities and is responsible for coordinating a summary report. Public information must be organized around a Joint Information System that is overseen by public information officers. Intelligence information is routed from the EOC to the JIC for collection, validation, and public dissemination.

The advantage of this model is that it works well to ensure coordination among other MAC entities. It is useful as a mechanism where no system exists to provide short-term multiagency coordination and decision making. Typically, a MAC Group fits into a policymaking part of an existing EOC.

Some of the more common MAC Group applications include the following:

- A single jurisdiction may establish a MAC group as part of its EOC function. In this application, it is important that the jurisdiction broadly define its role because of the impact on other agencies and organizations.

- MAC Groups are frequently defined geographically, especially when an emergency crosses jurisdictional boundaries.

- A MAC Group may be organized functionally. For example, law enforcement agencies at local, state, and federal levels may establish a MAC Group to assist in coordinating a response to a major terrorist activity.

- A MAC Group may be organized nationally. For example, during wildfire season, a National MAC Group convenes at the National Interagency Fire Center in Boise, Idaho. This MAC Group includes representatives from the federal wildland fire agencies, the states, the Federal Emergency Management Agency, and the military.

The disadvantage of this model is a lack of clearly defined, standardized relationships to other MAC entities. There is no associated implementation of staffs, and it rarely is used as a stand-alone structure in an EOC. A "generic" MAC component can be used at any level of government.

CHARACTERISTICS OF AN EFFECTIVE ORGANIZATION

How information is used will affect how the information is managed. Being prepared means there is no substitute for planning, training, and exercising. Individuals are not very good at tasks they do not do often. Job aids, checklists, and cross-training will ensure that the essential functions of an EOC will be documented even with the smallest staff.

Training is a key element once the standard operating guideline and EOP are written. It has been repeatedly shown that during an incident, most workers remember what they practiced instead of what they were told or have read. This is especially true where decision making and practical problem solving can get intense. Without an understanding of the situation and regular practice, panic can set in, and even the simplest task can become difficult to remember. Maintaining sustainable skills in the data collection, documentation, and parameters for decision making during EOC activations is critical for safety and effectiveness. Personnel changes, reorganizations, and downsizing can have a dramatic effect on job performance. A yearly orientation with periodic tabletop and full-scale exercises all have value in reinforcing essential functions and duties at an EOC.

Communication is the "lifeblood" at any incident. A communications network of "talk paths" and shared radio channels will enhance responders' ability to transfer information among various private and public agencies. Determining the scope of the disaster is possible only when first responders in the field accurately report conditions to the appropriate EOC representatives so that positive actions can be taken.

The EOC is the hub for communication. Incident information, with a clear message flow and recording system, must be shared within the EOC, between the EOC and the ICP, between the EOC and the general public, and between community-elected officials and other jurisdictions.

The EOC is the key to minimizing any conflict, confusion, and duplication during the response or recovery phases of a large-scale incident. By having high-level decision makers located together, there is a greater chance that all resources will be safely used to a maximum level of efficiency. The EOC's coordination and support will assist the on-scene commanders in accomplishing strategic and tactical activities.

Communication among the various response partners from the local to the national level is described as one of the most challenging aspects during any emergency. To save lives and protect priorities, there must be a seamless flow of two-way communication between the ICP and the EOC. Today is the day to start improving standard operating policies, updating emergency concepts of operation plans, and formulating a positive working relationship with your numerous partners in command, management, and preparedness.

WILLIAM SHOULDIS retired as deputy chief from the Philadelphia (PA) Fire Department, where he served in line and staff positions for more than 34 years. His assignments included working directly for the fire chief on labor relations and accountability issues and serving as field commander for one-half of the city, department safety officer, director of training, and hazardous materials task force leader. He is an instructor at the Graduate School at St. Joseph's University in Philadelphia, the National Fire Academy, and the Emergency Management Institute. He has a master's degree in public safety.

PRE-COURSE READING
COMMAND AND GENERAL STAFF FUNCTIONS IN ICS

TERMINAL OBJECTIVE

The students will be able to perform the roles and responsibilities of the Command and General Staff during the initial period of a complex incident while developing the Incident Command System (ICS) Form 201, Incident Briefing*.*

ENABLING OBJECTIVES

1. *Explain the roles and responsibilities of the Command and General Staff at large/complex incidents.*

2. *Describe how to develop SMART (Specific, Measurable, Action oriented, Realistic, Time sensitive) Objectives.*

3. *Describe the elements of ICS 201 and the Incident Action Plan (IAP).*

INCIDENT COMMANDER

The Incident Commander (IC) is the only position in the Incident Command System (ICS) that is always filled regardless of the size or complexity of an incident. The IC has the responsibility for the overall management of the incident. Whatever functions or responsibilities that are not delegated to others remain the responsibility of the IC.

The Engine Company Officer who responds to a call of food on the stove will fill the IC's position regardless of what the local agency's routine title is for that officer. The initial IC's first responsibility is to assess the situation (sizeup) to determine the problems, issues, or concerns that they are confronting. For food on the stove, the initial IC will most likely use an intuitive assessment process, prioritize the problems, and develop the objectives, strategies, and tactics using a mental process that has come from responding to many incidents of similar types. The IC will then give verbal directions to the engine crew on the work assignments needed to bring this simple incident under control.

In this example the initial IC maintained the responsibility for the safety of the crew(s) and the public, assessed the need for additional resources, directed the resources, and even developed a plan for contingencies.

It is safe to say that the vast majority of incidents stay small and are handled by just the IC's position being filled; however, even the simplest or most routine incidents can grow in size and complexity, thus, taxing the IC's ability to maintain direct control for all the functions on the incident. An experienced IC will recognize early the need to delegate responsibility for many of the functions of command and the overall management of the incident.

As an IC, you must be ready to assume and maintain command of an incident that is expanding in complexity until the incident is either brought under control or relieved by a more experienced IC.

This pre-course reading will concentrate not so much on the proper tactics to use at a major incident, but on the initial response and extended response IC descriptions and responsibilities. Also, how the ICS and, in particular, the Command and General Staff positions, and the process each position uses, can move command of a major emergency incident from a reactive mode to a proactive mode even during the initial period of an expanding incident.

Incident Commander's Characteristics

While there is no one personality type that seems to elevate itself to the level of command, there are some common characteristics that are desirable to foster:

- think and act strategically;
- objective driven;
- strong communication skills;
- delegate authority;

- politically judicious;
- facilitate a collaborative atmosphere;
- trustworthy;
- adaptive;
- multitasker;
- team player; and
- calm under pressure.

Additionally the IC should be a **pessimist** when it comes to applying the resources to accomplish the objectives, strategies, and tactics. The definition of a pessimist is "inclined to take the least favorable view or expect the worst possible outcome." So many times the IC can underestimate the situation and the consequences that can follow by being too optimistic or judicious with the application of resources when attacking a problem. History is littered with examples of optimistic or even arrogant attitudes by commanders that have applied resources too little and too late to keep the incident small or under control--"letting the genie out of the bottle," so to speak. Once the genie is out it usually spells disaster for the responders and the public.

Finally, the IC should always be "customer centered"-- that is to say the philosophy of Command and the General Staff and all of the responders should be sensitive to the needs of the public. In a major emergency or disaster the public looks to the professionals for help, understanding, and direction.

So, be **quick** to respond to the needs of the public, be **nice** and understanding when dealing with the public, and be **helpful** as possible in solving their problems.

Initial Response Incident Commander

There are many issues that confront the initial response IC when responding to an incident that is expanding in complexity. The low frequency of these types of incidents can put a great deal of pressure on any initial response IC not only because of the tactical complexity but the added pressure of managing the communications, resources, planning, and support functions needed to react to the growing emergency. The early introduction of the ICS into a complex incident is designed to assist the initial response IC in the transition from the reactive mode to the proactive mode of incident management and set up a smooth transfer of command to the incoming Incident Management Team (IMT).

Incident Commanders Responsibilities

Listed below are the responsibilities of the initial response IC which will usually be accomplished without the assistance of support staff.

- assess the situation (identify the problems/issues/concerns);
- determine the need for Unified Command (UC);
- establish immediate priorities (life safety, incident stabilization, property conservation);

- establish Incident Objectives and strategies;
- establish an Incident Command Post (ICP);
- manage tactical operations (give work assignments);
- assure the safety of responders and the public;
- determine the need to expand the organization;
- ensure the appropriate facilities are established to support the organization;
- identify and order the appropriate tactical and support resources;
- keep agency administrator and stakeholders informed;
- identify staging areas;
- ensure scene security and evidence preservation;
- evaluate and anticipate contingencies; and
- develop and maintain an ICS Form 201, *Incident Briefing*.

It would be a good idea to turn these responsibilities into a checklist to review during the early stage of even routine incidents so you can build the experience to use them when the complex incident does happen.

Assess the Situation

As indicated in the list of the IC responsibilities assessing the situation or sizeup must be done first so the IC has a good understanding of the problems, issues, and concerns and to achieve the needed situational awareness. If the incident is multiagency in nature and a UC is required, it is often helpful to write down the problems that each unified agency identifies as needing attention. This process often alleviates some of the resistance that occurs when trying to unify command with fire, law, public works, emergency medical services (EMS), health, etc.

List the problems in no order of priority using a white board, easel pad or other display so all can see, but just as they are identified. Limit the problem statement to one or two wards, such as: people trapped, looting, flooding, street access, EMS, fire control, crime scene, etc. Once all of the problems have been identified you are ready to move to P-O-S-T.

P-O-S-T

Once the problems have been identified and the IC has a good situational awareness and understands the complexity of the incident, the National Incident Management System (NIMS) uses the acronym P-O-S-T to describe the hierarchy of decisionmaking:

- **Priorities.** Regardless of the size or complexity of an event or incident, the fundamental priorities remain constant: life safety, incident stability, and property conservation.

- **Objectives.** Broad descriptions or statements of the desired outcomes or actions to remain consistent with the priorities.

- **Strategies.** Action processes by which the objectives are met.

- **Tactics (and Tasks).** Specific activities implemented to achieve the identified strategies.

Priorities

Take the list of problems, issues, and concerns and apply the priorities of life safety, incident stabilization, and property conservation to come up with the list of problems that need the most immediate attention. It should be obvious that some of the problems will not be addressed during the initial period of the incident and may take several operational periods to address all of the problems listed. As the incident matures, additional problems may be identified and added to the list.

1. **Life safety**--responders and the public. (This includes rescuing endangered civilians, treatment of the injured and provision for the safety, accountability, and welfare of response personnel. This life safety priority is ongoing throughout the incident.)

2. **Incident stabilization**--minimize the effects by keeping the incident from escalating and bring it under control.

3. **Property conservation**--property, infrastructure, evidence, economy, environment, and provide for recovery.

Objectives

Writing objectives is as much art as it is science; the more you practice, the better you get. If the objective is too broad it will lack direction and the IC's intent may be lost. If the objective is too detailed it becomes more of a tactic and it will take dozens of objectives to describe what needs to be done. Some of the objectives may take several operational periods to accomplish. It usually takes four to six objectives for the IC to convey his/her intent.

When developing the objectives, they should be written per the **SMART** method.

SMART Objectives

- **Specific.** The wording must be precise and unambiguous in describing what needs to be done.

- **Measurable.** The design and statement of objectives should make it possible to conduct a final evaluation as to whether objectives were achieved.

- **Action Oriented.** The objective must have an action verb that describes the expected accomplishments.

- **Realistic.** Objectives must be achievable with the resources that the agency (and assisting agencies) can allocate to the incident, even though it may take several operational periods to accomplish them.

- **Time Sensitive.** The timeframe should be specified.

Sample Incident Objectives

- Provide for the safety of responders and the public for the duration of the incident.
- Establish a secure perimeter by 1800 hours and maintain perimeter control for the duration of the incident.
- Provide for search and rescue and medical care of the trapped and injured within the affected area for the duration of the incident.

Most major emergencies have the same problems: fires, EMS, security, crime scene, structure collapse, rescue problems, force protection, evacuation, perimeter control, debris removal, etc.

Many IC's collect well-written objectives and keep them in their *Field Operations Guide* (FOG) or response kit to be retrieved quickly when needed on a major event. As an example, the *Coast Guard Incident Management Handbook* has example objectives and is available online at http://homeport.uscg.mil Click on Library, then click on Incident Command System, scroll down to Job Aids, and click on IMH.

Strategies

The FOG states that the IC also develops the strategies, but in reality the IC may let the Operations Section Chief develop them or they may work together to collaborate on the development of strategies and the operational portion of the incident organization.

The definition of a strategy from the FOG is "a general plan or direction selected to accomplish Incident Objectives."

The pure definition of strategy is of little help, but simply put, a strategy answers the question of **what** needs to be done to accomplish the IC's Incident Objectives. There may be several strategies that come out of each objective. A strategy is not written anywhere in the Incident Action Plan (IAP) but strategies are developed to help the IC and/or Operations Section Chief move from an objective to a tactic (work assignment) on ICS 201 or IAP.

Use one of the example objectives from above and develop a strategy that will achieve **what** the IC intended to have accomplished: **"provide for search and rescue and medical care of the trapped and injured within the affected area for the duration of the incident."**

Develop a one- or two-word strategy that will satisfy the objective. In this case the strategies of **search and rescue** and **EMS** or **triage, treat, and transport (TTT)** should achieve the intent of the objective. Some objectives could require several strategies to achieve the objective.

These one- or two-word strategies are then used to develop an organization that can best achieve the strategies. The organization can be arranged functionally, geographically, or a combination of both.

DOCUMENTATION OF THE INITIAL RESPONSE

Regardless of the size or complexity of an incident or how many operational periods an incident may require to be brought under control, the first operational period will most likely be managed without the aid of an IAP. Usually the only documentation that will be available during the first period is whatever the initial response IC has managed to develop. The more experience, practice, and training the initial response IC has on responding to complex extended period incidents, the smoother the transfer of command will be and the quicker the IMT will get up to speed.

ICS Form 201, *Incident Briefing*

ICS 201 is a simple four-page form for use as an initial response tool that will help the IC organize and manage the initial response and provide an excellent document to brief the incoming IMT during the transfer of command. ICS 201 is more of a reactive plan used during the first period of an incident and is used to document actions you have taken.

On extended period incidents that last for several operational periods, the IAP will be developed in the Planning Process and is a proactive plan that is distributed at the start of a new operational period that provides directions on what is to be accomplished during that period.

Many agencies already use a Command Worksheet or others forms to capture incident information and history, however, ICS 201 is part of the ICS and a national standard for initial response and, therefore, should be a part of every agency's response kit.

At the very least, agencies should consider changing Command Worksheets to incorporate the same five items that ICS 201 captures: Map Sketch, Summary of Current Actions, Current Organization, and Resources Summary. Even if a large Command Worksheet is used initially, the information should be transferred to an ICS 201 prior to a transfer of command to an IMT.

The advantage of ICS 201 over a large Command Worksheet or board is its ability to be copied and shared among the Command and General Staff during transfer of command for continued documentation of resources, situation, communication, etc. Additionally, ICS 201 can be used to assist with the postincident analysis.

In the municipal setting, ICS Form 201 will be completed by the initial-response Battalion Commander or first level supervisor or manager (initial IC).

The exception of using an ICS 201 during the initial period of an incident is when an IMT has developed a full IAP for a planned event such as a parade, ball game, or other large, planned event where the possibility of an incident may be anticipated.

Page 1 of ICS 201 (Map Sketch)

The Map Sketch should show the current situation, incident facilities such as Staging and ICP, wind direction and speed, and other important aspects.

The sketch of the incident will do several things:

1. Enable you to document the incident location and extent of involvement upon arrival.

2. Help to bring the incident complexity into focus for better sizeup, report on conditions, and to develop appropriate Incident Objectives.

3. Enable others to quickly grasp the scope of the incident and important details.

Page 2 of ICS 201 (Summary of Current Actions)

This page allows the IC to capture the Incident Objectives that have been established and the actions that were taken. Additional copies of page 2 may be added as needed. It would be a good idea to have extra pages in your kit.

Under Current Actions:

1. First entry--record dispatch time, address, cross street, command ID, and tactical frequency. This will provide an incident history baseline.

2. Second entry--initial sizeup information.

3. Your actions taken or plan to take along with the time you started them.

Page 3 of ICS 201 (Current Organization)

The Organization Chart should capture:

1. Command and General Staff positions that you have assigned with their name and agency.

2. Divisions and Groups that you have assigned along with name of person in charge and unit designator.

3. Under each Division or Group list units assigned.

Page 4 of ICS 201 (Resources Summary)

Resource management is very important and having it well documented will increase initial incident efficiency and make the transfer of resource tracking much smoother when delegated to someone else. Well-documented resource assignments will make the briefing process during transfer of command much more complete. Additional copies of page 4 may be added as needed. It would be a good idea to have extra pages in your kit.

1. On the top margin of page 4, above the top line, enter the time dispatched, address, cross street, command identifier, and tactical frequency. This will provide an incident history baseline.

2. When units arrive, make a check in the onscene column.

3. When assigned, cross the check to make an X.

4. As units are assigned, note time and list assignment.

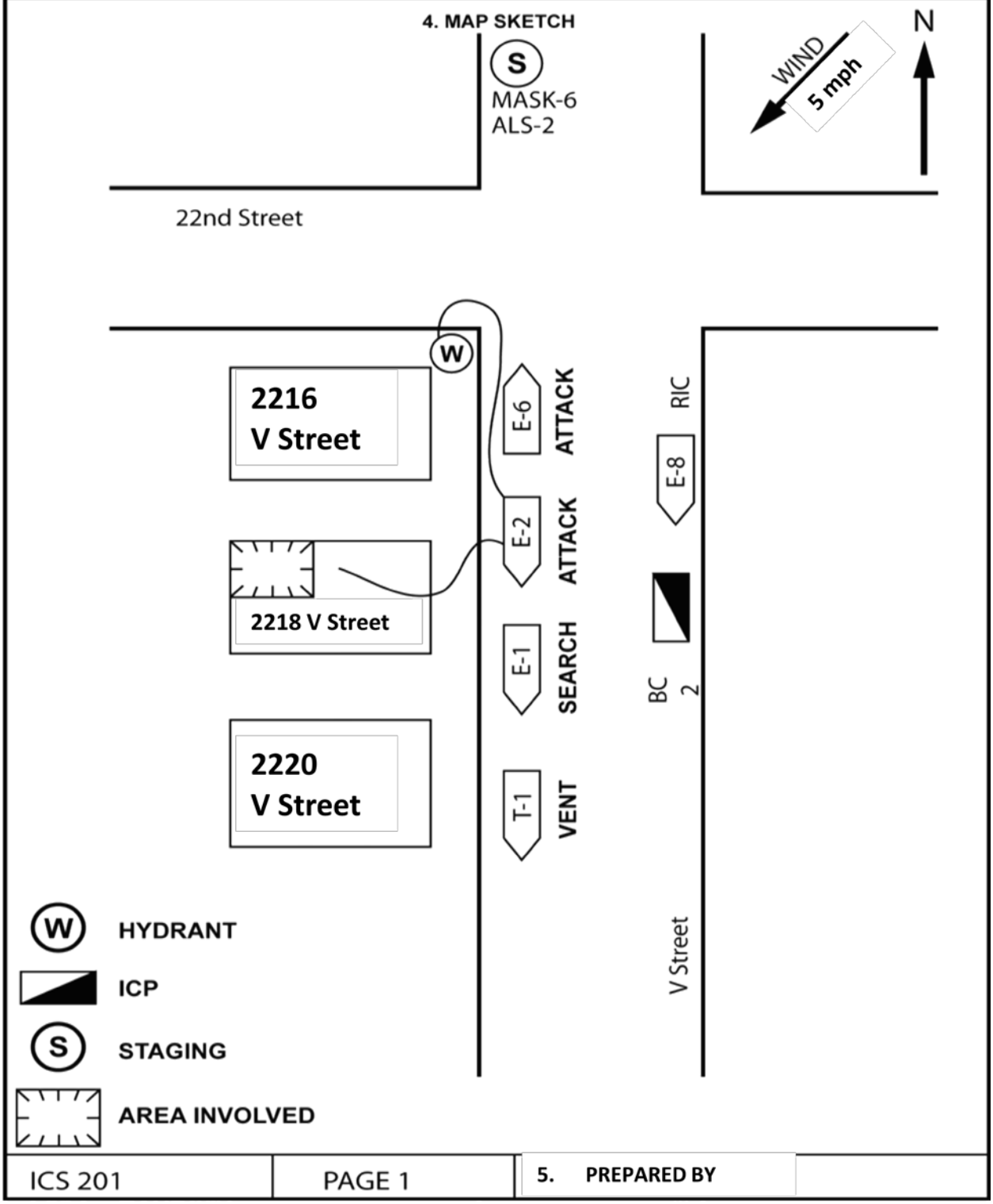
5. Do not erase--line out old assignment and list new time and assignment.

ICS 201 is designed to help organize the initial response and is not meant to be restrictive. On an expanding and complex incident feel free to add additional pages so that valuable information is not lost. If the page 3 Organization Chart does not work, add a page that does work. Add ICS 205, *Communication Plan* to capture the expanded communications requirements. Add ICS 206, *Medical Plan* for the potential of an injured responder. You can add anything to help document the action taken during the first operational period.

Even if a Type III IMT does take command during the first operational period of an incident, a complete IAP will not be produced until the start of the second period. The ICS 201, with all of its attachments, is what is used for at least the entire first period. A well-developed ICS 201 will assist greatly during the Planning Process to produce an IAP for the next operational period.

INCIDENT DEBRIEFING	1. INCIDENT NAME	2. DATE PREPARED	3. TIME PREPARED
	V STREET IC	MARCH 12, 2010	0335

4. MAP SKETCH



ICS 201	PAGE 1	5. PREPARED BY

6. SUMMARY OF CURRENT ACTIONS

CURRENT OBJECTIVES:

1. Provide for the safety or responders and public for the duration of incident.
2. Conduct search and rescue on the occupants.
3. Provide triage, treatment, and transportation of the injured.
4. Contain the fire to the kitchen on the first floor.
5. Provide ventilation to create a safe atmosphere and channel fire.

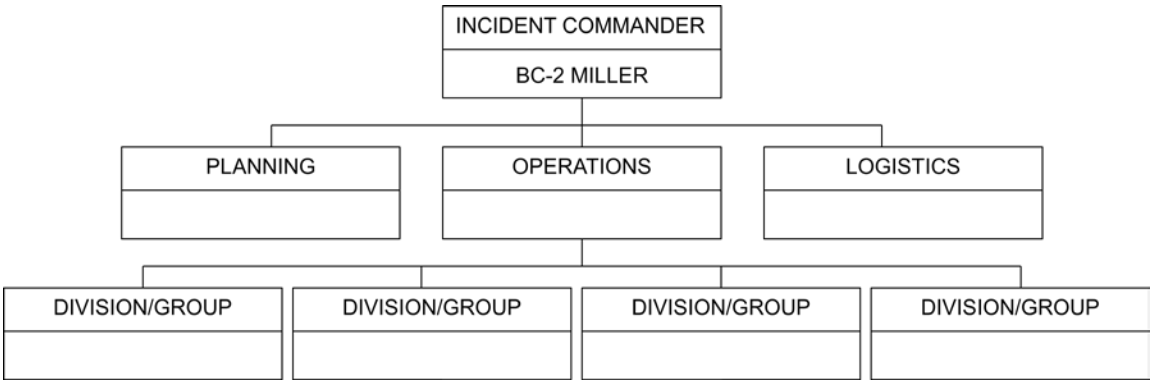
CURRENT ACTIONS:

(0206) Structure Fire, 2218 V Street; X-St. 22nd Street, /V Street IC/Ch 2.
(0210) Onscene, two-story, single-family dwelling with smoke and fire showing from C/D corner of first floor.
(0212) Fire attack started.
(0218) Initial search completed; occupants alerted and self evacuated due to smoke detector.
(0225) Fire knocked down.
(0305) Cause determined to be ashes in trash can.
(0315) Overhaul complete.
(0330) All units released.

No injuries to occupants or responders.
Occupants alerted by smoke detector and self-evacuated prior to our arrival.
Fire damage to kitchen; heat and smoke damage to entire dwelling.
Damage estimated at $70,000 to structure and contents.

ICS 201 (12/93) **NFES 1325**	PAGE 2	

7. CURRENT ORGANIZATION



ICS 201 (12/93) **NFES 1325**	PAGE 3	

8. RESOURCES SUMMARY				
RESOURCES ORDERED	**RESOURCES IDENTIFICATION**	**ETA**	**ON SCENE √**	**LOCATION/ASSIGNMENT**
First Alarm	BC 2		X	IC
	E-1		X	Search (0235) Overhaul
	E-2		X	Attack (0235) Overhaul
	E-6		X	Attack (0245) Released
	E-8		X	RIC (0245) Released
	T-1		X	Vent (0245) Overhaul
	ALS 2		/	Staging (0245) Released
	Air Unit 6		/	Staging (0255) Released
ICS 201 (12/93) NFES 1325	PAGE 4			

TRANSFER OF COMMAND

History shows that the initial IC on an incident that is rapidly expanding in size and complexity will have his/her hands full keeping up with the strategic, tactical, and support needs during the early stage of the incident. The first casualty is usually documentation. Even in the larger metropolitan cities, very few Battalion Commanders have the use of a driver/aide to assist at major incidents and must rely on response personnel to assist in the ICP.

As more communities adopt the ICS and the local IMT (Type III) concept, the initial IC can be greatly supported by elements of the IMT, even prior to the transfer of command. An IMT that has been trained in the Command and General Staff functions can assist with much of the documentation and support functions that will reduce the stress of the initial IC and make a significant difference in gaining control of incident operations during the initial period of the incident.

A mistake that can be made by a Type III IMT is to arrive on the scene and start the Planning Process for the next period and neglect the initial period problems. What needs to be understood is that a well-written second period IAP does not make a major incident get better during the initial or first period of an incident.

What will make a difference is the commitment of a well-trained IMT shadowing or shoring-up the initial response and when some order is achieved, then make a decision on a smooth transfer of command to the IMT.

It is strongly suggested that the checklist below be carried in the initial IC's FOG or response kit to be used when preparing for the transfer of command to a more experienced IC or IMT.

Transfer of Command Briefing Checklist

1. Agree on a time and place to conduct the transfer of command.

2. Ensure that you have an updated ICS 201 copy or copies to give to the oncoming IC or IMT.

3. Use maps, charts, or other aids to facilitate details about the incident.

4. Current situation (so the oncoming IC has good situational awareness).

5. Cover your initial objectives and priorities.

6. Review Current Actions from ICS 201.

7. Review any actions that you were considering.

8. Review your current organization.

9. Review any organizational changes you were considering.

10. Review the incident facilities that have been established (including Staging Areas).

11. Review the Resources Summary along with the agencies and jurisdictions involved.

12. Review the resources that have been ordered and how you planned to use them.

13. Review the communication plan.

14. Give your overall assessment of the potential of the incident and any contingencies you were considering.

15. Offer to take the oncoming IC out on the incident to give them a site tour.

16. Political, media, environmental, and any other interests and constraints.

UNIFIED COMMAND

The establishment of UC should be considered when:

- More than one agency is responsible for decision making within a single jurisdiction, e.g., a passenger airliner crashes within a national forest. Local fire, medical, law enforcement, U.S. Forest Service (USFS), and National Transportation Safety Board (NTSB) are all involved.

- More than one jurisdiction is involved: city, county, State, or Federal jurisdiction following a major flood, hurricane, tornado, etc.

All agencies with responsibility to manage the incident contribute to the Command process. The Unified Commanders determine the overall Incident Objectives and strategies, and plan tactics jointly. This method ensures the maximum use of assigned resources.

- The location of the incident, e.g., an oil spill in an inland waterway entirely within the boundaries of a single jurisdiction could also involve the U.S. Fish and Wildlife Service and the U.S. Coast Guard (USCG).

- The concept of UC is that all agencies with responsibility to manage or make decisions contribute to the Command process. This includes determining overall Incident Objectives as well as the selection of strategies that will be used. Joint planning for tactical activities under the direction of the Operations Section Chief ensures maximum use of all resources assigned to the incident.

- Do they have legal responsibility to be there?

- Do they have the ability to deploy resources?
- Can they go to court in the future?
- Are they willing to share financial responsibility for incident costs?

INCIDENT COMPLEX

Another Command option in the ICS is the Incident Complex. This option is used when two or more incidents have occurred in the same general area. Examples would include a tornado that touches down in numerous locations in a community or when multiple fires occur following lightning strikes. The individual incidents are identified as Branches or Divisions and the Branch Directors or Division Group Supervisors report to the Operations Section Chief (OSC) or the IC. The Branches may be geographical, jurisdictional, or functional.

The incident may be managed by a single IC or an IMT, as either a single or a UC. A Complex should be established when incidents are of the same type and in close proximity. This will allow economies in both staff and logistics. In some cases, the Complex may be used because the number of overall incidents requires consolidation to conserve staff or to reduce costs.

If any of the incidents within a Complex has the potential to become a large incident, it would be best to establish it as a separate incident as soon as possible. This may require ordering additional personnel for Command and General Staff positions or an IMT.

Depending on the number, size, and magnitude of the incidents or emergency conditions, this may be an indicator for the need to establish an Area Command to manage the incidents.

AREA COMMAND

Area Command is established to:

- oversee the management of multiple incidents, each of which is being managed by an ICS organization; and/or
- oversee the management of a very large incident that has multiple IMTs assigned to it.

Area Command is typically used only when the incidents are of a similar nature, e.g., two or more hazardous materials spills, fires, etc. When incidents are of different kinds, they may best be handled either as separate incidents or under a Multiagency Coordination System (MACS) organization.

If the incidents under the authority of the Area Command are multiagency and/or multijurisdictional, a Unified Area Command should be established. This allows each agency or jurisdiction to have representation in the Area Command.

Responsibility

When established by the agency or jurisdictional executive or administrator, Area Command has the responsibility to:

- set overall incident-related priorities;
- allocate critical resources based on priorities;
- ensure that all incidents are managed properly; and
- ensure that Incident Objectives are met and do not conflict with each other or with agency policy.

Reporting Relationships

When Area Command is established, IC(s) for the incidents under the authority of the Area Command report to the Area Commander. The Area Commander is accountable to the agency or jurisdictional executive or administrator.

Use of Area Command

Major natural disasters such as earthquakes, hurricanes, floods, fires, or major storms create multiple incidents affecting numerous communities and jurisdictions. Area Commands were established to coordinate the numerous local, State, and Federal agencies at both the Republican and Democratic National Conventions in 2004. Due to their size and potential impact, these incidents provide an appropriate environment for the use of Area Command.

The most common situations in which Area Command is used are major forest or wildland fires. However, its value is apparent for any situation where numerous simultaneous incidents are occurring. The establishment of Area Command allows each IC to focus attention on his/her own incident.

Depending on the incident, the Area Command team will report to and coordinate with the agency administrator and/or the jurisdiction's Emergency Operations Center (EOC). Area Command sets priorities among incidents and allocates critical resources according to priorities established by the agency executive.

Area Command helps the agency executive by ensuring that agency policies, priorities, constraints, and guidance are made known to respective ICs.

Area Command also reduces the workload of the agency executive, especially if multiple incidents are in progress in the jurisdiction at the same time.

Establishing Area Command

It is best to be proactive when considering the use of Area Command. Area Command should be established for similar incidents in the same vicinity to ensure that conflicts do not arise.

It may take a few hours to establish an Area Command. If existing facilities and communication systems can be used, e.g., at a governmental facility, public building, or the jurisdictional EOC, the time needed to set up the Area Command may be reduced.

Some criteria for using Area Command:

- Several major/complex incidents of the same kind are in close proximity.
- Critical human or property values are at risk due to incidents.
- Incidents will continue into the next operational period.
- Incidents are using similar and limited critical resources.
- Difficulties with incident resource allocation and coordination.

Procedure for Establishing Area Command

When Area Command is established, an Area Commander will be designated and given appropriate delegated authority. The authority given to the Area Commander should be written as a Delegation of Authority statement. This will eliminate confusion and provides the Area Commander with direction and clear lines of authority to oversee the management of the assigned incidents.

If the incidents under the Area Command involve multiple jurisdictions, a Unified Area Command should be established. The following apply to either a single Area Command or a Unified Area Command:

- ICs covered by the Area Command must be notified that an Area Command is being established, in advance, if possible.
- The Area Command team should consist of the most qualified personnel. The functions of Area Command require personnel who have experience in, and are qualified to oversee, complex incident situations.
- The Area Command organization should be kept as small as possible.
- The ICs under the designated Area Commander are responsible to, and should be considered part of, the overall Area Command organization. To carry out those responsibilities, they must be provided adequate and clear delegation of authority from the Area Commander.

Area Command Functional Positions

An Area Command team consists of the **Area Commander** and the following positions, established only as necessary:

- Assistant Area Commander--Logistics is responsible for providing facilities, services, and material at the Area Command level and for ensuring the effective use of critical resources and supplies among the IMTs.

- Assistant Area Commander--Planning is responsible for collecting information from IMTs in order to assess and evaluate potential conflicts in establishing objectives, strategies, and the priority use of critical resources.

- Area Command Liaison Officer maintains off-incident, interagency contacts.

- Area Command Public Information Officer (PIO).

- Area Command Situation Unit Leader.

- Area Command Critical Resources Unit Leader.

It is important to remember that Area Command does not replace the incident-level ICS organizations or functions. The above-listed positions are related strictly to Area Command operations.

Technical specialists may be added to the Area Command organization. For example, in incidents involving the use of aircraft, and where hazardous materials are involved, it may be useful to have the following technical specialists assigned to the Area Command team:

- Aviation Specialist;
- Hazardous Materials Specialist;
- Environmental Specialist; and
- Communications Specialist.

IMTs are established at various levels:

- Federal;
- State/Regional;
- regional/local; and
- local/county.

Location

The Area Command should, to the extent possible, be located in close proximity to the incidents under its authority. This will make it easier to have meetings and direct contact with the Area Command and ICs.

MULTIAGENCY COORDINATION SYSTEM

A MACS is a combination of facilities, equipment, personnel, procedures, and communications integrated into a common system with responsibility for coordination of assisting agency resources and support to agency emergency operations.

Differences Between Multiagency Coordination System Groups and Area Command

Location:

- MACS: expansion of the offsite coordination and support system; and
- Area: expansion of the onsite Command functions of the ICS.

Members:

- MACS: Members are agency administrators or designees from the agencies involved or heavily committed to the incident.
- Area: Members are the most highly skilled incident management personnel.

Responsible position:

- MACS: agency administrator or designee; and
- Area: delegated authority for specific incident(s) by the agency administrator.

Responsibilities:

- MACS:

  - allocate and reallocate critical resources through the dispatch system by setting incident priorities; and
  - make coordinated agency administrator-level decisions on issues that affect multiple agencies.

- Area:

  - assign and reassign critical resources allocated to them by MACS or the normal dispatch system organization; and
  - ensure that Incident Objectives and strategies are complementary among IMTs under their supervision.

THE COMMAND STAFF

The Command Staff in the ICS consists of:

- PIO;
- Liaison Officer; and
- Safety Officer.

Public Information Officer

During the initial period of an expanding and complex incident, the IC knows all too well that you have attracted the public's attention and the demand for media information can be overwhelming. An experienced PIO should be assigned to manage communications with the media and the public as early as possible.

The following are the major responsibilities of the PIO that would generally apply on any incident:

1. Determines from the IC if there are any limits on information release.

2. Develop material for use in media briefings.

3. Obtain IC's approval of media releases.

4. Coordinate with Joint Information Center (JIC), if established.

5. Inform media and conduct media briefings.

6. Arrange for tours and other interviews or briefings that may be required.

7. Obtain media information that may be useful to incident planning.

8. Maintain current information summaries and/or displays on the incident and provide information on status of incident to assigned personnel.

9. Assign Assistant PIOs as appropriate.

10. Maintain *Unit/Activity Log* (ICS 214).

The PIO is expected to know everything about the incident from the current situation, progress being made at the incident, number of responders, incident costs, amount of loss to the community, etc.

Media response checklist should outline the following:

- When did it occur?
- Who is involved (number of injured, if appropriate)?
- What occurred (short overview and what are we doing about it)?
- Where did it occur?
- Why did it occur and why we are doing what we are doing?
- Command structure and agencies involved (single or unified).
- Investigation started.
- Committed resources.
- Schedule of media briefings (JIC established).
- Communicate any risks or directions to the public.
- Obtain IC's approval prior to any media briefing.
- Document your actions with ICS 214; maintain media call log, press releases, etc.

Liaison Officer

During large/complex incidents, the Liaison Officer plays a critical role in assisting the IC to effectively manage issues raised by stakeholders.

There are two sets of primary stakeholders that the Liaison Officer must interact with on behalf of the IC:

1. Assisting and cooperating agencies.

    - Assisting agency is any agency that does not have jurisdiction over the incident, but is providing tactical resources in support of the incident, such as mutual aid.
    - Cooperating agency is any agency that is providing nontactical support resources of the incident, such as utility companies and the Red Cross.

2. External stakeholders such as elected officials, government agencies, special interest groups, affected public, commercial, and industry interests.

The following are the major responsibilities of the Liaison Officer that would generally apply on any incident:

1. Serves as a point of contact for agency representatives.

2. Maintains a list of assisting and cooperating agencies and agency representatives and maintain contact numbers.

3. Assists in setting up and coordinating interagency contacts.

4. Keep agencies supporting the incident informed on incident status.

5. Monitors incident operations to identify current or potential interorganizational problems.

6. Coordinate with PIO.

7. Schedule and manage very important person (VIP) visits.

8. Facilitate outreach efforts as needed (community meetings).

9. Identify public and private concerns related to the incident.

10. Participates in Planning Meetings, providing current resource status, including the limitations and capabilities of agency resources.

11. Provides agency-specific demobilization information and requirements.

12. Assign Assistant Liaison Officer as appropriate.

13. Maintain *Unit/Activity Log* (ICS 214).

Safety Officer

The safety of all responders is always a primary factor during large/complex incidents and the IC is usually unable to provide the level of oversight needed to ensure responder safety. The Safety Officer position is assigned not only because the IC is not able to focus enough time to safety, but also because a complex incident requires a higher degree of technical expertise than a trained Safety Officer possesses.

The following are the major responsibilities of the Safety Officer that would generally apply on any incident:

1. Participate in planning meeting and advocate effective risk management.

2. Identify hazardous situations associated with the incident.

3. Review the IAP for safety implications.

4. Exercise emergency authority to stop or prevent unsafe acts and communicate such exercise to the IC.

5. Investigate accidents that have occurred within the incident area.

6. Assign Assistant Safety Officers as needed.

7. Conduct and prepare an *Incident Safety Analysis* (ICS Form 215A) as appropriate.

8. Initiate appropriate mitigation measures, i.e., personnel accountability, fireline emergency medical technicians (EMTs), Rapid Intervention Crew/Company (RIC), etc.

9. Develop and communicate an incident safety message, as appropriate.

10. Review and approve the *Medical Plan* (ICS 206).

11. Review and approve the *Site Safety and Control Plan* (ICS 208) as required.

12. Maintain *Unit/Activity Log* (ICS 214).

The Safety Officer has the delegated authority from the IC to stop any unsafe acts on the incident; however, it is not the job of the Safety Officer to impede incident operations. It is the job of the Safety Officer to facilitate operations and to ensure that safety mitigations are addressed in advance of the operation.

The best time to identify and discuss hazardous operations and develop mitigation measures to reduce the risk is while conducting the *Incident Safety Analysis* (ICS 215A) for the next operational period.

One of the mitigating measures might be to assign a technically trained Assistant Safety Officer onsite of a hazardous operation that will be incorporated into the next period IAP, i.e., hazmat, Urban Search and Rescue (US&R), firing operation, and even accident investigation.

Emergency operations on a complex incident are hazardous by nature and risk reduction is just part of the job. The Safety Officer is responsible for addressing safety issues for the current operational period as well as working on the anticipated safety issues for the next operational period.

During the initial period of a rapidly expanding complex incident is one of the most hazardous times for responders and requires the full attention of the Safety Officer and probably a few technically trained Safety Officers to help mitigate the risks. This would be a good time to assign an Assistant Safety Officer to work on the next period Incident Safety Analysis (ICS 215A).

Incident Command System forms completed by the Command Staff

- ICS 202, *Incident Objectives*--Safety Officer completes the General Safety Message;
- ICS 208, *Site Safety and Control Plan*--Safety Officer participates in completion;
- ICS 214, *Unit/Activity Log*--Liaison, PIO, and Safety Officer completes; and
- ICS 215A, *Incident Safety Analysis*--Safety Officer completes.

OPERATIONS SECTION

Operations Section Chief

The Operations Section Chief (OSC) is a member of the General Staff and is responsible for all of the tactical operations directly applicable to the primary mission of the incident. The OSC will usually be the first General Staff position that the IC will establish and manage during the majority of the response resources.

The OSC must be very knowledgeable with ICS and have the tactical knowledge and experience necessary to manage the incident for which they are being assigned. An OSC with many years of experience operating under ICS in the wildland arena will most likely lack the expertise to manage a fire in a highrise apartment building. The wildland OSC would certainly possess the knowledge to operate under ICS, but may lack the knowledge to complete the tactical portion of their responsibilities.

The following are the major responsibilities of the OSC that would generally apply on any incident:

- develop the operations portion of the IAP and complete the ICS 215, *Operational Planning Worksheet* as appropriate;
- brief and assign Operations Section personnel in accordance with the IAP;
- supervise Operations Section, ensuring safety and welfare of all personnel;
- determine need and request additional resources;
- review suggested list of resources to be released and initiate recommendation for release of resources;
- assemble and disassemble strike teams and task forces assigned to Operations Section;
- report information about special activities, events, and occurrences to IC; and
- maintain *Unit/Activity Log* (ICS 214).

In the initial period of a rapidly expanding complex incident, the IC will most likely assign an OSC to take the tactical responsibilities off their plate. The OSC must get up to speed quickly or the needs of the organization will fall further behind.

The major way the OSC, as well as the other members of the General Staff, will gain the needed situational awareness is to receive a thorough briefing from the IC.

Information the OSC will need from the IC when being briefed:

- incident situation: magnitude and potential;
- problems/issues/concerns (political, environmental, economic, etc.);
- safety issues (Safety Officers and any technical Safety Officers such as hazmat, US&R, etc.);
- facilities that are established and their locations (including Staging);
- objectives and their priorities;
- Command (single or unified);
- agencies/jurisdictions involved;
- resources committed and ordered;
- investigations (cause and crime scene);
- resource-ordering process;
- current operations organization (Branches, Divisions, Groups);
- support functions (Planning, Logistics, Finance);
- communications plan (tactical, Command, support);
- meeting schedules; and
- copy of ICS 201.

When assigned as the OSC to the first period of a complex incident, and you have received the briefing from the IC, you should ask yourself the following questions:

- Are the current operations safe and do I need additional Safety Officers?
- Is current Operations Section organization adequate for current and anticipated needs?
- Have adequate resources been ordered?
- Are there any span-of-control issues?
- Will I need a Deputy to assist with the Planning Process?
- What support functions are missing?
- Are communications adequate?

Should you find yourself assigned as the OSC on a complex incident that will surely continue for several operational periods, you need to remember that you will be managing the current operation and must start the Planning Process for the next operational period. Assigning a

Deputy that is knowledgeable with the Planning Process and the development of ICS 215 should be considered.

The OSC's role in the Planning Process and the development of ICS 215 will be discussed later in the course.

Functional Elements Within the Operations Section

- **Branch.** The organizational level having functional, geographic, or jurisdictional responsibilities for major parts of the incident operations. The Branch level is organizationally between Section and Division/Group in the Operations Section. Branches are identified by use of Roman numerals, by function, or jurisdictional name.

- **Division.** The organizational level having responsibility for tactical operations within a defined geographic area. The Division level is organizationally between the Strike Team and the Branch.

- **Group.** Established to divide the incident into functional areas of operation. Groups are composed of resources assembled to perform a special function not necessarily within a single geographic area.

- **Strike Team.** A specified combination of the same kind of resources, with common communications and a leader.

- **Task Force.** A group of resources with common communications and a leader that may be preestablished and sent to an incident or formed at an incident.

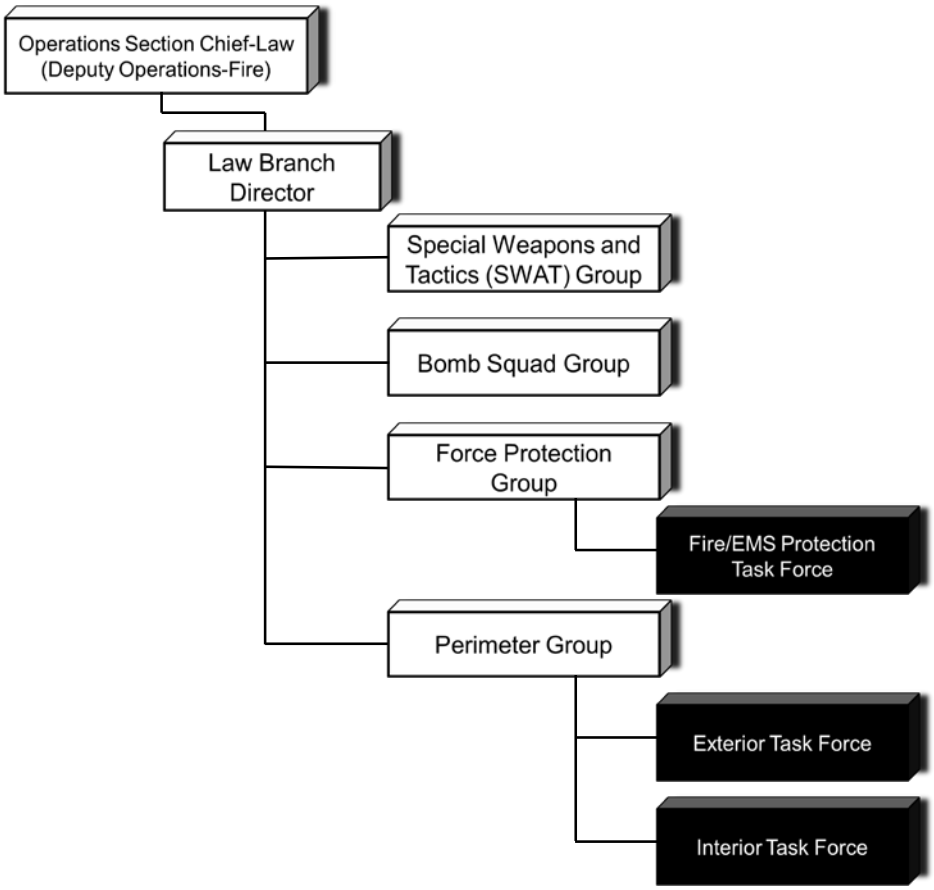
- **Single Resource.** An individual piece of equipment and its personnel component or an established crew or team of individuals with an identified work supervisor that can be used on an incident.

Law Enforcement Branch

Following the terrorist attack of 9/11, the emergency-response community has realized that fire, law enforcement, public works, and health services could better serve their communities by working together. Local all-risk multiagency IMTs are developing across many of the urban centers and even in many rural areas. Even without the formation of IMTs, the leadership of Federal, State, and local agencies are developing relationships with their counterparts for training and intelligence-sharing prior to a major emergency striking their communities.

A terrorist event in any community will surely bring law enforcement and fires agencies into UC. While the law enforcement organization under a UC may take many different forms, the Law Branch below is one example of how the law enforcement element may be formed.

Law Branch Wire Chart



Air Operations

The use of air resources at incidents is most often associated with wildland fires. However, they also are valuable tools for other types of situations such as natural disasters and multicasualty incidents.

The management of air resources within the ICS is covered in the ICS FOG and other ICS documents related to specific positions.

Because the use and management of air resources is so specialized, an indepth discussion of this topic is not included in this course. Those persons who desire detailed information on management of air resources under the ICS are encouraged to review the various ICS documents related to this subject.

Incident Command System forms completed by the Operations Section Chief

- ICS 214, *Unit/Activity Log*; and
- ICS 215, *Operational Planning Worksheet*.

THE PLANNING SECTION

Planning Section Chief

The Planning Section Chief (PSC) is a member of the General Staff and is responsible for the collection, evaluation, dissemination, and use of information about the development of the incident and status of resources.

The PSC provides the IC and other Section Chiefs with information that is needed to understand the current situation, predict probable course of incident events, and prepare alternative strategies and control operations for the incident.

The PSC plays the largest role in moving a complex incident from a reactive mode to a proactive mode of operation. As was stated earlier, much can be done by a local IMT during the initial period of the incident, even before the team transition takes place. The initial IC at a complex incident will most likely be overwhelmed with the documentation of incident information and tracking of resources. The PSC can take that pressure off of the IC by assigning members of the Resource Unit and Situation Unit to start improving the situation maps and start tracking resources. This early assignment of a couple Recorders from the Planning Section Units will benefit the Planning Section as much as it helps the initial IC. The earlier you can document where the incident is, where it is headed, and where the resources are deployed, the sooner Command becomes proactive.

The following are the major responsibilities of the PSC that would generally apply on any incident:

- collect and process situation information about the incident;
- supervise preparation of the IAP;
- provide input to the IC and OSC in preparing the IAP;
- reassign out-of-service personnel already onsite to ICS organizational positions as appropriate;
- establish information requirements and reporting schedules for Planning Section Units (e.g., Resource Unit and Situation Unit);
- determine need for any specialized resources in support of the incident;
- if requested, assemble and disassemble strike teams and task forces not assigned to operations;
- establish special information-collection activities as necessary (e.g., weather, environmental toxics, etc.);
- assemble information on alternative strategies;
- provide periodic predictions on incident potential;
- report any significant changes in incident status;
- compile and display incident-status information;
- oversee preparation and implementation of Incident Demobilization Plan;
- incorporate plans, (e.g., traffic, medical, communication, and site safety) into the IAP; and
- maintain *Unit/Activity Log* (ICS 214).

As with all of the Command and General Staff positions in ICS, any positions in the Planning Section that are not activated will be the job of the PSC. The units activated in the Planning Section and the number of staff to fill them will be determined by the span of control and the complexity of the incident.

On a complex incident or an incident that is anticipated to last for two or more operational periods, a Resource Unit Leader and Situation Unit Leader should be ordered immediately.

Functional elements within the Planning Section consist of:

- Resource Unit;
- Situation Unit;
- Documentation Unit;
- Demobilization Unit; and
- Technical Specialists.

The Resource Unit Leader

The Resource Unit Leader is responsible for maintaining the status of all assigned resources (primary and support) at the incident. This is achieved by overseeing the check-in of all resources, maintaining a status-keeping system indicating current location and status of all resources, and maintenance of a master list of all resources, e.g., key supervisory personnel, primary and support resources, etc.

- **Check-In/Status Recorder**--reports to the Resources Unit Leader and assists with the accounting of all incident-assigned resources (T-Card racks, etc.).

Recorders are needed at each check-in location to ensure that all resources assigned to an incident are accounted for.

The Situation Unit Leader

The Situation Unit Leader is responsible for the collection, processing, and organization of all incident information that takes place within the Situation Unit. The Situation Unit Leader prepares projections of incident growth, status maps, and reports of intelligence information.

- Display Processor--reports to the Situation Unit Leader and is responsible for the display of incident-status information obtained from field observers, resource status reports, aerial or ortho photographs, and infrared data.

- Field Observer--reports to the Situation Unit Leader and is responsible to collect situation information from personal observations at the incident and provides this information to the Situation Unit Leader.

Documentation Unit Leader

The Documentation Unit Leader is responsible for establishing accurate, up-to-date incident files, and provides duplication services for the unit. The Documentation Unit Leader maintains all incident files that will be stored for legal, analytical, and historic purposes, e.g., ICS 201, IAPs, check-in sheets, ICS 214s, ICS 209s, press releases, etc.

The Demobilization Unit Leader

The Demobilization Unit Leader is responsible for developing the Incident Demobilization Plan. On large incidents, demobilization can be quite complex and may require a separate planning activity.

Technical Specialists

Certain incidents or events may require the use of technical specialists who have specialized knowledge and expertise. Technical specialists may function within the Planning Section or be assigned wherever their services are required. The type of expertise a technical specialist needs will be determined by the nature and characteristics of the incident.

Technical specialists report to the Planning Section, but may be assigned to support the response anywhere on the incident.

Intelligence/Investigation Function

The role of the Intelligence/Investigation function in ICS is to provide support to Command and the General Staff through the collection, analysis, and sharing, as appropriate, of information developed during intelligence and investigative efforts. The two types of information that this function provides are

1. Information that leads to the detection, prevention, apprehension, and prosecution of criminal activities or individuals involved.

2. Information that leads to determination of cause of a given incident (public health events, fires, etc.).

The following are the major responsibilities of the Intelligence/Investigation function that would generally apply on any incident:

- collect, analyze, and process intelligence/investigative information;
- focus on the identification of potential suspects;
- review methods of operation by suspect(s);
- gather information of suspects and victims;

- create a chain of custody and safeguard intelligence/investigative information;
- develop and maintain a working relationship with local, State, and Federal law enforcement agencies;
- coordinate with emergency response agencies;
- provide intelligence/investigation briefings to Command;
- provide intelligence/investigation updates to OSCs/PSCs on issues that could affect incident operations;
- consider additional support needs; and
- maintain ICS 214.

ICS allows for organizational flexibility so the Intelligence/Investigation function can be embedded in several different places within the organizational structure:

- Within the Planning Section as a Unit: This is the traditional placement for this function and is appropriate for incidents with some degree of tactical/classified intelligence and/or limited investigative-information requirements, nor a significant amount of specialized information.

- Within the Operations Section as a Branch or Group: This option may be appropriate for incidents that require a high degree of linkage and coordination between the intelligence and/or investigative function and the tactical operations that are being employed.

- Within the Command Staff as an Officer: For incidents with little need for tactical or classified intelligence or ongoing investigative action.

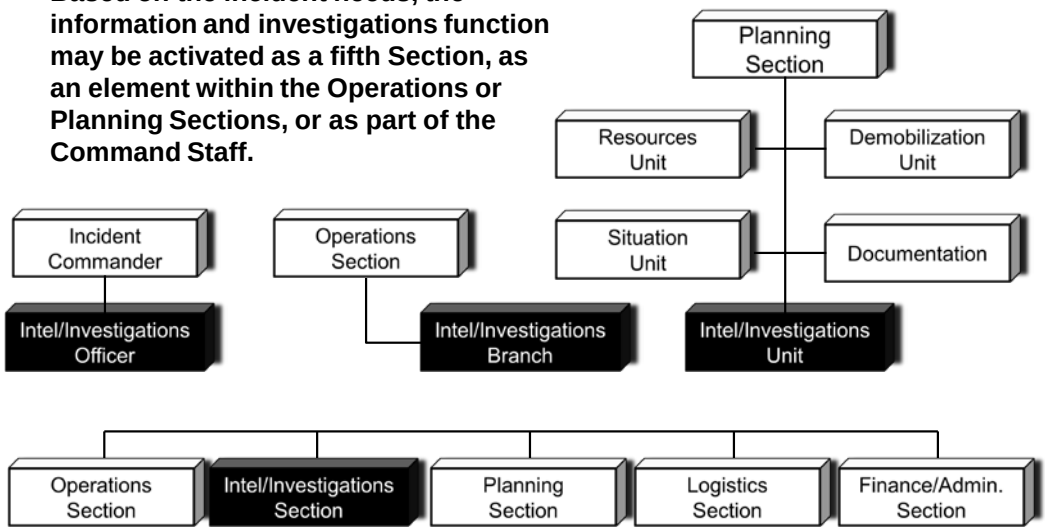
- Within the General Staff as a Section Chief: For incidents that are heavily influenced by intelligence/investigative activities or when multiple intelligence/investigative agencies are involved and/or there is a need for classified intelligence. A terrorist incident would most likely require a General Staff Section Chief level within the organization.

ICS forms completed by the Planning Section:

- ICS 203, *Organization Assignment List*; prepared by the Resources Unit Leader;
- ICS 204, *Assignment List*; partially prepared by Resources Unit Leader;
- ICS 207, *Incident Organization Chart*; prepared by the Resources Unit Leader;
- ICS 209, *Incident Status Summary*; prepared by the Situation Unit Leader;
- ICS 211, *Check-In List*; completed by the check-in/status recorder and occasionally by a Staging Area Manager or Base Manager;
- ICS 214, *Unit/Activity Log*; prepared by all Section Chiefs and units assigned; and
- ICS 215, *Operational Planning Worksheet*, assists with the completion.

Intelligence/Investigations Function

Based on the incident needs, the information and investigations function may be activated as a fifth Section, as an element within the Operations or Planning Sections, or as part of the Command Staff.



THE LOGISTICS SECTION

The Logistics Section is the support mechanism for the organization. Logistics provides services and support systems to all the organizational components involved in an incident, including facilities, transportation, supplies, equipment maintenance, fueling, feeding, communications, responder medical services, and rehabilitation.

General of the Army, and later President of the United States, Dwight D. Eisenhower, the Supreme Allied Commander in World War II, said, "You will not find it difficult to prove that battles, campaigns, and even wars have been won or lost primarily because of logistics." The same can be said regarding structure fires, emergency medical and multiple-casualty incidents, hazardous materials responses, collapses, wildland fires, and all the other instances to which the fire service is called to respond. The success of the efforts of all the assets on the fireground or at any emergency scene depends on having the resources they require to do what they've been trained to do.

The Logistics Section Chief

The Logistics Section Chief is a member of the General Staff and is responsible for the activities of the Logistics Section. The Logistics Section Chief may assign a Deputy. The assignment of a Deputy most often occurs when all designated units within the Logistics Section are activated.

The Logistics Section Chief determines the need to activate or deactivate a Unit. **If a Unit is not activated, responsibility for that Unit's duties remain with the Logistics Section Chief.** As

is the case with all the roles of the ICS, the time to prepare for filling the position of Logistics Section Chief is before being needed. For example, the local emergency management agency can be a key resource to assist in obtaining the resources and services required to manage an incident. It would be prudent and beneficial to establish a working relationship with the emergency management staff before an event occurs.

The following are the major responsibilities of the Logistics Section Chief, from the FOG, that would generally apply on any incident:

- manages all incident logistics;
- assists in the preparation of the IAP;
- briefs Branch Directors and Unit Leaders as necessary;
- identifies known and anticipated incident service and support requirements;
- coordinates and processes requests for additional resources;
- reviews and provides input to the ICS 205, *Incident Radio Communications Plan*, ICS 206, *Medical Plan*, and the Traffic Plan;
- advises on current service and support capabilities;
- estimates future service and support requirements; and
- oversees demobilization of Logistics Section.

The Logistics Section provides all incident support needs, with the exception of aviation support. The Air Support Group in the Air Operations Branch manages aviation support.

Six units may be established within the Logistics Section:

1. Communications Unit.
2. Medical Unit.
3. Food Unit.
4. Supply Unit.
5. Facilities Unit.
6. Ground Support Unit.

Branch Directors

As incidents escalate, and the workload of the Logistics Section Chief increases, Branches may be added to facilitate more effective management. When indicated, a Service Branch Director may be appointed to manage the communications, medical (the health, welfare, and the TTT of ill or injured incident personnel, not civilians), and food requirements of an incident. A Support Branch Director may be appointed to manage the supply, facilities, and ground support requirements. Branch Directors report to the Logistics Section Chief.

Even on very large and complex multiperiod incidents, the Branch Director positions are seldom filled. Most experienced Logistic Section Chiefs elect to use a Deputy instead of Branches because the span of control is always only six units.

Units in the Service Branch

Additional delegation can improve the operation of the Logistics Section as an incident grows even more complex. The Service Branch may be expanded to include a Communications Unit, a Medical Unit, and/or a Food Unit. These subdivisions, when implemented, are supervised by Unit Leaders.

Communications Unit

The Communications Unit is responsible for developing plans for the use of incident communications equipment and facilities, the installation and testing of communications equipment, the supervision of an Incident Communications Center, if established, and for the distribution and maintenance of communications equipment.

Communications at the incident are managed through the use of a common communications plan and an incident-based communications center established solely for the use of tactical and support resources assigned to the incident. The Communications Unit is responsible for all communications planning at the incident. This will include incident-established radio networks, onsite telephone, public address, and off-incident telephone/microwave/radio systems.

Radio Networks

Radio networks for large incidents will normally be organized as follows:

- Command Net: The Command Net links together Incident Command, key staff members, Section Chiefs, and Division and Group Supervisors.

- Tactical Nets: Several tactical nets may be created. They may be established around agencies, departments, geographical areas, or even specific functions. The determination of how nets are set up should be a joint effort of the Planning Section and the Operations Section. The Communications Unit Leader will develop the plan.

- Support Net: A support net may be established to manage the communications involved in tracking the status of resources, support requests, and certain other nontactical or Command functions.

- Ground-to-Air Net: A separate ground-to-air tactical net may be created if regular tactical nets are not adequate to coordinate ground-to-air traffic.

- Air-to-Air Net: Air-to-air nets, when required, are usually designated in advance and assigned for use at an incident.

Medical Unit

The Medical Unit is responsible for the development and implementation of an Incident Medical Plan. The Medical Unit also develops procedures for managing major medical emergencies involving **response personnel,** provides medical aid to response personnel, and assists the Finance/Administration Section with processing injury-related claims.

A very important component of the Incident Medical Plan is the provision for Responder Rehabilitation or Rehab. The U.S. Fire Administration's (USFA's) guidebook *Emergency Incident Rehabilitation*, states:

The physical and mental demands associated with firefighting and other emergency operations, coupled with the environmental dangers of extreme heat and humidity or extreme cold, create conditions that can have an adverse impact upon the safety and health of the individual emergency responder. Members who are not provided adequate rest and rehydration during emergency operations or training exercises are at increased risk for illness or injury, and may jeopardize the safety of others on the incident scene. When emergency responders become fatigued, their ability to operate safely is impaired. As a result, their reaction time is reduced and their ability to make critical decisions diminishes. Rehabilitation is an essential element on the incident scene to prevent more serious conditions such as heat exhaustion or heat stroke from occurring.

Remember, the provision of medical assistance to the public or victims of the emergency is an operational function and is the responsibility of the Operations Section, not the Logistics Section Medical Unit.

Food Unit

The Food Unit is responsible for supplying the food needs for the entire incident, including all remote locations (e.g., camps, Staging Areas), as well as providing food for personnel unable to leave tactical field assignments.

On a large/complex incident, the Food Unit is more than just ordering a catering truck like may happen on a third-alarm fire. Supplying the food and water requirements to all of the incident personnel deployed over a large geographical area takes a well-trained and experienced Food Unit Leader.

Many wildfire organizations have abandoned the use of their own food preparation units in favor of developing contracts with companies that will provide these services for you. These contracts are best done ahead of time.

Units in the Support Branch

Just as with the Service Branch, the Support Branch may be expanded to meet the needs of an incident. Units in the Support Branch are the Supply Unit, the Facilities Unit, and/or the Ground Support Unit.

Supply Unit

The Supply Unit is responsible for ordering, receiving, processing, and storing all incident-related resources, which usually is accomplished by using ICS 213, *General Message*. All off-incident resources will be ordered through the Supply Unit, including

- tactical and support resources (including personnel); and
- all expendable and nonexpendable support supplies.

The Supply Unit also obtains the necessary supplies and equipment and provides for the receipt, storage, and inventory of incident supplies and the servicing of nonexpendable supplies and equipment.

Two managers may be appointed, when an incident warrants, who report directly to the Supply Unit Leader. The Ordering Manager places all orders for incident supplies and equipment. The Receiving and Distribution Manager receives and distributes all supplies and equipment (other than primary tactical resources) and is responsible for the service and repair of tools and equipment.

At some incidents, one or more tool and equipment specialist(s) may be assigned to service and repair all hand tools. The specialists report to the Receiving and Distribution Manager.

Facilities Unit

The Facilities Unit is responsible for setup, maintenance, and demobilization of all incident support facilities except Staging Areas. The Facilities Unit also provides security services to the incident as appropriate. Facilities may include an ICP, Base Camp, media village, morgue, dining hall, sleeping accommodations, lavatory services, and so forth.

Three managers may be appointed when indicated. They report directly to the Facilities Unit Leader. When an incident warrants their being staffed, they have important responsibilities. These managers are the Security Manager, who provides necessary safeguards for the protection of personnel and property; a Base Manager, who ensures that appropriate sanitation, security, and facility management services are in place at the Base Camp; and Camp Managers, who are necessary at large incidents when one or more camps may be established. Camps may be in place for several days or they may be moved to various locations.

Ground Support Unit

The Ground Support Unit is primarily responsible for the maintenance, service, and fueling of all mobile equipment and vehicles, with the exception of aviation resources. This unit also has responsibility for the ground transportation of personnel, supplies, food, equipment, and the development of the Incident Traffic Plan.

Additionally, the Ground Support Unit is responsible for the fueling of all incident resources, service, maintenance, and repair of vehicles and other ground equipment. The Ground Support Unit Leader is also responsible for implementing a traffic plan for the incident.

ICS forms completed by the Logistics Section:

- ICS 205, *Incident Radio Communication Plan*;
- ICS 206, *Medical Plan*;
- ICS 214, *Unit/Activity Log*;
- ICS 218, *Support Vehicle Inventory*; and
- ICS 260, *Resource Order Form*.

THE FINANCE/ADMINISTRATION SECTION

The Finance/Administration Section is responsible for managing all financial aspects of an incident. Not all incidents will require a Finance/Administration Section. On some incidents, only one Finance/Administration function may be required (e.g., cost analysis). Often, it is a Technical Specialist assigned to the Planning Section.

Finance Section Chief

Due to the specialized nature of the Finance/Administration function, the Finance/Administration Section Chief is usually a member of the jurisdictional agency requiring financial services.

The following are the major responsibilities of the **Finance Section Chief,** from the FOG, that would generally apply on any incident:

- manages all financial aspects of an incident;
- provides financial and cost-analysis information as requested;
- gathers pertinent information from briefings with responsible agencies;
- develops an operating plan for the Finance/Administration Section;
- fills supply and support needs;
- determines need to set up and operate an incident commissary;
- meets with assisting and cooperating agency representatives as needed;
- maintains daily contact with agency's administrative headquarters on finance/ administration matters;

- ensures that all personnel time records are completed accurately and transmitted to home agencies, according to policy;
- provides financial input to demobilization planning;
- ensures that all obligation documents initiated at the incident are prepared and completed properly;
- briefs agency administrative personnel on all incident-related financial issues needing attention or followup; and
- maintain *Unit/Activity Log* (ICS 214).

Four Units may be established within the Finance/Administration Section:

1. Time Unit.
2. Procurement Unit.
3. Compensation/Claims Unit.
4. Cost Unit.

The Time Unit

The Time Unit is responsible for ensuring the accurate recording of daily personnel time, compliance with specific agency time-recording policies, and managing commissary operations if established at the incident. As applicable, personnel time records will be collected and processed for each operational period.

The Time Unit Leader may find it helpful to select assistants familiar with the various agency time-recording policies. Three positions may report to the Time Unit Leader:

- Personnel Time Recorder: Oversees the recording of time for all personnel assigned to an incident. Also records all personnel-related items, e.g., transfers, promotions, etc.

- Commissary Manager: Establishes and demobilizes commissary. Also responsible for commissary security.

- Equipment Time Recorder: Oversees the recording of time for all equipment assigned to the incident. The Equipment Time Recorder also posts all charges or credits for fuel, parts, service, etc., used by equipment.

The Procurement Unit

All financial matters pertaining to vendor contracts, leases, and fiscal agreements are managed by the Procurement Unit. This unit is also responsible for maintaining equipment time records.

The Procurement Unit also establishes local sources for equipment and supplies, manages all equipment rental agreements, and processes all rental and supply fiscal document-billing invoices. This unit works closely with local fiscal authorities to ensure efficiency.

The Procurement Unit Leader:

- ensures that goods and services are procured to meet the needs of the incident; and
- works closely with the Supply Unit Leader, who will implement the procurement plan and perform all incident ordering.

The Compensation/Claims Unit

In ICS compensation for injury and claims are contained within one unit. Separate personnel may perform each function, given their different activities. These functions are becoming increasingly important on many kinds of incidents.

The Compensation/Claims Unit Leader:

- prepares and processes all forms required in the event of injury or death to any person;
- gathers evidence and prepares claims documentation; and
- coordinates with the Medical Unit, Safety Officer, and agency representatives.

Two specialists report to the Compensation/Claims Unit Leader:

1. Compensation-for-Injury Specialist administers financial matters arising from serious injuries and deaths on an incident; work is done in close cooperation with the Medical Unit.

2. Claims Specialist manages all claims-related activities (other than injury) for an incident.

The Compensation-for-Injury Specialist oversees the completion of all forms required by Workers' Compensation and local agencies. A file of injuries and illnesses associated with the incident will also be maintained, and all witness statements will be obtained in writing. Close coordination with the Medical Unit is essential.

The Claims Specialist is responsible for investigating all claims involving property associated with or involved in the incident. This can be an extremely important function on some incidents.

The Cost Unit

The Cost Unit provides all incident cost analysis. It ensures the proper identification of all equipment and personnel requiring payment, records all cost data, analyzes and prepares estimates of incident costs, and maintains accurate records of incident costs.

The Cost Unit Leader:

- prepares summaries of actual and estimated incident costs;
- prepares information on cost of resource use and provides cost-effectiveness recommendations; and
- provides cost information for ICS 209, *Incident Status Summary*.

The Cost Unit function is becoming increasingly important, with frequent requests by the Planning Section for cost estimates related to strategies for achieving incident objectives.

ICS forms completed by the Finance/Administration Section:

- ICS 209, *Incident Status Summary* (provides cost information);
- ICS 214, *Unit/Activity Log*;
- ICS 226, *Compensation for Injury Log*;
- ICS 227, *Claims Log*; and
- ICS 228, *Incident Costs Worksheet*.

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"Making a Difference - How to Practically Use ICS 201, Incident Briefing." John R. Hawkins Fire Chief, Riverside County, California Department of Forestry & Fire Protection.

PRE-COURSE ASSIGNMENT
COMMAND AND CONTROL OF FIRE DEPARTMENT OPERATIONS AT TARGET HAZARDS

Student Name: _____

1. What are the responsibilities of the initial-response Incident Commander (IC) which will usually be accomplished without the assistance of support staff? (List 5.)

   a. _____

   b. _____

   c. _____

   d. _____

   e. _____

2. Once the problems, issues, and concerns have been identified, the National Incident Management System (NIMS) uses what acronym to describe the hierarchy of decision making?

3. What are the priorities? (List 3.)

   a. _____

   b. _____

   c. _____

4. What is an objective?

5. What acronym is used to describe how to write objectives? _____

6. Most major emergencies have the same problems; what are some of them? (List 2.)

   a.

   b.

7. What is a strategy?

8. Develop a one- or two-word strategy that will achieve **what** is intended to be accomplished with the following objective.

   "*Provide for search and rescue and medical care of the trapped and injured within the affected area for the duration of the incident.*"

   _____

9. Regardless of size or complexity of the incident, what documentation tool should be used during the first period of an incident? _____

   What would be the exception? _____

10. List 4 ways in which the initial IC can be supported by elements of the Incident Management Team (IMT) even prior to the transfer of Command.

    a. _____

    b. _____

    c. _____

    d. _____

11. When should the establishment of Unified Command (UC) be considered?

12. List 3 questions to consider which agencies should be present at an incident.

    a. _____

    b. _____

    c. _____

13. What is an Incident Complex and when would you use it?

14. List 3 situations when Incident Complex should be considered.

    a. _____

    b. _____

    c. _____

15. Area Command is established to:

16. When should Area Command be used?

17. Why is Area Command established?

18. What are the Area Command functional positions? (List 7.)

    a. _____

    b. _____

    c. _____

    d. _____

    e. _____

    f. _____

    g. _____

19. What is a Multiagency Coordination System (MACS)?

20. Describe the differences between MACS Groups and Area Command. (List 2.)

    a.

    b.

21. What positions are in the Command Staff? (List 3.)

    a. _____

    b. _____

    c. _____

22. What are the responsibilities of the Operations Section Chief (OSC)? (List 5.)

a. _____

b. _____

c. _____

d. _____

e. _____

23. When assigned as the OSC for the first period of a complex incident, list 4 questions you should ask yourself.

a. _____

b. _____

c. _____

d. _____

24. What are the functional elements within the Operations Section? (List 5.)

a. _____

b. _____

c. _____

d. _____

e. _____

f. _____

25. What are the responsibilities of the Planning Section Chief (PSC)? (List 5.)

a. _____

b. _____

c. _____

d. _____

e. _____

26. What are the functional elements within the Planning Section? (List 5.)

a. _____

b. _____

c. _____

d. _____

e. _____

f. _____

27. The Intelligence/Investigation function provides what type of information?

28. The Intelligence/Investigation function provides what type of information? (List at least 3 options.)

a. _____

b. _____

c. _____

29. What are the responsibilities of the Logistics Section Chief? (List 4.)

a. _____

b. _____

c. _____

d. _____

30. Two Branches and six units may be established within the Logistics Section; what are they?

a. _____ Branch

- _____
- _____
- _____

b. _____ Branch

- _____
- _____
- _____

31. What are the responsibilities of the Finance/Administration Section? (List 6.)

a. _____

b. _____

c. _____

d. _____

e. _____

f. _____

32. What are the 4 units that may be established within the Finance/Administration Section?

a. _____

b. _____

c. _____

d. _____

At a large-scale emergency with a fully staffed Incident Command System (ICS) organization:

33. The Safety Officer reports to _____.

34. The Medical Unit Leader's function is in the _____ Section.

35. The Situation Unit Leader reports directly to _____.

36. The Staging Area Manager reports directly to _____.

PRE-COURSE ASSIGNMENT

This assignment must be completed in order to participate in the activity on the first day of class.

Congratulations on your admission to the U.S. Fire Administration's National Fire Academy course, *Command and Control of Fire Department Operations at Target Hazards.*

The following materials are included in this packet.

1. Pre-course Assignment for Preincident Planning (Pages 5 to 32).

2. Los Angeles Central Library Fire Activity and Articles (Pages 33 to 90).

3. Nursing Home Simulation Background Information (Pages 91 to 104).

4. Seton Hall Articles (Pages 105 to 123).

Directions are provided for each section of these pre-course materials.

Also included in this mailing is a detailed overview of the Incident Command System (ICS) (see pages 10 to 50) for you to review prior to your class attendance. You must be thoroughly familiar with all ICS Command Staff and General Staff functions and the responsibilities assigned to these functions. During course simulations, you will be required to assume various Command and General Staff ICS functions.

PRE-COURSE ASSIGNMENT FOR PREINCIDENT PLANNING

PRE-COURSE ASSIGNMENT FOR PREINCIDENT PLANNING

All students are required to complete this pre-course assignment.

Directions

1. Review the Preincident Planning Priority Matrix — Target Hazards and the Preincident Priority Matrix Category Definitions Occupancy on the next several pages.

2. Review the six sample Preincident Planning Priority Matrix Worksheets. Read for understanding of how and why the status categories and values were derived. The examples shown are for a target hazard zone, a five-block area in one community. The definition of a zone will vary within each community. A zone could encompass all of the first-due hazards in a single engine company area of responsibility, all target hazards within a battalion, or all target hazards in a community.

3. Choose six target hazards **in your own community** and fill out one blank Matrix Worksheet for each target hazard chosen. A target hazard is defined as a facility, structure, operation, process, or situation that may produce or propagate a fire or related emergency involving large fire loss, heavy life loss or personal injury, or significant damage and panic. Typically we consider these to be lumberyards, refineries/bulk storage tanks, public assemblies, etc.

4. Examine the sample Summary Worksheet, filled out for the six sample Matrix Worksheets. Then fill out the blank Summary Worksheet provided for the six target hazards you have chosen.

Bring your completed pre-course assignment with you on Day 1 of the course.

PREINCIDENT PLANNING PRIORITY MATRIX
TARGET HAZARDS

Step 1: Determine the proper value for each category

Step 2: Add values

Step 3: Place in priority, with highest value being the first inspected

CATEGORIES AND VALUES

A. OCCUPANCY (PER NFPA 13)

Light Hazard 1

Ordinary Hazard..... 2

Extra Hazard 3

B. SIZE OF FACILITY (SQ. FT.)

Less than 20,000 1

20,000 to 49,999 2

50,000 plus 3

C. PEOPLE EXPOSED

9 or fewer 1

10 to 25 2

26 to 100 3

101 to 250 4

251 plus.....5

D. LIFE HAZARD (PER NFPA 101)

Unusual..... 1

Storage..... 2

Industrial..... 3

Business..... 4

Mercantile..... 5

Detention/Correction 6

Health Care..... 7

Residential..... 8

Educational..... 9

Assembly 10

NOTE: Definitions of the subcategories of “A” and “D” appear on the following pages.

PREINCIDENT PRIORITY MATRIX CATEGORY DEFINITIONS OCCUPANCY (per NFPA 13) — CATEGORY "A"

1. Light Hazard Occupancies
Light Hazard. Occupancies or portions of other occupancies where the quantity and/or combustibility of contents is low and fires with relatively low rates of heat release are expected.

Light Hazard Occupancies include occupancies having conditions similar to:

- Churches
- Clubs
- Eaves and overhangs, if combustible construction with no combustibles beneath
- Educational
- Hospitals
- Institutional
- Libraries, except large stack rooms
- Museums
- Nursing or convalescent homes
- Office, including data processing
- Residential
- Restaurant seating areas
- Theaters and auditoriums excluding stages and prosceniums
- Unused attics

2. Ordinary Hazard Occupancies
Ordinary Hazard (Group 1). Occupancies or portions of other occupancies where combustibility is low, quantity of combustibles is moderate, stock piles of combustibles do not exceed 8 ft. (2.4m), and fires with moderate rates of heat release are expected.

Ordinary Hazard Occupancies (Group 1) include occupancies having conditions similar to:

- Automobile parking garages
- Bakeries
- Beverage manufacturing
- Canneries
- Dairy products manufacturing and processing
- Electronic plants
- Glass and glass products manufacturing
- Laundries
- Restaurant service areas

Ordinary Hazard (Group 2). Occupancies or portions of other occupancies where quantity and combustibility of contents is moderate, stock piles do not exceed 12 ft. (3.7m), and fires with moderate rate of heat release are expected.

Ordinary Hazard Occupancies (Group 2) include occupancies having conditions similar to:

- Cereal mills
- Chemical plants — ordinary
- Cold storage warehouses
- Confectionery products
- Distilleries
- Leather goods manufacturing
- Libraries — large stack room areas
- Machine shops
- Metal working
- Mercantiles
- Printing and publishing
- Textile manufacturing
- Tobacco products manufacturing
- Wood product assembly

Ordinary Hazard (Group 3). Occupancies or portions of other occupancies where quantity and/or combustibility of contents is high, and fires of high rate of heat release are expected.

Ordinary Hazard Occupancies (Group 3) include occupancies having conditions similar to:

- Feed mills
- Paper and pulp mills
- Paper process plants
- Piers and wharves
- Repair garages
- Tire manufacturing
- Warehouses (having moderate to higher combustibility of content, such as paper, household furniture, paint, general storage, whiskey, etc.)
- Wood machining

3. Extra Hazard Occupancies

Extra Hazard. Occupancies or portions of other occupancies where quantity and combustibility of contents is very high, and flammable and combustible liquids, dust, lint, or other materials are present introducing the probability of rapidly developing fires with high rates of heat release.

Extra hazard occupancies involve a wide range of variables which may produce severe fires. The following shall be used to evaluate the severity of extra hazard occupancies:

Extra hazard occupancies include occupancies having conditions similar to:

- Combustible hydraulic fluid use areas
- Die casting
- Metal extruding
- Plywood and particle board manufacturing
- Printing (using inks with below 100°F [37.8°C] flashpoints)
- Rubber reclaiming, compounding, drying, milling, vulcanizing
- Sawmills
- Textile picking, opening, blending, garnetting, carding, combining of cotton, synthetics, wood shoddy, or burlap
- Upholstering with plastic foams
- Asphalt saturating
- Flammable liquids spraying
- Flow coating
- Mobile home or modular building assemblies (where finished enclosure is present and has combustible interiors)
- Open oil quenching
- Solvent cleaning
- Varnish and paint dipping

Materials excerpted from NFPA 13 Pages 13-6, 13-59, 13-60.

PREINCIDENT PRIORITY MATRIX CATEGORY DEFINITIONS OCCUPANCY (per NFPA 101) — CATEGORY "D"

1. Unusual Structures
Occupancies in unusual structures include any building or structure that cannot be properly classified in any of the occupancy groups, either by reason of some function not encompassed or some unusual combination of functions necessary to the purpose of the building or structure.

2. Storage
Storage occupancies include all buildings or structures utilized primarily for the storage or sheltering of goods, merchandise, products, vehicles, or animals. Included in this occupancy group are:

- Barns
- Bulk oil storage
- Cold storage
- Freight terminals
- Grain elevators
- Hangars
- Parking garages
- Stables
- Truck and marine terminals
- Warehouses

Minor storage incidental to another occupancy shall be treated as part of the other occupancy.

3. Industrial
Industrial occupancies include factories making products of all kinds and properties devoted to operations such as processing, assembling, mixing, packaging, finishing or decorating, and repairing, including, among others, the following:

- College and university noninstructional laboratories
- Creameries
- Dry cleaning plants
- Factories of all kinds
- Gas plants
- Laboratories
- Laundries
- Power plants
- Pumping stations
- Refineries
- Sawmills
- Smokehouses

4. Business
Business occupancies are those used for the transaction of business (other than that covered under Mercantile), for the keeping of accounts and records, and similar purposes. Included in this occupancy group are:

- City halls
- College and university — instructional buildings, classrooms under 50 persons, and instructional laboratories
- Courthouses
- Dentist offices
- Doctor offices
- General offices
- Outpatient clinics, ambulatory
- Town halls

Minor office occupancy incidental to operations in another occupancy shall be considered as a part of the predominating occupancy and shall be subject to the provisions of this code applying to the predominating occupancy.

5. Mercantile
Mercantile occupancies include stores, markets, and other rooms, buildings, or structures for the display and sale of merchandise. Included in this occupancy group are:

- Auction rooms
- Department stores
- Drugstores
- Shopping centers
- Supermarkets

Minor merchandising operations in buildings predominantly of other occupancies, such as a newsstand in an office building, shall be subject to the exit requirement of the predominant occupancy.

6. Detention and Correctional Occupancies
Detention and correctional occupancies (also known as Residential-Restrained Care Institutions) are those used to house occupants under some degree of restraint or security. Detention and correctional occupancies are occupied by persons who are mostly incapable of self-preservation because of security measures not under the occupants' control.

Detention and correctional occupancies include:

- Correctional centers
- Detention centers
- Jails
- Penal institutions
- Reformatories
- Residential-restrained care

7. Health Care
Health care occupancies are those used for purposes such as medical or other treatment or care of persons suffering from physical or mental illness, disease, or infirmity; and for the care of infants, convalescents, or infirm aged persons. Health care occupancies provide sleeping facilities for the occupants or are occupied by persons who are mostly incapable of self-preservation because of age, physical or mental disability, or because of security measures not under the occupants' control.

Health care occupancies include:

(a) Custodial care facilities,
Nurseries,
Homes for the infirm aged,
Mentally retarded care institutions
(b) Hospitals
(c) Nursing homes

Health care occupancies also include:

(a) Ambulatory care facilities
(b) Supervisory care facilities

8. Residential
Residential occupancies are those occupancies in which sleeping accommodations are provided for normal residential purposes and include all buildings designed to provide sleeping accommodations.

Exception: Those classified under Health Care or Detention and Correctional Occupancies.

Residential occupancies are treated separately in this *Code* in the following groups:

(a) Apartments
(b) Board and care facilities
(c) Hotels,
Motels,
Dormitories,
Orphanages for age 6 years and older
(d) Lodging or rooming houses
(e) One- and two-family dwellings

9. Educational
Educational occupancies include all buildings used for the gathering of groups of six or more persons for purposes of instruction. Educational occupancies include:

- Academies
- Kindergartens
- Nursery schools
- Schools

Educational occupancies also include day-care facilities.

Other occupancies associated with educational institutions shall be in accordance with the appropriate parts of this *Code*.

Exception: Licensed day-care facilities shall include those of any capacity.

In cases where instruction is incidental to some other occupancy, the section of this *Code* governing such other occupancy shall apply.

10. Assembly
Assembly occupancies include, but are not limited to, all buildings or portions of buildings used for gathering together 50 or more persons for such purposes as deliberation, worship, entertainment, eating, drinking, amusement, or awaiting transportation. Assembly occupancies include:

- Armories
- Assembly halls
- Auditoriums
- Bowling lanes
- Churches
- Club rooms
- College and university classrooms, 50 persons and over
- Conference rooms
- Courtrooms
- Dance halls
- Drinking establishments
- Exhibition halls
- Gymnasiums
- Libraries
- Mortuary chapels
- Motion picture theaters
- Museums
- Passenger stations and terminals of air, surface, underground, and marine public transportation facilities
- Pool rooms
- Recreation piers
- Restaurants
- Skating rinks
- Theaters

Occupancy of any room or space for assembly purposes by less than 50 persons in a building of other occupancy and incidental to such other occupancy shall be classified as part of the other occupancy and subject to the provisions applicable thereto.

Materials excerpted from NFPA 101 Pages 101-7 and 101-8.

SAMPLE PREINCIDENT PLANNING PRIORITY MATRIX WORKSHEET TARGET HAZARD

Name Main Street Hotel

Location 100 Main Street

Occupancy Hotel

CATEGORY	STATUS	VALUE
Occupancy	light hazard	1
Size	125,000 sq. ft.	3
People Exposed	average 500	5
Life Hazard	assembly	10
TOTAL		19

COMMENTS: Hotel has convention/conference facilities

SAMPLE PREINCIDENT PLANNING PRIORITY MATRIX WORKSHEET TARGET HAZARD

Name County Hospital

Location 200 Main Street

Occupancy Hospital

CATEGORY	STATUS	VALUE
Occupancy	light hazard	1
Size	25,000 sq. ft.	2
People Exposed	200	4
Life Hazard	health care	7
TOTAL		14

COMMENTS:

SAMPLE PREINCIDENT PLANNING PRIORITY MATRIX WORKSHEET TARGET HAZARD

Name St. Michael's Church

Location 300 Main Street

Occupancy Church

CATEGORY	STATUS	VALUE
Occupancy	light hazard	1
Size	25,000 sq. ft.	2
People Exposed	300	5
Life Hazard	assembly	10
TOTAL		18

COMMENTS:

SAMPLE PREINCIDENT PLANNING PRIORITY MATRIX WORKSHEET TARGET HAZARD

Name Bob's Donuts

Location 400 Main Street

Occupancy Bakery

CATEGORY	STATUS	VALUE
Occupancy	ordinary hazard	2
Size	12,000 sq. ft.	1
People Exposed	5	1
Life Hazard	mercantile	5
TOTAL		9

COMMENTS:

SAMPLE PREINCIDENT PLANNING PRIORITY MATRIX WORKSHEET TARGET HAZARD

Name Town Laundromat

Location 420 Main Street

Occupancy Laundry

CATEGORY	STATUS	VALUE
Occupancy	ordinary	2
Size	15,000 sq. ft.	1
People Exposed	8	1
Life Hazard	industrial	3
TOTAL		7

COMMENTS: Includes dry cleaning

SAMPLE PREINCIDENT PLANNING PRIORITY MATRIX WORKSHEET TARGET HAZARD

Name ABC Paints, Inc.

Location 500 Main Street

Occupancy Paint Manufacturing

CATEGORY	STATUS	VALUE
Occupancy	extra hazard	3
Size	600,000 sq. ft.	3
People Exposed	275	5
Life Hazard	industrial	3
TOTAL		14

COMMENTS:

SUMMARY WORKSHEET
SAMPLE PREINCIDENT PLANNING PRIORITY MATRIX WORKSHEET

Zone: Main Street 100-500 Blocks (right side)

	#100 Hotel	#200 Hospital	#300 Church	#400 Bakery	#420 Laundry	#500 Paint Mfg.
Occupancy	1	1	1	2	2	3
Size	3	2	2	1	1	3
# People	5	4	5	1	1	5
Life Hazard	10*	7	10	5	3	3
Total	19	14	18	9	7	14
Priority	1	3	2	5	6	4

*This assumes an assembly area exists in the hotel for meetings/banquets, etc. This matrix weighs heavily toward life safety issues, as is seen in the priority decision. Your community is the basis for the categories and values. This is simply an example of how to determine priorities for inspection.

PREINCIDENT PLANNING PRIORITY MATRIX WORKSHEET
TARGET HAZARD

Name _____

Location _____

Occupancy _____

CATEGORY	STATUS	VALUE
Occupancy	_____	
Size	_____	
People Exposed	_____	
Life Hazard	_____	
TOTAL		

COMMENTS:

PREINCIDENT PLANNING PRIORITY MATRIX WORKSHEET
TARGET HAZARD

Name _____

Location _____

Occupancy _____

CATEGORY	STATUS	VALUE
Occupancy		
Size		
People Exposed		
Life Hazard		
TOTAL		

COMMENTS:

PREINCIDENT PLANNING PRIORITY MATRIX WORKSHEET
TARGET HAZARD

Name _____

Location _____

Occupancy _____

CATEGORY	STATUS	VALUE
Occupancy		
Size		
People Exposed		
Life Hazard		
TOTAL		

COMMENTS:

PREINCIDENT PLANNING PRIORITY MATRIX WORKSHEET
TARGET HAZARD

Name _____

Location _____

Occupancy _____

CATEGORY	STATUS	VALUE
Occupancy	_____	
Size	_____	
People Exposed	_____	
Life Hazard	_____	
TOTAL		

COMMENTS:

PREINCIDENT PLANNING PRIORITY MATRIX WORKSHEET
TARGET HAZARD

Name _____

Location _____

Occupancy _____

CATEGORY	STATUS	VALUE
Occupancy		
Size		
People Exposed		
Life Hazard		
TOTAL		

COMMENTS:

PREINCIDENT PLANNING PRIORITY MATRIX WORKSHEET
TARGET HAZARD

Name _____

Location _____

Occupancy _____

CATEGORY	STATUS	VALUE
Occupancy	_____	
Size	_____	
People Exposed	_____	
Life Hazard	_____	
TOTAL		

COMMENTS:

SUMMARY WORKSHEET
PREINCIDENT PLANNING PRIORITY MATRIX WORKSHEET

Zone:

	#	#	#	#	#	#
Occupancy						
Size						
# People						
Life Hazard						
Total						
Priority						

Target Hazard Chart Profile

Directions

You will complete a Target Hazard Chart for your community. Record in priority order the six most important target hazards identified while completing your pre-course assignment. The first priority should be the hazard with the greatest risk and the least preparation, followed by the hazard with the next highest risk and next lowest level of preparation. The process should continue until six target hazards have been summarized on the chart.

a. Column 1 should show the name and location of the target hazards.

b. Column 2 should be used to describe the important impact factors that caused these properties to be identified as target hazards, such as life safety, firefighter safety, environmental impact, conflagration potential, and economic impact. More than one factor can be described on the chart for a hazard.

c. Column 3 should describe the current level of preincident planning (PIP) completed by your department for each target hazard. Use the following terms:

- **None:** Indicates that nothing has been done to prepare for an incident at this location.
- **Minimal:** Some planning has been completed, but the document is old or cannot be found; companies assigned to first response may have visited the site at some time in the past.
- **Fair:** PIP has taken place recently, and a document has been created or updated; first-response units have toured the facility recently and have reviewed the plan.
- **Good:** The preincident plan is updated regularly; responding units tour the location, review the plan, and conduct drills based on potential scenarios.

d. Column 4 will be completed during a later assignment.

Target Hazard Chart Profile

Target Hazard Chart			
Name:	Rank:		Years of Service:
Community Population:	Department Name and Size:		
Target Hazards	**Impact Factors**	**PIP***	

*N=None M=Minimal
F=Fair G=Good

LOS ANGELES CENTRAL LIBRARY FIRE ACTIVITY AND ARTICLES (3)

This activity will be used, with a video of the library fire, during the first day of class.

LOS ANGELES, CALIFORNIA, CENTRAL LIBRARY FIRE ACTIVITY

Purpose

To identify the key issues in Command decisions.

Directions

1. Read the case study material on the following pages that discusses the Los Angeles library fire incident.

2. Note key issues in the following areas during your reading and viewing.

3. Review the information on the Incident Command System (ICS) beginning on page 10 for specific responsibilities and duties for the various ICS functions.

4. Each student will complete only the work for one function in the ICS Command and General Staff based on the first letter of his or her last name.

5. We have given you some basic duties and responsibilities for each ICS function. Expand on these duties and responsibilities for the Los Angeles library fire incident based on your reading of the articles. Put yourself in the position as if you had to perform the function at the incident.

QUESTIONS REGARDING LOS ANGELES, CALIFORNIA, CENTRAL LIBRARY FIRE ACTIVITY

Command—

Develop the incident objectives. What would they be?

What strategies would you determine for the incident?

To receive a briefing from the first Incident Commander (IC), what types of questions would you want answered by the IC you are relieving?

Operations—

Develop the tactics for the incident. What tactical operations would you want performed to control this incident?

Draw an ICS organization chart that you would have for the Operations Section at the library fire.

Planning—

For the library fire, develop a "Plan B" for a worsening situation. Include any alternative strategies that would be applicable.

Logistics—

What types of service and support operations will be required to keep the Operations Section personnel operating?

Safety—

What are the Safety issues at the library fire incident?

Write a general Safety Plan for the Los Angeles library fire.

Liaison—

List the different nonfire agencies and possible private contractors that you would most likely have to interface at the library fire.

Information—

Write a press release describing the Los Angeles library fire incident. Be sure to cover the what, where, when, why, who, how, and how many.

Fire in Los Angeles Central Library Causes $22 Million Loss

Firefighters faced a nightmare of overpowering heat, restricted access, heavy smoke, and stood in boiling-hot water battling this tricky, fast-spreading fire in an old, complexly laid-out library that housed invaluable collections. Amazingly, 85 percent of the contents was saved.

Michael S. Isner[1]

On April 29, 1986, a fire in the Central Library in Los Angeles, California, destroyed an estimated 200,000 books, the largest collection of patents in the western United States, and two-thirds of the library's magazine collection. In addition, water and smoke damaged about half the library's 1.2 million volumes. Four hundred occupants were evacuated from the building in about eight minutes. Although nearly 350 firefighters and over 70 pieces of fire apparatus were sent to the scene, it took 7½ hours to extinguish the blaze, during which 55 firefighters suffered only minor injuries.

The fire, of suspicious origin, had been started in one of the book stacks. A smoke detector in one of the stacks first alerted security personnel. They called the fire department, assisted the library staff in evacuation, and helped firefighters find their way through the huge building.

Because of the intricate arrangement of the interior, firefighters had difficulty locating the fire immediately and assessing its severity. After they reached the point of origin, they found a hot, rapidly spreading fire in areas where they had limited access. Openings in the bookshelves allowed the fire to spread rapidly, both vertically and horizontally. Lack of sprinkler protection, vertical ventilation, and other unprotected openings in the book-stack area, and abundant fuel provided by the many books contributed to the intensity of the fire, and the complex design of the building prevented quick extinguishment.

Salvage operations were started early in the fire and helped prevent a larger loss.

The Library and Its History

The Los Angeles Central Library is the third largest library in the United States. In addition to its collection of 1.2 million books, the facility contains trademark records, patents, magazines, sheet music, maps, and other materials that make it an extremely valuable resource for researchers.

For years, the Central Library had been considered too small for the collections. Several plans to remedy the situation were proposed, but they caused considerable controversy regarding the building's future. Some developers

[1] Michael S. Isner is a Fire Protection Specialist in the NFPA's Fire Investigations and Applied Research Division.

proposed razing the library to provide space for new construction. Other groups suggested that the building be modified, and still others wanted to preserve the original structure. The controversy became more complex in 1967, when the city listed the library as an historical monument and again in 1970, when it was included in the National Register of Historical Buildings. While the debate on the library's future continued, the Los Angeles Fire Department strongly urged the library's management to deal with conditions in the building that could affect public safety and increase the possibility of fire spread. Many of the conditions they noted had been identified back in the 1940s.

Investigation Report

Because a plan to upgrade many life-safety features of the building was approved in 1981, there were operational smoke detectors in the book-stack areas when the fire occurred. A 1-hour fire separation at each stairway and each entrance to the book-stack area was being installed, but had not been completed.

The Central Library was constructed in 1926, using the latest technology then available. The main structure, which consists of three stories plus a basement (see Figure 1), measures 240 by 200 feet. A two-story, 130- by 90-foot wing is attached to the southeast side. A central tower-like structure extends above the roof of the main building over an open area called the Rotunda. The Rotunda's 40 by 40 foot floor is on the building's second-floor level; its ceiling is 55 feet above the second floor.

Except for the main book storage areas, the library is considered a fire resistive structure (i.e., Type I-332),[2] with external bearing walls of reinforced concrete, 16 inches thick. The bearing walls that surround the Rotunda and support the tower are also of reinforced concrete, but are three feet thick. A network of concrete columns, some as large as three by five feet, and concrete beams support the 6-inch roof and floor slabs. Non-bearing walls are constructed with a terra-cotta material and mortar. Both the bearing and non-bearing building components are covered with plaster veneer up to 1 inch thick.

The main book storage areas, which are called the book stacks, are closed to the public. Located at the four corners of the Rotunda, these areas are separated from the main structure by the three-foot-thick concrete walls and terra-cotta walls. Originally, non-rated wood doors at each floor level led to the stack area; these doors were being replaced with 20-minute-rated solid-core wood doors equipped with magnetic door holders.

The four stacks (which are actually voids resembling large elevator shafts) extend from the basement to the underside of the ceiling/floor assembly between the second and third floors (see Figure 1).

There are seven tiers in each stack: two in the basement, two on the first floor, and three on the second floor. The building's third floor is the ceiling of the seventh tier. The two stacks on the west

[2] NFPA 220, *Standard on Types of Building Construction*, 1985 edition. A Type I (332) structure will have a 3-hour fire rating for the exterior bearing walls (first digit), 3-hour fire rating for structural frame or columns and girders, supporting loads for more than one floor (second digit), and 2-hour fire rating for the floor assembly (third digit).

side of the building are connected and form a single horizontal space at the first- and second-tier levels in the basement. Similarly, the east stacks are connected and form a horizontal space at the first- and second-tier levels.

The four stacks are separated as they pass through the first and second floors (tier levels 3, 4, 5, and 6). At these levels, the northeast and northwest stacks are rectangular and measure 40 by 45 feet. The two southern stacks are basically rectangles the same size, but these stacks are also open to an attached area that is 10 feet by 25 feet. The four stack areas are connected by corridors on the seventh-tier level (see Figure 1 and 2).

In addition to seven levels of tiers, there are four rooms — the Fiction/Literature Work Room, the History Work Room, the Map Work Room, and the Science and Technology/Patent Work Room — that are located between the sixth-and seventh-tier levels; these rooms are considered the 6½ tier and are shown in Figure 2.

Because of their size, each book stack contains a central access aisle that leads to the open stairway within the stack. There are rows of bookshelves perpendicular to and along both sides of this aisle. Smaller aisles also perpendicular to the central access aisle run between the rows of bookshelves.

The shelves are supported by steel columns spaced three feet on center along the length of the bookshelves and four feet on center between each row of shelves (see Figure 3). The steel columns consist of two pieces of shaped steel placed together to form a 2-inch-square cross-section. The columns are continuous from the first tier in the basement through the seventh tier, just below the third floor. There are normally seven or eight shelves between columns at all tier levels. Because most of the shelves were filled to capacity, fuel loading in the book stacks is estimated at 93 lbs. per square foot.

Stairways in the stack area are only 36 inches wide and have no doors to protect the openings at floor levels. These stairways are vertically in line (one above the other) and do not have landings between tier levels. Anyone traveling between tier levels would have to leave the stairway at any tier and go down an aisle to reach the entrance of the stairway to the next tier level.

Openings between the bookshelves and walkways (Opening No. 1 on Figure 3), between the backs of bookshelves (Opening No. 2 on Figure 3), and around the entire perimeter of the stack area permit air to circulate within the book stacks. Apparently, circulating air contributed to the heating of the stacks and helped preserve books and reduce mildew in the non-air-conditioned building.

Fire Protection

The building has a wet-pipe sprinkler system that protects only the bindery in the basement. This partial system has a 6-inch feed main and an alarm valve interlocked to the building alarm system and to a central alarm service. In addition, manual hose stations are provided throughout the basement and at each floor level in the stairways for the main structure. Portable, pressurized water fire extinguishers are provided for the entire building, while the boiler room

and work areas in the basement contained portable carbon dioxide and dry chemical extinguishers.

As part of the project to improve the building's fire protection, manual pull stations and smoke detectors had been installed in all the book stacks. The detectors, which were connected to the building's local alarm system, were placed in every other aisle between the bookshelves and were spaced 18 feet apart in each aisle. In addition, manual pull stations that both initiated a local alarm and notified the central alarm service were provided in areas normally occupied by patrons. Emergency lighting provided in the stack areas operated if a power outage occurred.

When activated by any means, the alarm system sounded an audible alarm throughout the building and displayed a visual confirmation of the alarm on annunciator panels in a third-floor communications room, in a first-floor corridor by the Fifth Street entrance, and in the basement boiler room. Although the building has 38 zones, the alarm panel on the first floor would indicate only the general part of the building where the alarm activated. The other two panels provided more complete information on the fire zones.

Nearly 200 staff personnel and four security guards occupied the building during the day, but only two guards remained when the building was closed.

Both staff personnel and guards were trained in fire emergency and other procedures according to the library's disaster plan, which states that employees and managers are responsible for the safe evacuation of patrons in their respective work areas. According to the library's head administrator, they are well practiced in evacuating the building. In addition to periodic drills, the library is frequently evacuated because of earthquake alerts.

Municipal Fire Protection

The Los Angeles City Fire Department, incorporated in 1886, protects an area covering approximately 470 square miles with 1,813 full-time paid firefighters, 614 officers, 347 emergency medical personnel, and a fire prevention bureau of about 130 inspectors and officers. The 100 fire stations and 3 boat houses contain over 205 fire and emergency medical apparatus. The fire station nearest to the library is only 0.6 miles away.

Discovery of the Fire and Fire Department Response[3,4]

On the morning of April 29, the Central Library was occupied by approximately 200 patrons plus the usual staff of about 200. Everything appeared normal until local alarm bells, activated by a smoke detector, began to sound. While security personnel investigated, the library telephone operator called the fire department at 10:52 a.m. to report that bells were ringing. The central alarm service also called the fire department at 10:55. The library staff made sure that all patrons in their respective areas evacuated the building and carried out other emergency duties specified in the

[3] Details in this section and diagrams indicating fire extension were based upon the Los Angeles City Fire Department report prepared by Deputy Chief Donald Anthony.

[4] For more details regarding the firefighting operations, see "Fire Strikes the Los Angeles Central Library," *Fire Command.* Vol. 53 No. 10 (October 1986), pp. 26-29, 42-43.

Library's disaster plan. The evacuation was completed in about eight minutes.

When the fire department's Operations Control Division (OCD) received the telephone report, it dispatched two task forces,[5] Engine Company 10, a squad, and a battalion chief at 10:53 a.m. The engine company, arriving four minutes later, saw no visible sign of fire. The crew entered the building through the main entrance on Fifth Street and went to the alarm panel on the first floor. Moments after the first engine company's arrival, Engine 3 (E-3 from Task Force 3) arrived; its crew also entered the Fifth Street corridor and met the crew from the first engine company (10) at the alarm panel. Since they were unable to determine the nature of the problem or reset the alarm, one crew went to the alarm panel on the third floor, while the other crew (E-3) went to the alarm panel in the basement.

When the squad and battalion chief arrived at the Fifth Street side of the library, about the same time as E-3, there was still no visual sign of fire from that point. The second-arriving task force responded to the Hope Street side of the building, where one of its engine companies saw light smoke at roof level on the east side of the building. The battalion chief requested assistance and the OCD dispatched four more task forces, a light force,[6] and two engine companies.

The E-10 crew reached the third floor, where they found light smoke in a corridor and heavy smoke in a room in the northeast corner. They requested assistance at 11:14 a.m. When deteriorating conditions eventually forced them to leave the third floor, they descended by a fire escape ladder to the roof of the two-story east wing, where they requested 1½ inch hoses and other equipment. With this equipment, they reentered the building through the Fiction and Literature Work Room on the 6½-tier level and went up a ramp to enter the seventh-tier of the northeast stack (see Figure 2). The E-10 crew was joined at the seventh-tier by the crew from Light Force 11, who also entered the building from the east wing.

Meanwhile, the E-3 crew, having identified the location of the activating detector on the main alarm panel in the basement, entered the northeast stack in the basement and climbed the 36-inch wide open stairs to the fifth tier, where they left the stack to connect their hose lines to a hose station in a stairway leading to the second floor (see Figure 4). Reentering the stack at the fifth-tier level, they advanced their lines through the maze of bookshelves and winding stairs in order to attack the fire on the sixth tier. Several other crews that entered the northeast stack from the second floor assisted in attacking the fire in that stack. Another crew entered the southeast stack from the second floor, advanced their line to the seventh tier, and attacked the fire from the south side.

By 11:30 a.m., 22 fire companies, 8 command and staff officers, and a rescue ambulance had been dispatched to the scene. Fire officers began to recognize many of the problems they would face throughout the fire: extremely high temperatures, heavy smoke, narrow aisles, and very limited access. Access to the fire area in the book tiers was confined to the four small 36-inch-wide

[5] A task force (TF) includes a two-piece engine company, a truck company, and 10 firefighters.
[6] A light force (LF) includes an engine, a truck, and six firefighters.

stairways in the stacks and the ramp from the Fiction and Literature Work Room. The lack of ventilation permitted both smoke and heat to build up, making firefighting difficult and conditions unbearable.

Between 11:30 a.m. and noon, the fire appeared to be confined to the northeast stack, even though firefighters were unable to advance hose lines within the stack levels. Outside the building, additional fire companies continued to arrive.

Three salvage companies were requested about 11:25, and some firefighters started salvage operations on the first and second floors, and in the lower tiers in the northeast stack. They covered bookshelves and furniture with polyethylene plastic or salvage covers, and built up sawdust dikes to direct water out of the building. Other arriving firefighters were assigned to assist the fire attack crews, which were being rotated every 15 or 20 minutes because of the intense heat in the attack area.

By noontime, a command post and medical area had been established on Fifth Street. A unit was ordered to bring a resupply of air cylinders. By this time, 24 fire companies, 10 command and staff officers, and 5 rescue ambulances had been assigned to the emergency.

Shortly after noon, an officer reported fire inside a third-floor wall in the northwest corner of the building. The lack of ventilation continued to make conditions increasingly untenable in the fire-attack area. Attack crews were feeding 2½-inch hoses through the bookshelves and winding stairways to use as attack lines, but they were unable to advance them because of the heat, even though other firefighters directed 1½-inch handlines on the attack crew to keep them cool. Occasionally, when attack teams opened their nozzles, the superheated steam drove them back.

At 12:25 p.m., firefighters discovered that the fire had progressed from the northeast stack to the northwest stack through a corridor connecting the two areas. Fire attack teams assigned to the northwest stack found that the fire there had begun to spread down and now involved both the sixth and seventh tiers. They also experienced the extreme heat that had plagued firefighters in the northeast stack. Attempts to improve ventilation by using sledge hammers and axes on a patio roof did not produce holes large enough to be effective.

By 1:30, the fire department had sent 34 companies, 12 officers, 1 helicopter, and 7 rescue ambulances. About this time, fire had become visible in windows to the Patent Room on tier 6½. Because of a potential structural collapse in the book stack areas, a rescue team was kept on standby to respond immediately, if necessary. The need to open up walls and roofs for ventilation was imperative, and fire officers requested a heavy utility vehicle containing pneumatic jackhammers that could be used to cut ventilation holes.

At approximately 1:33, most of the fire in the northeast stack had been knocked down. The connecting corridor, with temperatures at an estimated 2,000° to 2,400°F, was still too hot to enter. Because extreme heat in the northwest stack and Patent Room prevented firefighters from entering, two ladder pipes were positioned in the parking lot outside the Patent Room. After the attack crews were ordered from the area, exterior heavy streams were directed

Into the Patent Room for two minutes. Because the fire and high temperatures continued to prevent firefighters' entry into the Patent Room, the external streams were repeated for another six minutes. About this time, part of the seventh tier in the northwest stack collapsed.

The interior attack in the northwest stack was resumed at 2:00 p.m. Some firefighters entered the Patent Room to extinguish the remaining fire. Others took 2½-inch and 1½-inch hoses into the stack areas from the Patent Room, from the southwest side of the seventh tier, and up the stairs in the northwest stack. Progress in the stacks was extremely slow because of high heat and limited access.

By 3:00 p.m., the spread of fire to uninvolved areas was apparently stopped, but firefighters still could not enter the seventh tier of the northwest stack or the connecting corridor. The heat absorbed by the concrete walls kept many areas unbearably hot, even though the fire had been knocked down. Firefighters equipped with pneumatic jackhammers went to the third floor and began to cut holes in the 6-inch thick concrete floor slab to ventilate the seventh tier. Even though fans were used to ventilate the third-floor corridor, firefighters operating the jackhammers had to be cooled with water spray from 1½-inch hoses, and many firefighters stood in water that was boiling because the slab was so hot.

At 3:30, once some of the holes had been made, fire crews placed distributor nozzles in areas where they could not gain access. Simultaneously a large hole was cut in a wall in the Patent Room to provide additional access to the seventh tier of the northwest stack.

The improved ventilation dramatically affected firefighting efforts, and attack teams began to make progress into the fire area. By 5:00 p.m., the fire in the northeast stack, the Patent Room, and two rooms on the third floor had been controlled; however, the fire in the northwest stack was still burning. Although the fire in the Central Library was declared extinguished at 6:30 p.m., firefighters remained on the scene to prevent hotspots and rekindling.

The Los Angeles City Fire Department committed 45 percent of its resources to fighting this 7½-hour fire — a total of 60 fire companies (engines and trucks), 1 arson unit, 9 paramedic rescue ambulances, 3 helicopters, 4 salvage companies, 1 squad, 2 emergency air units (on the scene for several days), 1 heavy utility company, and 350 fire personnel, including 40 staff and support personnel. In addition, six mutual-aid units from Los Angeles County, five private ambulances, and a hospital emergency response team from the University of Southern California responded.

Book Salvage Operations[7]

Firefighting crews began to protect books early in the fire, using nearly 100 huge rolls of polyethylene in addition to their normal salvage covers. As soon as they were allowed to enter, library staff personnel began to formulate their plan for salvaging books. It was important to remove the books quickly, especially the wet and damp ones, because mildew can begin to grow in about 48 hours and can be as damaging to books as flames or

[7] For information regarding the salvage of water-damaged library materials, see *Emergency Procedures for Salvaging Flood- or Water-damaged Materials* by Peter Waters, Library of Congress, Washington, D.C., 1972.

smoke. Eventually, crews of city employees and others were brought in to help remove the water and stabilize conditions.

A consultant was hired to organize the book removal operation. He established the procedure for packaging, identifying, and recording the books and supervised personnel in carrying out these operations. In addition to organizing these activities, he had to obtain several lift trucks to move the pallets of books, many tractor-trailer trucks to transport the books to the storage areas, and large freezers to hold the estimated 1,600 pallet loads of wet books. He also made arrangements with a local convention center for temporary storage of the estimated 650 pallets containing dry books.

Because an immense number of books had to be removed from the building, a call for volunteers was made to the community. In response, relatives of staff personnel, people from the City of Los Angeles and adjacent communities, youth groups such as the California Conservation Corps, and many other people came to the Central Library to help. An estimated, 1,500 people volunteered and assisted during the four-day, 24-hour book-removal operation. In addition to training and supervising these people, the library administrators had to make sure that their sanitation, nutritional, and medical needs were met.

Injuries

During the fire, 50 firefighters were treated for burns or heat-related injuries; 28 were transported to the hospital and all but eight were released the same day. In addition, one civilian suffered a minor ankle injury.

The Damage

The fire on the fifth tier of the northeast stack spread along the shelves on both sides of the aisle and extended about 10 feet horizontally in both directions from the suspected point(s) of origin. It then spread into adjacent aisles and up into the tier level above (see Figure 4). Only a small percentage of books on the fifth tier level was damaged. In the sixth tier, nearly one-third of the books were damaged.

How the Investigation was Conducted

The NFPA's Fire Investigations and Applied Research Division investigated this fire to document and analyze significant factors that resulted in the loss of property so that it may report lessons learned for life safety and property loss prevention purposes.

The International Conference of Building Code Officials (ICBO) assisted the NFPA in data collection and analysis under an agreement between the NFPA and the ICBO, the Building Officials and Code Administrators International (BOCA) and the Southern Building Code Congress International (SBCCI) to investigate significant structural fires in the United States. The three model building code groups support the NFPA by lending technical staff for on-site field work and building code analysis.

To document the facts, Michael S. Isner, from the NFPA Fire Investigations and Applied Research Division, visited the Library where he was assisted by T. J. Koyamatsu of the ICBO and John Morris, a private consultant. This report was based on a four-day, on-site study and subsequent analysis. The cooperation of the Los Angeles City Fire

Department made entry to the fire scene and data collection activities possible.

It is not the NFPA's intention that this report, which is based on the best data available during the on-site data collection phase and during the report development process, pass judgment on, or fix liability for, the property loss at the Los Angeles Central Library fire.

The cooperation and assistance of Fire Chief Donald Manning, Fire Marshal Craig Drummond, Battalion Chief Raymond Olsen, and Deputy Chief Donald Anthony of the Los Angeles City Fire Department, and others in the Bureau of Fire Prevention, Los Angeles City Fire Department, are acknowledged and appreciated. The author thanks John Morris, private consultant, for his on-site assistance and input during analysis of the incident. The assistance of Stephen Bush, Safety Officer, Library of Congress, and Peter Waters, Library of Congress, are also recognized.

Special thanks go to T. J. Koyamatsu, P.E., Chief Plan Check Engineer, ICBO, for his on-site assistance in the data collection phase and his input in the code analysis portion of the report.

Fire Strikes the Los Angeles Central Library

Donald F. Anthony
Deputy Chief
Bureau of Fire Suppression and Rescue
Los Angeles City Fire Department, California

National experts on library fires, as well as a former chief engineer of the Los Angeles City Fire Department, had predicted that if a major fire ever struck the Los Angeles Central Library, it would be a complete loss.

Yet such a fire did strike the library, on April 29, 1986. And the losses — estimated at $2 million to the structure and $20 million to the contents — were not as disastrous as anticipated.

The Los Angeles Fire Department made a maximum commitment to the fire. It included about 45 percent of all on-duty resources, a total of almost 350 fire personnel. Fire operations took place in an unsprinklered, fire-resistive building of huge proportions whose internal design is intricate and complex, to say the least (see sidebar, "The library building"). Seven hours and 38 minutes passed before knockdown was declared.

When the battle drew to a close an impressive 85 percent of the total value of the structure and contents had been saved. Of an estimated 1.2 million library books, about 350,000 received fire or water damage.

A major factor in preventing a larger loss was the early implementation of salvage operations. Three fully staffed salvage companies were requested at about 23 minutes into the fire. Salvage operations began early in the fire and continued through the night and into the next day. Sixty salvage covers and more than 98 rolls of polyethylene plastic — enough to cover two square acres — were used to protect books in four separate stack areas and the many public reading areas.

During fire operations, 50 Los Angeles firefighters were treated for injuries; 28 were transported to medical facilities. Yet no critical injuries or deaths occurred and only one minor civilian injury was reported.

1052 to 1130 Hours

The Alarm

At 1052 hours on April 29, 1986, an audio alarm, activated by a smoke detector, sounded in the Los Angeles Central Library. The library telephone operator called the fire department, while security personnel directed employees and patrons to evacuate the building. The evacuation was completed in approximately eight minutes.

Upon receiving a telephone report that "bells are ringing," the fire department dispatched a category "B" assignment, consisting of Task Forces 3 and 9, Engine 10, Squad 4, and Battalion Chief 1. (A task force includes a two-piece engine company, a truck company and 10 members.) Engine 10 arrived at 1057

hours and went to the main entrance at the north side, on Fifth Street. The company reported nothing showing. Engine 3, Squad 4, and Battalion Chief 1 arrived together on Fifth Street. Task Force 9 responded to Hope Street on the south side. Light Force 3 responded nonemergency, due to a broken siren, to Fifth Street. (A light force includes a pumper, a truck and six members.)

The crew from Engine 10, followed by the crew from Engine 3, entered the building to investigate. They found light smoke on the third floor, and heavy smoke in one room on the northeast side of the library. From Hope Street, Engine 9 reported light smoke showing from the east end roof.

At 1111 hours, four more task forces were requested. Light Force 10, Task Force 11, Task Force 4, Engine 6, Task Force 15, and Engine 29 were dispatched. Battalion Chief Cate announced that the library incident command and the staging area would be on "Fifth Street, across from the library."

The Engine 10 firefighters were in the northeast corner of the building using a handline on the third floor. At 1114 hours, they requested help on the third floor and on the floor below. Then they backed out of the building and descended a metal ladder to the roof of a two-story wing at the east end of the building. They "drop-bagged" (i.e., they dropped a 150-foot rope and used it to pull lines up to their position) two 1½-inch lines up to the roof from the Fifth Street side, then attacked the fire through a window, into an office and up a ramp into the seventh tier of the northeast stack of books (see Figure 1, Building design).

Library security personnel directed Engine 9 firefighters to the fifth tier of the northeast stack. Finding fire, they used high-rise hose packs to connect to an interior standpipe. They staged an attack from the "fiction room."

Engine 3 members checked the main alarm panel in the basement before climbing the stairs in the northeast stack. They left the stack area on the second floor to obtain a water supply, then began a fire attack up the stairs inside the stack to the sixth tier.

Ventilation Begins

Light Force 3 raised an aerial to the roof on the northeast corner, and began ventilation efforts.

Light Force 9, unable to reach the building with an aerial from Hope Street, used ground ladders up to balconies on the south side. These firefighters, joined by Engine 11 firefighters, drop-bagged a 2½-inch line up from the Hope Street side. Proceeding to the fifth tier of the northeast stack, they used 1½-inch and 2½-inch lines to attack the fire up the stack stairs to the sixth tier.

Engine 203 took the hydrant on Fifth Street, and pumped into two standpipes situated on either side of the library's main entrance. Engine 9 took a hydrant on Hope Street and pumped into standpipes on the south side of the library. Engine 209 laid hose from Engine 9 to a hydrant on the southeast corner and supplied water to Engine 9.

Meanwhile, Squad 4 proceeded to the second floor to help companies there advance lines up the stairs in the northeast stack area.

Incident command directed Light Force 4 to the third floor northeast stack area, where members drop-bagged two 1½-inch lines up from Fifth Street. Finding no fire on the third floor, they went to the second floor roof of the east wing and joined Engine 10 firefighters in an attack from this location. Engine 11 members drop-bagged a 2½-inch supply line up from the Hope Street side, to supplement the interior standpipes on the second floor. Engine 11 then joined Task Force 9's fire attack in the northeast stack.

Attack from the South

Light Force 10 used the main entrance, climbed to the second floor and, went up the stairs in the southeast stack to the seventh tier. These firefighters used 2½-inch and 1½-inch lines to attack the fire from the south side.

When Battalion 5's Chief Mello arrived, incident command requested him to reconnoiter outside the building. He found the south, west, and north sides clear, but light smoke was showing from the east end roof. Assigned to ventilation, Mello went to the third floor and tried to cross ventilate using windows and skylights.

Battalion 11's Chief Creasey, who was assigned to operations, went inside to direct the firefighting operations in the northeast section of the building.

Light Force 4 raised its aerial to the roof on the northeast side (see Figure 2, Apparatus placement). The crew then went into the building, where operations assigned this task force captain operations inside the northeast stack.

Engine 4 firefighters laid a line from Fifth Street and Grand Avenue to the front of the library and supplied lines to members on the east end roof. These firefighters then joined Engine 6 firefighters in an attempt to bring lines down into the fire area from the third floor. Engine 6 had taken the hydrant at Fifth Street and Grand Avenue to pump to Engine 4.

Firefighters on the third floor abandoned the attack from above when they discovered opposing lines coming in from the east wing roof and up the stack stairways from below the fire.

Arriving on the south side, Engine 29 provided a supply line to the second floor to supplement the standpipe system. Engine 29 was assigned "water control officer," to ensure that all standpipes were being supplied.

Task Force 15 arrived and raised its aerial to the roof on Fifth Street, west of the main entrance. These firefighters also were assigned to the fire attack in the northeast stack.

Salvage Companies Ordered

At 1120 hours, Bureau Commander Chief Anthony and Assistant Bureau Commander Chief Schnitker responded from headquarters. Realizing the need for salvage work, Chief Anthony ordered three fully staffed salvage companies. At 1127 hours, Chief Anthony took charge, assigned Battalion Chief Cate as plans chief, and requested five more battalion chiefs.

At about this time, fire attack teams on the sixth and seventh tiers in the northeast stack began to experience tremendous heat and heavy smoke. The intense heat prevented attack teams from advancing handlines. Heat build-up

hampered fire fighting efforts throughout operations. The library construction and complex design left no practical way to ventilate the involved areas. In addition, the building acted as a "heat sink," holding the heat long after the fire was out. These combined factors made penetration into involved areas extremely difficult. Access to the book tiers was limited to four, narrow, 36- inch-wide stairways and one window.

By 1130 hours, 22 fire companies, 8 command and staff officers, and 1 rescue ambulance were committed to the Los Angeles Central Library fire.

1130 to 1200 Hours

Battalion 7's Chief Allen arrived and established lobby control inside the main library entrance on Fifth Street.

Now the fire appeared to be contained in the northeast stack. The three major tasks were to provide ventilation, to rotate members of the fire attack teams, and to conduct salvage operations below the fire area.

Chief Lilly of Battalion 18 and Chief Dameron of Battalion 3 arrived and were assigned to logistics and salvage, respectively.

Chief Mello's division continued efforts to ventilate. Windows and skylights were opened or broken out, with little or no positive effect. The 16-inch-thick reinforced concrete walls and 6-inch-thick reinforced concrete roof and floors, combined with the lack of vertical or horizontal passages, made ventilation almost impossible.

Salvage operations began on the first and second floors and in the first through fifth tiers in the northeast stack, beneath the fire area. Crews used polyethylene plastic and salvage covers to cover book shelves and furniture, and arranged sawdust to direct water out of the building.

When Division 1's Chief Rojo arrived, he was assigned operations and Chief Creasey was assigned fire attack. The incident was redesignated as the "Fifth Street I.C."

Chief Paramedic Fasana arrived at 1145 hours and established a medical division across from the library on Fifth Street, west of the main entrance. Medical operations were sheltered in the entrance to an underground garage.

The order to shut down the building's ventilation and electrical systems was made at 1156 hours. At about the same time, the first two firefighter injuries occurred: one suffered heat exhaustion and one had burned knees.

The department's supply and maintenance division was notified of the fire in progress, and Emergency Air 2 was ordered to respond with a full load of air cylinders. Chief Anthony directed that staff be notified of a major emergency in progress.

By noon, 24 fire companies, 10 command and staff officers, and 5 rescue ambulances had been assigned to the Central Library fire.

1200 to 1230 Hours

Fire in the Wall

At 1201 hours, Chief Mello reported fire in a third floor wall. His position was above the west end of a hall connecting

the northeast and northwest stacks at the seventh tier level (see Figure 1).

Fire fighting efforts still were concentrated in the northeast stack area, where Chief Creasey reported that forces were experiencing serious problems caused by heat and smoke banking down due to restricted ventilation. Creasey also expressed concern about a possible flashover resulting from the tremendous heat build-up in the northeast stack.

Heat and smoke were so intense that crews had to be rotated every 15 to 20 minutes. Firefighters were taking a beating. Whenever they opened a nozzle, superheated steam drove them back.

From outside, dark smoke was visible at the center and west portions of the building. At 1225 hours, Engine 60 reported fire showing at the windows of a light shaft at the west end of the seventh tier corridor connecting the northeast and northwest stacks. This was close to the area where Chief Mello had reported fire in the wall.

Chief Rojo directed an attempted fire attack at the light shaft. Light Force 3 and Task Force 35 personnel launched this attack.

More companies were ordered, including Emergency Air 88 and an air ambulance. Supply and maintenance delivered 13 blowers, 50 bags of sawdust, and 30 rolls of plastic to the scene.

1230 to 1300 Hours

Fire in the Northwest Stack

By about 1230 hours, fire had spread through the corridor connecting the northeast and northwest stacks. The sixth and seventh tiers of the northwest stack were involved in fire. Forces were directed up the stairs in the northwest stack, to attack the fire from below.

They encountered the same problems — extremely high temperatures, heavy smoke, narrow aisles and very limited access. Firefighters reported that the metal bookshelves were bright red from intense heat. Attack forces used 2½-inch lines; meanwhile, they were protected by 1½-inch lines. Little progress could be made, and fire attack teams had to be rotated every 10 to 15 minutes because of the intense heat.

At 1241 hours, Chief Anthony requested an additional fire ground radio frequency and was assigned Channel 5. Chief Anthony gave Chief Engineer Donald Manning an update on operations. At about the same time, Chief Drummond, the fire marshal, arrived on the scene. The medical division requested all available saline solution to the fire, for use in treating firefighters suffering burns and heat exhaustion. Assistant Chief Lucarelli and Battalion Chief Defeo, both from supply and maintenance, arrived and were assigned logistics and lobby control. Chief Lilly was reassigned to second floor staging and Chief Allen to the northeast stack area.

The ventilation division wielded sledgehammers and axes to breach the roof, but still could not open a hole large enough for effective ventilation.

Two hours into the fire, 34 fire companies, 12 command and staff officers, 1 air ambulance, and 7 rescue ambulances had been committed to the incident.

1300 to 1400 Hours

Change of Command

Between 1300 and 1330 hours, Chief Drummond became incident Chief Anthony and Chief Rojo toured the building interior, assessing the situation and developing further attack plans. The decision was to alternate between the use of heavy streams to cool the fire and the use of an interior attack to extinguish it.

The need to open up walls and roofs with jackhammers became even more apparent. At 1314 hours, Heavy Utility 27 was requested, as well as a second helicopter for observation purposes.

The fire in the northeast stack area was being controlled. Only spot fires and deep-seated hot spots remained. But the connecting hallway, with temperatures of 2000°F to 2500°F, was untenable, even for firefighters in full protective gear.

Tiers Collapse

Far from being controlled, the fire in the northwest stack area raged until it led to the collapse of the sixth and seventh tiers.

Chief Anthony called an operations planning meeting and divided the building into four quadrants, each including a stack and approximately one-fourth of the building. Placed in commander, and Chief Anthony took over operations, coordinating all fire fighting. Fire had become visible in the patent room at the west end of the building. Fire now extended almost 300 feet across the entire second floor, having traveled from the northeast stack through the connecting hall into the northwest stack, and out the window on the west end.

Command of the quadrants were Chief Rojo, the northwest quadrant; Chief Vega, assisted by Chief Allen, the northeast quadrant; Chief Creasey, the southeast quadrant; and Chief Mello, the southwest quadrant.

At 1344 hours, forces were removed from the northwest quadrant so that Engine 29 and Truck 75 could begin a heavy stream attack. A portable monitor was used in the east end of the connecting hallway, to cool the area and to prevent heavy streams from pushing the fire back. Despite the portable monitor and the use of handlines, the connecting hall remained too hot to work in for several more hours.

The coordinated attack, alternating between exterior heavy streams and interior handlines, continued until about 1400 hours. By then, any fire that could be reached with exterior heavy streams had been knocked down.

1400 to 1530 Hours

An interior attack in the northwest stack resumed, using 2½-inch and 1½-inch handlines. Companies advanced from the patent room on the west, the southwest stack from the south and up the stairs of the northwest stack. Temperatures in the connecting hall still prevented an attack from the east. Companies continued to be rotated every 15 minutes.

The attack was maintained until utility forces could use jackhammers to ventilate the stack area through the third floor. Meanwhile, five task forces were requested to provide emergency relief to attack crews.

Chief Allen called a knockdown on the northeast stack, where fire had been stopped from entering the southeast stack.

Between 1430 and 1500 hours, the fire attack continued in the northwest stack. Extreme heat and limited access slowed progress, but between 1500 and 1530 hours, all fire spread was stopped and the only remaining fire was limited to the northwest stack. But the advance of handlines was difficult; the concrete walls retained heat, even where the fire had been knocked down; and very little progress could be made in reaching the seat of the fire.

1530 to 1730 Hours

Jackhammering holes through the third floor to ventilate the northwest stack area began at about 1530 hours. As each hole was opened, large volumes of pressurized heat and smoke were vented. The jackhammer crews were required to wear full protective gear, including SCBA, as well as ear muffs. They were protected by hose lines and blowers, which kept smoke and heat away. Water applied to cool this area would actually boil when it hit the hot floors. Eighteen holes eventually were punched through the 6-inch-thick concrete steel-reinforced floor.

Simultaneously, crews in the patent room used sledgehammers to break the wall into the seventh tier of the northwest stack. By 1600 hours, ventilation efforts took effect, and fire attack teams began making slow progress into the fire area.

By 1630 hours, command in the northeast, southeast and southwest quadrants reported that crews were being removed from those areas. Salvage operations, begun early in the fire, continued throughout the building, including all areas below the fire. In the northwest stack area, firefighters using handlines continued to advance slowly into the fire area, and the size of the uncontrolled fire continued to shrink. Finally, 7 hours and 38 minutes after the alarm was received, a knockdown was declared in the Los Angeles Central Library fire.

Analysis

It has been determined that the Central Library fire was incendiary and was caused by the ignition of ordinary combustibles. No arrests have been made, and the fire remains under investigation.

The fire began on the fifth tier of the northeast stack and spread rapidly up through open spaces in the floors to the sixth and seventh tiers. When the fire reached the concrete ceiling, it mushroomed down and spread horizontally along a hallway that connected the northeast and northwest stacks at the seventh tier level. Only aggressive fire fighting kept the fire out of the southeast and southwest stacks.

No deaths or critical injuries occurred during this fire. Fifty firefighters and one civilian suffered injuries. Twenty-eight of the firefighters were transported to medical facilities; the remainder were treated at the scene.

The $2 million property loss to the structure represents only 4 percent of the building's value of $50 million. The $20 million loss of contents represents just 20 percent of the library's $100 million in contents.

A key reason for the minimal loss to contents was the high priority placed on salvage operations. At about 23 minutes into the fire, three fully staffed salvage companies were requested. Salvage operations began early in the fire and continued throughout the night and into the next day.

Sixty salvage covers and more than 98 rolls of polyethylene plastic — enough to cover two square acres — were used to protect the books in the four stack areas and the numerous public reading areas.

The design and construction of the building contributed to the severity of the fire for the following reasons:

- The interior traffic patterns were confusing.
- The stack design caused rapid spread of the fire both vertically and horizontally.
- The lack of vertical and horizontal openings into the stacks, coupled with the steel-reinforced concrete floors and roofs, made ventilation extremely difficult.
- The heavy fire load of 93 pounds per square foot allowed temperatures in excess of 2000°F to develop.
- The thick concrete walls, roof and floors held heat long after the fire was extinguished, making entry into burned areas impossible for hours after the fire was out.

Editor's note: An in-depth article analyzing the Los Angeles Central Library building and fire is being prepared by Michael S. Isner, fire protection specialist, NFPA Fire Investigations and Applied Research Division. It will appear in the NFPA membership magazine, *Fire Journal*, early next year.

The Salvage Effort: One for the Books - by Robert Day

A unique bond between the Los Angeles Fire Department personnel and Central Library employees grew out of this fire.

At the urging of Mayor Tom Bradley, library employees gathered at 9 p.m., on the evening of the fire to begin salvage operations. In groups of five they entered the still-smoldering building, escorted by exhausted firefighters. It was the first chance librarians had had to see the damage — and to realize what a tough, hazardous fire it had been to fight.

Even to a layman, the fire department's extraordinary efforts to minimize the damage were evident. Huge sheets of plastic had been placed carefully over shelved books to reduce water damage. Library employees learned that this was done by a specially trained salvage team. Tears of gratitude mixed with tears of grief.

Over the next days, the salvagers entered more burned out areas. With each new bit of evidence of the fire's savagery, esteem for the firefighters' skill and courage grew. The library staff received news of the firefighter injuries with deep sadness; they began looking for ways to express their thanks and appreciation to LAFD.

The first opportunity came at a press conference, where a fund-raising committee for the library was announced. Civic and business leaders received polite applause. But the introduction of Fire Chief Donald Manning brought 200 cheering employees to their feet. Photos of the minutes-long ovation were carried in newspapers and on television.

A more tangible form of gratitude followed: Printed shirts declaring "Central Library Lives" were made available to all library employees, with the proceeds to go to the Fireman's Widow and Orphans Fund. So far, $3,000 has been raised.

In addition, the new, renovated Central Library will display a plaque listing the name of every firefighter involved with the fire.

Chief Manning, in turn, surprised library employees by recognizing their efforts. Explaining to the Board of Library Supervisors the tremendous morale boost the library staff has given the fire department, he presented a handsome plaque with this inscription: "In appreciation of outstanding support and dedication by the administration and staff of the library department following the disastrous Central Library fire."

These feelings of mutual appreciation are bound to continue and strengthen as the library moves to temporary quarters while the original building is upgraded and expanded.

Two major library fires in four years, both arson related, have impressed on civic leaders and fire department and library personnel the need to cooperate as never before on fire prevention. Books sometimes are irreplaceable, but lives always are.

Editor's note: Robert Day's mother is head children's literature librarian at the Central Library.

On the Job

By Alan Simmons

Los Angeles: $22 Million Blaze at Central Library Requires City's Largest Commitment of Firefighting Forces

A major emergency fire struck the Central Library in downtown Los Angeles on April 29, 1986, injuring 44 firefighters and one civilian and forcing the evacuation of 400 people. The stubborn, arson-caused blaze resulted in $20 million damage to the books and $2 million to the unsprinklered structure, but through aggressive interior firefighting and diligent salvage work, the LAFD saved 85 percent of the book collection, valued at $100 million, and averted major damage to the $50 million historic building. Chief Engineer Donald Manning called the incident "the most significant structure fire that this department has had to encounter."

Before the fire could be controlled, 60 fire companies, 4 fully manned salvage units, a squad, 2 air utilities, a heavy utility rescue, 9 rescue ambulances, a helicopter and 30 command officers would work at the blaze — a total of 350 personnel, or 45 percent of the city's on-duty firefighting force. "It was certainly the largest commitment to any structure that we can recall in the history of the city," according to Deputy Chief Donald Anthony, commander of the fire suppression bureau. The extensive firefight lasted seven-and-a-half hours.

Located at 630 West 5th Street, the library is a three-story concrete-reinforced structure measuring 480 feet long and 250 feet wide. It has a full basement and a large open six-story-high rotunda in the center of the building. Built in 1926 and patterned after the Nebraska State Capitol, the structure is an exotic mixture of Byzantine, Egyptian and Roman architecture.

The library is designed around a center core, in which each of the four corners house silo-type units known as "stacks." Approximately 2 million books are stored in the stacks, which have no access from the public reading rooms that surround them. The stacks extend from the first through the second floors and have seven levels or tiers, with narrow metal stairways connecting each tier and a book elevator in the center of each stack. On each tier are 36-inch-wide aisleways, connecting several rows of floor-to-ceiling metal bookshelves. Open vertically through all seven tiers, the stacks are connected by a hallway at the second-floor level.

With its unprotected vertical and horizontal openings, the Central Library has long been considered a fire problem. Compounding this problem is the inability to ventilate the structure adequately due to its 16-inch-thick concrete walls and 6-inch-thick concrete roof. In 1956, Fire Chief John Alderson said that "a fire in the library would be an intolerable situation and would have to be fought from the street with an extreme loss."

In 1979, Chief Craig Drummond, commander of the Fire Prevention Bureau, along with several inspectors, put together a multi-point correction program designed to minimize fire damage and create a safer environment for library employees and patrons. The

program addressed basement storage, installation of a smoke detector system, enclosure of stairshafts, one-hour separation from public areas and employee fire-safety education. All of these items had been completed at the time of the fire, except for the one-hour separations, which were in progress.

The Los Angeles City Fire Department protects 3 million people in a 464-square-mile area consisting of every imaginable fire problem: industrial, commercial and residential structures; wildland brush; refineries; high-rises; two major airports and a major seaport. Responding to about 100,000 alarms a year, the 2750-man department operates 104 fire stations with 48 task forces, 52 triples, 7 helicopters, 3 hazardous material squads, and 5 fireboats within 3 divisions and 16 battalions. A task force consists of a two-piece engine company (both triple combination pumpers), a truck company (100-foot tractor-trailer aerial) and 10 members. A light force is a shortened version of a task force, consisting of the pump of a two-piece engine, a truck and 6 members.

At 10:52 a.m. on April 29, the LAFD's dispatch center (OCD) received an alarm of "bells ringing" from a library telephone operator. Task Forces 3 and 9, Engine 10, Squad 4 and Battalion Chief 1 Don Cate were dispatched to a "reported automatic alarm at the Central Library, 630 West 5th Street." Arriving at the main entrance at 10:57 a.m., Engine 10 under the command of Captain Don Stukey, reported, "Bells ringing, people outside, with nothing showing."

Most of the building's 400 occupants were already outside the structure when the units arrived on the scene. Task Force 3, Squad 4 and Battalion Chief 1 responded to the 5th Street address, while Task Force 9 took the rear of the building off Hope Street. Engines 10 and 3 formed the investigation team and proceeded through the main entrance. Engine 3 went to the basement to check the alarm panel, while Engine 10 proceeded to the third floor. Standing fast on Hope Street, Engine 9 reported "light smoke" from the roof at the east end of the building.

Arriving on the third floor, Captain Stukey and his crew discovered light smoke hanging in the hallway in the northeast corner of the building. Upon further investigation, Engine 10 found a room with heavy smoke and heat, and radioed Battalion 1 that it had encountered a smoke condition on the third floor. Then they connected a 1 1/2-inch line to the building's wet standpipe and entered the smoke-filled room. Finding a stairwell, the crew attempted to make it down the stairs but returned to the hallway after encountering untenable conditions. As heavy smoke began banking down in the hallway, Captain Stukey tried to radio for help but could not make contact due to heavy radio traffic.

Calling OCD via landline, he requested hoselines from the outside and high-rise packs to the second floor where the main body of the fire appeared to be.

OCD notified Battalion 1, via radio, of Engine 10's request for help and their instructions. Battalion Chief 1 Cate asked for four additional task forces and set up a command post on 5th Street, just east of the main entrance, labeling it "5th Street I.C." At 11:11 a.m., OCD dispatched Light Force 10, Task Forces 11, 4 and 15, and Engine 29 to the greater alarm fire.

Unable to attack the fire from the third floor, Engine 10 exited down an exterior stairway to the second-floor roof. They drop-bagged up to the roof two 1 3/4-inch lines from the 5th Street side, and proceeded through windows into a second-floor office. ("Drop-bagged" means dropping a 150-foot rope attached to a Scott Air Pak and pulling up the hose to the firefighters' position.) Finding a ramp leading up to the seventh tier of the northeast stack, they advanced their lines to the doorway. It was at this position that Engine 10, accompanied by members of Light Force 10 and several other rotating companies, would be held for two hours, unable to advance due to the tremendous heat in the stack. "All you could see ahead was red," said Stukey. "Get a good shot of water down an aisleway and you got cooked from the steam. Water coming off the ceiling burned right through our coats."

Engines 3 and 9 attacked the fire in the northeast stack from the fifth up to the sixth tiers. Joined by Engine 11, Light Force 9 drop-bagged a 2 1/2-inch and a 1 1/2-inch line up from Hope Street and advanced the lines to the fifth tier, while other firefighters from Light Force 10 and Squad 4 brought a 2 1/2-inch line up from the south side of the northeast stack. John Jacobson and Vince Manzo of Truck 10 met Engine 10's crew at the stack doorway and took over their line. Says Jacobson: "At the same time, the rest of our truck company was bringing a 2 1/2 up from the south side in the east wing, but all those guys got blown off by the heat and smoke. Three of them went to the hospital and a guy from Squad 4 got burned pretty bad from steam and hot water. The engineer went down, he got trampled — and the captain went down with smoke. They took a beating."

Battalion Chief 5 Don Mello arrived with additional companies ordered by 5th Street I.C. and, assigned ventilation, ordered windows and skylights opened on the third floor. Light Force 3, assigned to the roof, proceeded up their aerial at the northeast corner, only to find that ventilation was impossible due to the 6-inch-thick concrete roof.

Arriving on the scene, Battalion Chief 11 Claude Creasey, assigned operations chief, took a position in the northeast quadrant and directed firefighting operations. Says he: "Engines 10 and 9 were already in there and had lines in place — right at the seat of the Fire — and I came in on a line behind them into the fifth tier off of the second-floor level. You could see that the fire had already run up through the entire stack. There was so much fire in there that they couldn't make any headway." Recalls Truck 10's Jacobson: "Ten or fifteen minutes was all the guys could take. Four guys at a time would go in, take a beating and come out. We couldn't gain headway."

At 11:27 a.m. Deputy Chief Donald Anthony arrived and assumed command of the fire. He requested three fully manned salvages and five additional chief officers. By 11:30, 22 fire companies, eight chief officers and one rescue ambulance had been assigned to the fire. Division 1 Assistant Chief Ray Rojo arrived and was assigned as operations chief, replacing Chief Creasey who was reassigned to fire attack. Battalion Chief 18 William Lilly and Battalion Chief 3 Ken Dameron arrived and were assigned logistics and salvage respectively. Three problems faced the arriving command personnel and firefighters:

ventilation of the fire area, rotation of teams and salvage. Additional companies were requested.

By noon Chief Creasey reported heavy heat and smoke problems in the northeast quadrant of the building. Companies were unable to advance lines, and Creasey was concerned about flashover in uninvolved areas due to tremendous heat build-up. Although windows and skylights had been broken, there were still no positive results from the ventilation effort. Says Creasey: "Things were happening so fast. I asked for additional lines to back up those already in place. Still, no ventilation was possible." He adds: "I believe the fire had filled that entire stack before we got a chance to get an attack going and, of course, the next thing that happened is that it spread horizontally through that tunnel."

The "tunnel" is a passageway below the third floor, connecting the northeast and northwest stacks. By 1 p.m., the fire had extended into the 300-foot-long passageway into the northwest stack, spread through the patent room and was blowing out the second-floor windows on the west side of the building. When the fire was discovered running the passageway, officers ordered holes cut in the floor of the third story in an attempt to stop the spread of fire. Explains Creasey: "We breached a hole in the floor that actually went into that tunnel. You could see nothing but solid fire, and it was drawing toward the west end. That's where one of the first cellar nozzles went, to cut that fire off, but it had gone past them."

After running the passageway, the first visible flames presented themselves to the hundreds of spectators viewing the fire from the north and west sides. Burning for two hours in the oven-like structure, with its thick walls and roof, the fire finally vented itself from the second floor windows of a lightwell. The fire, having traveled the hallway, now had complete control of the northwest stack, the patent room, and the lightwell, where flames were showing from five windows. Task Force 35 and Light Force 3 attempted to attack the blaze from northwest stack access, but were continually beaten back by intense heat.

Two-and-a-half hours after the initial alarm, firefighters from 15 rotational companies were beginning to get a knockdown in the northeast stack, the original location of the fire. Task Force 10, redirected to the west end of the building, joined the fire suppression effort in the northwest stack, where all the crews were taking a tremendous beating from the overwhelming heat. Recalls engineer Don Bair of Engine 10: "We needed a 1 1/2-inch line to protect the guys using a 2 1/2, just to keep them cool."

Chief Creasey, in command of fire attack, had also taken position in the west quadrant. "We went up a stairway into that stack twice and used up a full bottle, but couldn't even make a turn to head up the stairwell," he says. "We just couldn't advance with the heat. We had a 2 1/2 and a 1 1/2 in there, and I had a company bring in a 1 3/4. And we took that in there also, and we still couldn't make any headway. We coordinated everyone backing out, making a stand at the bottom of the stairway, out of the fire, and that's when we hit it with the heavy streams."

When the order was given to operate heavy streams, Engine 29, located at the northwest corner, opened up its wagon battery into windows of the patent room and lightwell. Truck 75 positioned its ladder pipe stream to hit the west windows of the lightwell. After 10 minutes of operation, all visible fire in the west end darkened, and the heavy streams were shut down. Notes Creasey: "We went back in with the 2 1/2 and 1 3/4 lines, and we started to make some headway then."

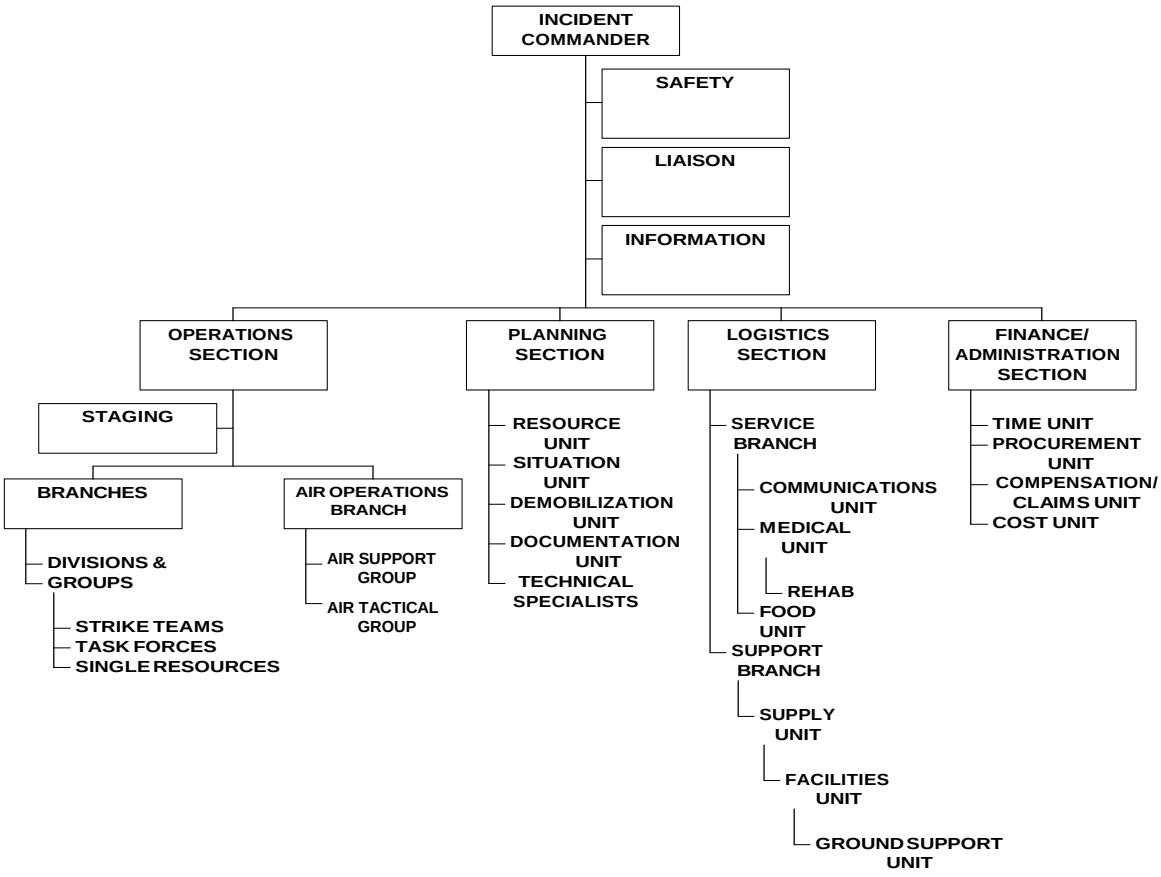
By 3 p.m. all fire spread had been halted. Though all of the heavy fire had been knocked down in both stacks, considerable fire still remained in the rubble of the stack aisleways. The metal shelving of the tiers, some of which had collapsed down through the stacks, glowed cherry red. The 16-inch-thick concrete walls retained the intense heat of the fire well into the following day.

Early in the fire, Rescues 9 and 3 of LAFD's paramedic division were dispatched to the greater alarm blaze. Rescues 9 and 3 established communications with the medical alert center and started initial triage of the first injured firefighters as they came out. Chief Paramedic J. Fasana arrived on scene at 11:27 a.m. and set up a medical command post and treatment center on 5th Street, just west of the main entrance of the library. While four rescue ambulances were committed directly to treatment and triage, the Hospital Emergency Response Team from Los Angeles County U.S.C. Medical Center was requested. Five fire department rescue ambulances and one helicopter were committed to transportation, as well as five private ambulances.

All injuries were treated at the 5th Street treatment center; those victims not transported were removed to a rehabilitation division established on the grounds of the library at the east side. In all, 46 firefighters were treated for injuries, with 28 transported to four local hospitals, three in serious condition. Thirty-two firefighters were treated for heat exhaustion.

After a seven-and-a-half hour battle, firefighters finally knocked down the blaze, requiring 350 members manning 78 units. The blaze has been labeled as arson and is still under investigation.

INFORMATION ON THE INCIDENT COMMAND SYSTEM TO BE USED TO COMPLETE THE LIBRARY FIRE ACTIVITY



I. Introduction

The ICS organization develops around five major functions that are required on any incident whether it is large or small. For some incidents, and in some applications, only a few of the organization's functional elements may be required. However, if there is a need to expand the organization, additional positions exist within the ICS framework to meet virtually any need.
ICS establishes lines of supervisory authority and formal reporting relationships. There is complete unity of command as each position and person within the system has a designated supervisor. Direction and supervision follows established organizational lines at all times.

The following are the major responsibilities and duties of all ICS positions. Individual agencies may have additional responsibilities and more detailed lists of duties.

II. Incident Commander and Command Staff

A. Incident Commander

The Incident Commander's responsibility is the overall management of the incident. On most incidents the command activity is carried out by a single Incident Commander. The Incident Commander is selected by qualifications and experience.

The Incident Commander may have a deputy, who may be from the same agency, or from an assisting agency. Deputies may also be used at section and branch levels of the ICS organization. Deputies must have the same qualifications as the person for whom they work as they must be ready to take over that position at any time.

Responsibilities:

- Assess the situation and/or obtain a briefing from the prior Incident Commander.
- Determine Incident Objectives and strategy.
- Establish the immediate priorities.
- Establish an Incident Command Post.
- Establish an appropriate organization.
- Ensure planning meetings are scheduled as required.
- Approve and authorize the implementation of an Incident Action Plan.
- Ensure that adequate safety measures are in place.
- Coordinate activity for all Command and General Staff.
- Coordinate with key people and officials.
- Approve requests for additional resources or for the release of resources.
- Keep agency administrator informed of incident status.
- Approve the use of trainees, volunteers, and auxiliary personnel.
- Authorize release of information to the news media.
- Order the demobilization of the incident when appropriate.

B. Command Staff

1. Information Officer

The Information Officer is responsible for developing and releasing information about the incident to the news media, to incident personnel, and to other appropriate agencies and organizations.

Only one Information Officer will be assigned for each incident, including incidents operating under Unified Command and multijurisdiction incidents. The Information Officer may have assistants as necessary, and the assistants may also represent assisting agencies or jurisdictions.

Responsibilities:

Agencies have different policies and procedures relative to the handling of public information. The following are the major responsibilities of the Information Officer that would generally apply on any incident:

- Determine from the Incident Commander if there are any limits on information release.
- Develop material for use in media briefings.
- Obtain Incident Commander's approval of media releases.
- Inform media and conduct media briefings.
- Arrange for tours and other interviews or briefings that may be required.
- Obtain media information that may be useful to incident planning.
- Maintain current information summaries and/or displays on the incident and provide information on status of incident to assigned personnel.
- Maintain Unit Log.

2. Liaison Officer and Agency Representatives

a. Liaison Officer

Incidents that are multijurisdictional or have several agencies involved, may require the establishment of the Liaison Officer position on the Command Staff.

The Liaison Officer is the contact for the personnel assigned to the incident by assisting or cooperating agencies. These are personnel **other than those on direct tactical assignments or those involved in a Unified Command**.

Liaison Officer major responsibilities and duties:

- Be a contact point for Agency Representatives.
- Maintain a list of assisting and cooperating agencies and Agency Representatives.
- Assist in establishing and coordinating interagency contacts.
- Keep agencies supporting the incident aware of incident status.
- Monitor incident operations to identify current or potential interorganizational problems.
- Participate in planning meetings, providing current resource status, including limitations and capability of assisting agency resources.
- Maintain Unit Log.

b. Agency Representatives

In many multijurisdiction incidents, an agency or jurisdiction will send a representative to assist in coordination efforts.

An Agency Representative is an individual assigned to an incident from an assisting or cooperating agency who has been delegated authority to make decisions on matters affecting that agency's participation at the incident.

Agency Representatives report to the Liaison Officer, or to the Incident Commander in the absence of a Liaison Officer.

Responsibilities:

- Ensure that all agency resources are properly checked-in at the incident.
- Obtain briefing from the Liaison Officer or Incident Commander.
- Inform assisting or cooperating agency personnel on the incident that the Agency Representative position for that agency has been filled.
- Attend briefings and planning meetings as required.
- Provide input on the use of agency resources unless resource technical specialists are assigned from the agency.
- Cooperate fully with the Incident Commander and the General Staff on agency involvement at the incident.
- Ensure the well-being of agency personnel assigned to the incident.
- Advise the Liaison Officer of any special agency needs or requirements.
- Report to home agency dispatch or headquarters on a prearranged schedule.
- Ensure that all agency personnel and equipment are properly accounted for and released prior to departure. Ensure that all required agency forms, reports and documents are complete prior to departure.
- Have a debriefing session with the Liaison Officer or Incident Commander prior to departure.

3. Safety Officer

The Safety Officer's function is to develop and recommend measures for assuring personnel safety, and to assess and/or anticipate hazardous and unsafe situations.

Only one Safety Officer will be assigned for each incident. The Safety Officer may have assistants as necessary, and the assistants may also represent assisting agencies or jurisdictions. Safety assistants may have specific responsibilities such as air operations, hazardous materials, etc.

Responsibilities:

- Participate in planning meetings.
- Identify hazardous situations associated with the incident.
- Review the Incident Action Plan for safety implications.
- Exercise emergency authority to stop and prevent unsafe acts.
- Investigate accidents that have occurred within the incident area.
- Assign assistants as needed.
- Review and approve the medical plan.
- Maintain Unit Log.

III. The ICS General Staff Positions

The General Staff consists of the following positions:

- Operations Section Chief
- Planning Section Chief
- Logistics Section Chief
- Finance/Administration Section Chief

A. Operations Section

1. Operations Section Chief

Responsibilities:

- Manage tactical operations.

  - Interact with next lower level of Section (Branch, Division/Group) to develop the operations portion of the Incident Action Plan.

  - Request resources needed to implement the Operation's tactics as a part of the Incident Action Plan development (ICS 215).

- Assist in development of the operations portion of the Incident Action Plan.

- Supervise the execution of the Incident Action Plan for Operations.

  - Maintain close contact with subordinate positions.

  - Ensure safe tactical operations.

- Request additional resources to support tactical operations.

- Approve release of resources from assigned status (not release from the incident). Make or approve expedient changes to the Incident Action Plan during the Operational Period as necessary.

- Maintain close communication with the Incident Commander.

- Maintain Unit Log.

2. Branch Director (Branches may be functional or geographic)

Responsibilities:

- Obtain briefing from the Operations Section Chief.

- Supervise Branch operations.

- Develop alternatives for Branch control operations.

- Interact with the Operations Section Chief and other Branch Directors to develop tactics to implement incident strategies.

- Be prepared to attend incident planning meetings **at the request of the Operations Chief.**

- Review Division/Group assignments within the Branch and report status to the Operations Section Chief.

- Assign specific work tasks to Division/Group Supervisors.

- Monitor and inspect progress and make changes as necessary.

- Resolve logistics problems reported by subordinates.

- Maintain Unit Log.

3. Division/Group Supervisor

Responsibilities:

- Obtain briefing from the Operations Section Chief or appropriate Operations Branch Director.
- Review assignments with subordinates.
- Inform Resource Unit (if established) of status changes of resources assigned to the Division/Group.
- Coordinate activities with adjacent Division/Groups.
- Monitor and inspect progress and make changes as necessary.
- Keep supervisor informed of situation and resources status.
- Resolve tactical assignment and logistics problems within the Division/Group.
- Keep supervisor informed of hazardous situations and significant events.
- Ensure that assigned personnel and equipment get to and from their assignments in a timely and orderly manner.
- Maintain Unit Log.

4. Task Force/Strike Team Leader

Responsibilities:

- Obtain briefing from supervisor (Division/Group Supervisor, Operations Section Chief, or Incident Commander, depending upon how the incident is organized). Review assignment with subordinates and assign tasks.
- Travel to and from active assignment area with assigned resources.
- Monitor and inspect progress and make changes as necessary.
- Coordinate activities with adjacent Task Force/Strike Team, single resources, or with a functional group working in the same location.
- Keep supervisor advised of situation and resource status.
- Retain control of assigned resources while in available or out-of-service status.
- Maintain Unit Log.

5. Single Resource

The person in charge of a single tactical resource will carry the unit designation of the resource.

Responsibilities:

- Obtain briefing from the Division/Group Supervisor or Task Force/Strike Team Leader.
- Review assignments.

- Obtain necessary equipment/ supplies.
- Review weather/environmental conditions for assignment area.
- Brief subordinates on safety measures.
- Monitor work progress.
- Ensure adequate communications with supervisor and subordinates.
- Keep supervisor informed of progress and any changes.
- Inform supervisor of problems with assigned resources.
- Brief relief personnel, and advise them of any change in conditions.
- Return equipment and supplies to appropriate unit.
- Complete and turn in all time and use records on personnel and equipment.

6. Staging Area Manager

The Staging Area manager reports to the Operations Section Chief or to the Incident Commander if the Operations Section Chief position has not been filled.

Responsibilities:

- Establish layout of Staging Area.
- Post area for identification and traffic control.
- Provide check-in for incoming resources.
- Determine required resource reserve levels from the Operations Section Chief or Incident Commander.
- Advise the Operations Section Chief or Incident Commander when reserve levels reach minimums.
- Maintain and provide status to Resource Unit of all resources in Staging Area. Respond to Operations Section Chief or Incident Commander requests for resources.
- Request logistical support for personnel and/or equipment as needed.
- Maintain Staging Area in an orderly condition.
- Demobilize or move Staging Area as required.
- Maintain Unit Log.

B. Planning Section

The Planning Section collects, evaluates, processes, and disseminates information for use at the incident. When activated, the Section is managed by the Planning Section Chief who is a member of the General Staff.

There are four units within the Planning Section that can be activated as necessary:

- Resources Unit
- Situation Unit
- Documentation Unit
- Demobilization Unit

1. Planning Section Chief

Responsibilities:

- Collect and process situation information about the incident.
- Supervise preparation of the Incident Action Plan.
- Provide input to the Incident Commander and Operations Section Chief in preparing the Incident Action Plan. Reassign out-of-service personnel already on-site to ICS organizational positions as appropriate.
- Establish information requirements and reporting schedules for Planning Section units (e.g., Resources, Situation Units).
- Determine need for any specialized resources in support of the incident.
- If requested, assemble and disassemble strike teams and task forces not assigned to operations.
- Establish special information collection activities as necessary, e.g., weather, environmental, toxics, etc.
- Assemble information on alternative strategies.
- Provide periodic prediction on incident potential.
- Report any significant changes in incident status.
- Compile and display incident status information.
- Oversee preparation of Incident demobilization plan.
- Incorporate the incident traffic plan (from Ground Support) and other supporting plans into the Incident Action Plan.
- Maintain Unit Log.

2. Unit Leader Responsibilities.

In ICS, a number of the Unit Leader's responsibilities are common to all units in all parts of the organization. Common responsibilities of Unit Leaders are listed below. These will not be repeated in unit listings below:

- Obtain briefing from Section Chief.
- Participate in incident planning meetings, as required.
- Determine current status of unit activities.
- Confirm dispatch and estimated time of arrival of staff and supplies.
- Assign specific duties to staff; supervise staff.
- Develop and implement accountability, safety and security measures for personnel and resources.
- Supervise demobilization of unit, including storage of supplies.
- Provide Supply Unit Leader with a list of supplies to be replenished.
- Maintain unit records, including Unit Log.

3. Resources Unit

This unit is responsible for maintaining the status of all assigned resources (primary and support) at an incident. It achieves this through:

- Overseeing the check-in of all resources.
- Maintaining a status-keeping system indicating current location and status of all resources.
- Maintenance of a master list of all resources, e.g., key supervisory personnel, primary and support resources, etc.

Responsibilities:

- Establish check-in function at incident locations.
- Prepare Organization Assignment List (ICS Form 203) and Organization Chart (ICS Form 207).
- Prepare appropriate parts of Division Assignment Lists (ICS Form 204).
- Prepare and maintain the Command Post display (to include organization chart and resource allocation and deployment).
- Maintain and post the current status and location of all resources.
- Maintain master roster of all resources checked in at the incident.
- A Check-In Recorder reports to the Resources Unit Leader and is responsible for accounting for all resources assigned to an incident.

4. Situation Unit

The collection, processing and organizing of all incident information takes place within the Situation Unit. The Situation Unit may prepare future projections of incident growth, maps and intelligence information.

Responsibilities:

- Begin collection and analysis of incident data as soon as possible.
- Prepare, post, or disseminate resource and situation status information as required, including special requests.
- Prepare periodic predictions or as requested.
- Prepare the Incident Status Summary Form (ICS Form 209).
- Provide photographic services and maps if required.

Three positions report directly to the Situation Unit Leader:

- Display Processor — Maintains incident status information obtained from Field Observers, resource status reports, etc. Information is posted on maps and status boards as appropriate.
- Field Observer — Collects and reports on situation information from the field.
- Weather Observer — Collects current weather information from the weather service or an assigned meteorologist.

5. Documentation Unit

The Documentation Unit is responsible for the maintenance of accurate, up-to-date incident files. Duplication services will also be provided by the Documentation Unit. Incident files will be stored for legal, analytical, and historical purposes.

Responsibilities:

- Set up work area; begin organization of incident files.
- Establish duplication service; respond to requests.
- File all official forms and reports.
- Review records for accuracy and completeness; inform appropriate units of errors or omissions.
- Provide incident documentation as requested.
- Store files for post-incident use.

6. Demobilization Unit

The Demobilization Unit is responsible for developing the Incident Demobilization Plan. On large incidents, demobilization can be quite complex, requiring a separate planning activity. Note that not all agencies require specific demobilization instructions.

Responsibilities:

- Review incident resource records to determine the likely size and extent of demobilization effort.
- Based on above analysis, add addition personnel, work space and supplies as needed.
- Coordinate demobilization with Agency Representatives.
- Monitor ongoing Operations Section resource needs.
- Identify surplus resources and probable release time.
- Develop incident check-out function for all units.
- Evaluate logistics and transportation capabilities to support demobilization.
- Establish communication with off-incident facilities, as necessary.
- Develop an incident demobilization plan detailing specific responsibilities and release priorities and procedures.
- Prepare appropriate directories (e.g., maps, instructions, etc.) for inclusion in the demobilization plan.
- Distribute demobilization plan (on- and off-site).
- Ensure that all Sections/Units understand their specific demobilization responsibilities.
- Supervise execution of the incident demobilization plan.
- Brief Planning Section Chief on demobilization progress.

7. Technical Specialists

Certain incidents or events may require the use of Technical Specialists who have specialized knowledge and expertise. Technical Specialists may function within the Planning Section, or be assigned wherever their services are required. In the Planning Section, Technical Specialists may report to the following:

- Planning Section Chief
- A designated Unit Leader

C. Logistics Section

All incident support needs are provided by the Logistics Section, with the exception of aviation support. Aviation support is handled by the Air Support Group in the Air Operations Branch.

The Logistics Section is managed by the Logistics Section Chief, who may assign a Deputy. A Deputy is most often assigned when all designated units (listed below) within the Logistics Section are activated.

Six units may be established within the Logistics Section:

- Supply Unit
- Facilities Unit
- Ground Support Unit
- Communication Unit
- Food Unit
- Medical Unit

The Logistics Section Chief will determine the need to activate or deactivate a unit. If a unit is not activated, responsibility for that unit's duties will remain with the Logistics Section Chief.

1. Logistics Section Chief

Responsibilities:

- Manage all incident logistics.
- Provide logistical input to the Incident Commander in preparing the Incident Action Plan.
- Brief Branch Directors and Unit Leaders as needed.
- Identify anticipated and known incident service and support requirements.
- Request additional resources as needed.
- Review and provide input to the Communications Plan, Medical Plan, and Traffic Plan.
- Supervise requests for additional resources.
- Oversee demobilization of Logistics Section.

2. Supply Unit

The Supply Unit is responsible for ordering, receiving, processing and storing all incident-related resources.

All off-incident resources will be ordered through the Supply Unit, including:

- Tactical and support resources (including personnel).

- All expandable and nonexpandable support supplies.

Responsibilities:

- Provide input to Logistics Section planning activities.

- Provide supplies to Planning, Logistics, and Finance/ Administration Sections.

- Determine the type and amount of supplies en route.

- Order, receive, distribute, and store supplies and equipment.

- Respond to requests for personnel, equipment, and supplies.

- Maintain an inventory of supplies and equipment.

- Service reusable equipment, as needed.

Two Managers report directly to the Supply Unit Leader:

- Ordering Manager — Places all orders for incident supplies and equipment.

- Receiving and Distribution Manager — Receives and distributes all supplies and equipment (other than primary tactical resources), and is responsible for the service and repair of tools and equipment.

For some applications, a Tool and Equipment Specialist may be assigned to service and repair all hand tools. The specialist reports to the Receiving and Distribution Manager.

3. Facilities Unit

This unit is responsible for set up, maintenance and demobilization of all incident support facilities except Staging Areas. The Facilities Unit will also provide security services to the incident as needed.

Responsibilities:

- Participate in Logistics Section/ Support Branch planning activities.

- Determine requirements for each incident facility.

- Prepare layouts of facilities; inform appropriate Unit Leaders.

- Activate incident facilities.

- Obtain and supervise personnel to operate facilities, including Base and Camp Managers.

- Provide security services.

- Provide facility maintenance services, e.g., sanitation, lighting, etc.

- Demobilize Base and Camp facilities.

Three managers report directly to the Facilities Unit Leader. When established at an incident, they have important responsibilities.

Security Manager — Provides safeguards necessary for protection of personnel and property from loss or damage.

Duties of the Security Manager will include but are not limited to:

- Establish contacts with local law enforcement agencies as required.
- Contact the resource use specialists (if assigned) or Agency Representatives to discuss any special custodial requirements that may affect operations.
- Request required personnel to accomplish work assignments.
- Ensure that support personnel are qualified to manage security problems.
- Develop a security plan for incident facilities.
- Adjust the security plan for personnel and equipment changes and release.
- Coordinate security activities with appropriate incident personnel.
- Keep the peace, prevent assaults, and settle disputes through coordination with Agency Representatives.
- Prevent theft of all property.
- Investigate and document all complaints and suspicious occurrences.
- Demobilize in accordance with the Incident Demobilization Plan.

Base Manager — Ensures that appropriate sanitation, security, and facility management services are in place at the Base. Duties of the Base Manager will include but are not limited to:

- Determine requirements for establishing an Incident Base.
- Understand and comply with established restrictions.
- Determine personnel support requirements.
- Obtain necessary equipment and supplies.
- Ensure that all facilities and equipment necessary for Base support operations are set up and functioning.
- Make sleeping area assignments.
- Ensure strict compliance with applicable safety regulations.
- Ensure that all facility maintenance services are provided.
- Ensure that adequate security and access control measures are being applied.
- Demobilize Base when directed.

Camp Manager — On large incidents, one or more Camps may be established. Camps may be in place several days, or they may be moved to various locations.

- Determine or establish number of personnel assigned to Camp.
- Determine any special requirements or restrictions on facilities or operations.
- Obtain necessary equipment and supplies.

- Ensure that all sanitation, shower, and sleeping facilities are set up and properly functioning.
- Make sleeping arrangements and assignments.
- Provide direct supervision for all facility maintenance and security services.
- Ensure strict compliance with safety regulations.
- Ensure that all Camp-to-Base communications are centrally coordinated.
- Ensure that all Camp-to-Base transportation scheduling is centrally coordinated.
- Provide overall coordination of Camp activities to ensure that all assigned units operate effectively and cooperatively in meeting incident objectives.
- Demobilize the Camp in accordance with the Incident Action Plan.

4. Ground Support Unit

The Ground Support Unit is primarily responsible for the maintenance, service, and fueling of all mobile equipment and vehicles, with the exception of aviation resources. The Unit also has responsibility for the ground transportation of personnel, supplies and equipment, and the development of the Incident Traffic Plan.

Responsibilities:

- Participate in Support Branch/Logistics Section planning activities.
- Provide support services (fueling, maintenance, and repair) for all mobile equipment and vehicles.
- Order maintenance and repair supplies (e.g., fuel, spare parts).
- Provide support for out-of-service equipment.
- Develop the Incident Traffic Plan. (Should be done by a person experienced in traffic management.)
- Maintain an inventory of support and transportation vehicles.
- Record time use for all incident-assigned ground equipment (including contract equipment).
- Update the Resources Unit with the status (location and capability) of transportation vehicles.
- Maintain a transportation pool on larger incidents as necessary.
- Maintain incident roadways as necessary.

An Equipment Manager reports to the Ground Support Unit Leader and is responsible for the service, repair, and fuel for all equipment; transportation and support vehicle services; and to maintain equipment use and service records.

5. Communications Unit

The Communications Unit is responsible for developing plans for the use of incident communications equipment and facilities; installing and testing of communications equipment; supervision of the Incident Communications Center; and the distribution and maintenance of communications equipment.

- Advise on communications capabilities/limitations.
- Prepare and implement the Incident Radio Communications Plan (ICS Form 205).
- Establish and supervise the Incident Communications Center and Message Center.
- Establish telephone, computer links, and public address systems.
- Establish communications equipment distribution and maintenance locations.
- Install and test all communications equipment.
- Oversee distribution, maintenance and recovery of communications equipment, e.g., portable radios and FAX machines.
- Develop and activate an equipment accountability system.
- Provide technical advice on:

  - Adequacy of communications system.

  - Geographical limitations.

  - Equipment capabilities.

  - Amount and types of equipment available.

  - Potential problems with equipment.

6. Food Unit

The Food Unit is responsible for supplying the food needs for the entire incident, including all remote locations (e.g., Camps, Staging Areas), as well as providing food for personnel unable to leave tactical field assignments.

Responsibilities:

- Determine food and water requirements.
- Determine method of feeding to best fit each facility or situation.
- Obtain necessary equipment and supplies and establish cooking facilities.
- Ensure that well-balanced menus are provided.
- Order sufficient food and potable water from the Supply Unit.
- Maintain an inventory of food and water.
- Maintain food service areas, ensuring that all appropriate health and safety measures are being followed.
- Supervise caterers, cooks, and other Food Unit personnel as appropriate.

7. Medical Unit

The Medical Unit will develop an Incident Medical Plan (to be included in the Incident Action Plan); develop procedures for managing major medical emergencies; provide medical aid; and assist the Finance/Administration Section with processing injury-related claims.

Note that the provision of medical assistance to the public or victims of the emergency is an operational function, and would be done by the Operations Section and not by the Logistics Section Medical Unit.

Responsibilities:

- Determine level of emergency medical activities prior to activation of Medical Unit.
- Acquire and manage medical support personnel.
- Prepare the Medical Emergency Plan (ICS Form 206).
- Establish procedures for handling serious injuries of responder personnel.
- Respond to requests for:
  - Medical aid.
  - Medical transportation.
  - Medical supplies.
- Assist the Finance/Administration Section with processing paper work related to injuries or deaths of incident personnel.

D. Finance/Administration Section

The Finance/Administration Section is responsible for managing all financial aspects of an incident. Not all incidents will require a Finance/Administration Section. Only when the involved agencies have a specific need for Finance/Administration services will the Section be activated. There are four units which may be established within the Finance/Administration Section:

- Time Unit
- Procurement Unit
- Compensation/Claims Unit
- Cost Unit

1. Finance/Administration Section Chief

Responsibilities:

- Manage all financial aspects of an incident.
- Provide financial and cost analysis information as requested.
- Gather pertinent information from briefings with responsible agencies.
- Develop an operating plan for the Finance/Administration Section; fill supply and support needs.
- Determine need to set up and operate an incident commissary.
- Meet with Assisting and Cooperating Agency Representatives as needed.

- Maintain daily contact with agency(s) administrative headquarters on finance/ administration matters.

- Ensure that all personnel time records are accurately completed and transmitted to home agencies, according to policy.

- Provide financial input to demobilization planning.

- Ensure that all obligation documents initiated at the incident are properly prepared and completed.

- Brief agency administrative personnel on all incident-related financial issues needing attention or followup.

2. Time Unit

The Time Unit is responsible for ensuring the accurate recording of daily personnel time, compliance with specific agency(s) time recording policies, and managing commissary operations if established at the incident.

As applicable, personnel time records will be collected and processed for each operational period.

Responsibilities:

- Determine incident requirements for time recording function.

- Contact appropriate Agency Personnel/ Representatives.

- Ensure that daily personnel time recording documents are prepared and in compliance with agency(s) policy.

- Maintain separate logs for overtime hours.

- Establish commissary operation on larger or long-term incidents as needed.

- Submit cost estimate data forms to Cost Unit as required.

- Maintain records security.

- Ensure that all records are current and complete prior to demobilization.

- Release time reports from assisting agency personnel to the respective Agency Representatives prior to demobilization.

Two positions may report to the Time Unit Leader:

Personnel Time Recorder — Oversees the recording of time for all personnel assigned to an incident. Also records all personnel-related items, e.g., transfers, promotions, etc.

Commissary Manager — Establishes, maintains, and demobilizes commissary. Also responsible for commissary security.

3. Procurement Unit

All financial matters pertaining to vendor contracts, leases, and fiscal agreements are managed by the Procurement Unit. The unit is also responsible for maintaining equipment time records.

The Procurement Unit establishes local sources for equipment and supplies; manages all equipment rental agreements; and processes all rental and supply fiscal document billing invoices. The unit works closely with local fiscal authorities to ensure efficiency.

Responsibilities:

- Review incident needs and any special procedures with Unit Leaders, as needed.
- Coordinate with local jurisdiction on plans and supply sources.
- Obtain Incident Procurement Plan.
- Prepare and authorize contracts and land use agreements, as needed.
- Draft memoranda of understanding.
- Establish contracts and agreements with supply vendors.
- Provide for coordination between the Ordering Manager, agency dispatch, and all other procurement organizations supporting the incident.
- Ensure that a system is in place which meets agency property management requirements. Ensure proper accounting for all new property.
- Interpret contracts and agreements; resolve disputes.
- Coordinate with Compensation/ Claims Unit for processing claims.
- Coordinate use of imprest funds as required.
- Complete final processing of contracts and send documents for payment.
- Coordinate cost data in contracts with Cost Unit Leader.

Equipment Time Recorder — Oversees the recording of time for all equipment assigned to an incident. Also posts all charges or credits for fuel, parts, service, etc., used by equipment.

4. Compensation/Claims Unit

In ICS, Compensation-for-Injury and Claims are contained within one unit. Separate personnel may perform each function, however, given their differing activities. These functions are becoming increasingly important on many kinds of incidents.

Compensation-for-Injury oversees the completion of all forms required by workers' compensation and local agencies. A file of injuries and illnesses associated with the incident will also be maintained, and all witness statements will be obtained in writing. Close coordination with the Medical Unit is essential.

Claims is responsible for investigating all claims involving property associated with or involved in the incident. This can be an extremely important function on some incidents.

Responsibilities:

- Establish contact with incident Safety Officer and Liaison Officer (or Agency Representative if no Liaison Officer is assigned).
- Determine the need for Compensation-for-Injury and Claims Specialists and order personnel as needed.
- Establish a Compensation-for-Injury work area within or as close as possible to the Medical Unit.
- Review Incident Medical Plan.
- Review procedures for handling claims with Procurement Unit.
- Periodically review logs and forms produced by Compensations/Claims Specialists to ensure compliance with agency requirements and policies.
- Ensure that all Compensation-for-Injury and Claims logs and forms are complete and routed to the appropriate agency for post-incident processing prior to demobilization.

Two specialists report to the Compensations/Claims Unit Leader.

Compensation-for-Injury Specialist — Administers financial matters arising from serious injuries and deaths on an incident. Work is done in close cooperation with the Medical Unit.

Claims Specialist — Manages all claims-related activities (other than injury) for an incident.

5. Cost Unit

The Cost Unit provides all incident cost analysis. It ensures the proper identification of all equipment and personnel requiring payment; records all cost data; analyzes and prepares estimates of incident costs; and maintains accurate records of incident costs.

Responsibilities:

- Coordinate with agency headquarters on cost reporting procedures.
- Collect and record all cost data.
- Develop incident cost summaries.
- Prepare resources-use cost estimates for the planning section.
- Make cost-saving recommendations to the Finance/Administration Section Chief.

NURSING HOME SIMULATION BACKGROUND INFORMATION

This information will provide the background for the Nursing Home Simulation on Day 1 of the course.

NURSING HOMES

INTRODUCTION

A nursing home is a structure designed for the care of elderly or disabled persons. Many of the patients may be bed-ridden and not very ambulatory. Most nursing homes must meet a number of state and federal requirements to maintain their licenses. Depending on the local jurisdiction and the state requirements that are in effect, many nursing homes may be considered relatively safe. However, even small fires create large amounts of smoke, and this smoke is detrimental to the life safety of the occupants.

OCCUPANCY SPECIFIC CUES

The construction of nursing homes will vary with the age of the building, its design, and the building codes that were in effect when it was constructed. These types of buildings may be of ordinary, fire-resistive, noncombustible and, in many cases, may be wood-frame construction. It is not unusual to find buildings of this type that have been expanded or remodeled and are of mixed construction types.

Nursing homes fit the target hazard definition by virtue of their resident population, which represents an atypical hazard, and because a major incident will involve multiagency involvement. Evacuation will exhaust initial alarm responders quickly, and easily can outstrip local resources. Response plans will need to address evacuation tactics, equipment, personnel, sheltering and transportation requirements, and documentation issues.

Nursing homes can be virtually any type of construction. Construction type will play a major role in fire spread and fire containment. Type I — Fire Resistive, and Type II — Noncombustible, creates the likelihood that the fire will be contained to one floor. However, Type III — Ordinary, Type IV — Heavy Timber, and Type V — Wood Frame, may allow fire spread through combustible voids in the walls and floors. The roof assembly in the various construction types may also pose a problem for effective vertical ventilation. Roofs could be some type of reinforced concrete, heavy timber, or nominal wood frame, as well as, steel bar-joist with metal decking.

It must be remembered that construction type refers only to the basic structural elements of the building and not to the furnishings or contents of the building. In many cases, modifications to the original basic structure may have occurred during remodeling or renovation.

In terms of separation of space on individual floors, nursing homes normally are well compartmented. The concept of compartmentation helps to contain a fire to the area of origin but is valid only if the concept is maintained by closed doors that separate an area of fire origin from the rest of the building. There may also be an open space concept in many nursing homes where patients are housed in dormitory style areas.

Vertical compartmentation in multistoried nursing homes relies on protected shaft enclosures. This concept can fail if fire enters stair shafts, elevator shafts, or vertical voids that penetrate floors. It also is defeated when fire laps upward on the outside of the building.

The type of construction and code requirements for built-in fire protection will have a dramatic impact on problems that are encountered in these occupancies.

In some cases the building was constructed originally as a nursing home. In other cases a single-family or multifamily dwelling, an apartment house, or a hospital may have been converted into a nursing home. Although internal fire protection systems such as smoke detectors, central alarms, sprinkler systems, standpipe systems, and smoke removal systems are frequently in place, they may or may not be in working order.

Successful fire control and life safety operations in nursing home occupancies require knowledge of the construction and physical layout of the building. Because of the potential for large life loss, these types of occupancies should be preplanned periodically, and the preplan information should be available at the incident scene for use by Command Officers.

As part of the preincident planning process, you should know the number and condition of the occupants, the type of construction, and the adequacy of fire department access. Using a preincident plan similar to the NFA's Quick Access Prefire Plan (QAP) is critical to having the necessary critical information at the scene. Get to know the nursing home personnel on duty and the fire and evacuation procedures. Ensure that the staff is well trained and understand that they should alert the fire department before attempting to control a fire, and that they regularly practice evacuation procedures.

Alarm systems have to be considered the first line of defense in any habitational occupancy, and in nursing homes, they can range from barely compliant to state-of-the-art. Even though alarm systems are installed, they may not be maintained well and fail to function when fires do occur. Added to this is the fact that nursing home staff personnel often are reluctant to report fires until they have checked out the area.

Sprinkler systems are certainly one of the most effective built-in life safety features, yet they are found only in the newest structures of this type, or in some cases, have been retrofitted under local or state ordinances that were passed following tragic fire losses. Often nursing homes will have sprinklers installed only in selected areas such as basements or possibly in hallways, but not in individual rooms.

Standpipe systems found in nursing homes usually may only consist of Class I systems (1-1/2") that are supplied from the domestic water supply system. These systems should not be considered reliable for primary fire department use. In most cases, they provide low working pressure, minimal water supply, and any equipment attached to them is inferior when compared to fire department standards. If Class I systems are used for initial attack, they should be backed up with regular fire department lines from a reliable supply source.

Class II standpipe systems (2-1/2") may be found in many nursing homes. Class II systems are designed for fire department primary use and may be either wet systems or dry systems. Wet systems normally are supplied by a fire pump that provides much more water volume and pressure than a Class I system.

The location of standpipe outlets in the building should be noted on preplans.

Because of the occupant load in nursing homes, life safety is the major issue. The occupant load in a nursing home at any given time will vary according to several factors, such as the size of the structure and community size.

Access to these types of structures will vary depending on the design of the building and original code requirements. Normally a minimum of two means of egress are required. In some cases, the number of access points may be determined by exit requirements, based on occupant load. Access to all sides of the structure by fire apparatus may be hampered by parking lots filled with vehicles or narrow driveways and alleys. Because access points can be critical to fire control operations, they should be noted on preplans.

In addition to access to the building, access to the fire area may be delayed. This is especially true if the fire is located on an upper floor of a multistoried building. Smoke and heat in the hallways also may delay access to the area where the fire is burning. The horizontal distance that must be traveled as well as the lengths of hose required to reach the fire area can delay access in some cases.

The use of ground or aerial ladders to access the fire area may be difficult. Ground-level obstructions may prevent placing apparatus in positions from which ladders can be used. Utility poles and wires are common obstructions that often make ladder placement difficult or sometimes impossible. Many newer multistoried structures may have inoperable windows which complicate entering the building from exterior ladders.

Multiple stair shafts are common in many multistory nursing homes. This requires a decision as to which stairway should be used and for what purpose. Selection of specific stair shafts for fire attack, ventilation, and evacuation may be necessary. It is also important to remember that all stair shafts in the building may not provide access to the roof. This can cause serious problems when occupants attempt to evacuate upward in the building and also limits options for ventilating smoke-filled floors.

Multistory nursing homes are equipped with elevators which may be hydraulically or electrically operated. Regardless of the type of elevator system, they are subject to system malfunctions which can cause them to respond to nonselected floors or become stuck in the hoistway. The safest approach to use of elevators is that they should not be used by fire personnel until it is determined that they are safe to use and the elevator lobby on the fire floor is under fire department control. A departmental procedure regarding use of elevators under fire conditions should be in place and followed by all personnel.

Water supply in areas where nursing homes are located is usually from hydrants which will provide adequate supply for most firefighting needs. However, many nursing homes are built in nonhydrant areas. If the fire involves several rooms or more than one floor, consideration should be given to the ability of the hydrant supply to deliver the necessary fire flow. If a sprinkler system also must be supplied, it may be necessary to assign additional resources to deliver the required fire flow.

Fire development and behavior in nursing home fires normally are no different than in other types of structures, as the fires usually are confined to a single room or living unit. Extinguishment can be relatively simple if doors to the fire area are closed, and vertical lapping does not occur. However, if a door to the unit is open or fails, fire and smoke entering the corridors can create major problems. Any time that fire and smoke are allowed to enter corridors or stair shafts, serious life safety problems are created.

If vertical lapping occurs, the potential for fire on more than one floor exists. The rate of vertical extension will depend on several factors. The volume of fire exiting the area of origin certainly will be a factor as will the type and thickness of glass and the window frame material on upper

floors. Single-strength glass set in aluminum frames can fail very quickly when exposed to flames from a fire below.

Resources must be considered in terms of fire condition and the amount of work that must be done. A small fire with no extensive search and rescue required usually can be handled with the initial alarm assignment. In these cases fire attack, limited evacuation, and possibly some simple ventilation will be required. However, with a larger fire that can spread rapidly, coupled with a major search and rescue operation and complex ventilation requirements, additional resources will be required. If any doubt exists that initial alarm resources are adequate, additional resources should be requested in a timely manner.

MEDICAL GROUP/BRANCH

A Medical Group or Medical Branch may have to be established at a multicasualty situation.

The following units may have to be established in a Medical Group/ Medical Branch:

- Triage.
- Treatment.
- Transportation.
- Medical Supply.
- Morgue.

Some agencies establish a Medical Staging for patient transport vehicles under the Transportation Unit.

CUE-BASED PREDICTIONS

A large number of people may become victims in any fire that produces large amounts of smoke.

The ability to access the floors quickly may be hampered by open stairwells, people evacuating, limited number of stairways, or narrow stairways.

Lack of a standpipe system may make fire attack more difficult.

Many occupants are disabled and will require assistance to evacuate the building.

Fires are often contained to a single room.

A Medical Group or Medical Branch may be required to care for the injured.

INCIDENT MANAGEMENT CUES

Working fires in nursing homes frequently require that several simultaneous tactical operations be performed. Fire attack, search and rescue, and ventilation usually are occurring at the same time. From the standpoint of personnel safety and effective fire control, these operations must be coordinated.

The responsibility for coordinating tactical operations rests with command officers who are directing or supervising these operations. Proper coordination requires not only good communication but also feedback from personnel who are involved in the specific operations.

Failure to coordinate tactical operations can result in some very serious problems. One result of poor coordination can be mixed attack modes where offensive and defensive operations are occurring at the same time in opposition to each other. Delayed or improper ventilation is another example of poor coordination that can have a serious negative effect at incidents of this type.

Lack of coordination of tactical operations during nursing home fires can jeopardize the lives of both building occupants and firefighters. Untenable conditions can be created within the building which may prevent evacuation of occupants. Tactical operations may be impeded seriously, and smoke and fire can be spread throughout the entire building.

ORGANIZATIONAL RESPONSE TO CUES

- A Vent Group for vertical and horizontal ventilation.
- A Division on each floor where operations are needed.
- A Rescue Group. A Branch in multistoried nursing homes.
- A Safety Officer.

STRATEGY AND TACTICS

The basic strategy for fires in nursing homes should be based on the principles of Incident Priorities:

- Life Safety.
- Incident Stabilization.
- Property Conservation.

An effective size-up that identifies the problems that are present will be critical in determining the proper strategy. However, the problems may not all be evident from outside the building. Outside observations should be used as an indicator of problems inside the building until additional information can be provided.

An evaluation of conditions inside the building should be obtained as soon as possible. In addition to life safety concerns, information should be provided on horizontal or vertical extension of the fire. Once the problems are identified, solutions should be developed in terms of what the strategy will be and what specific tactical operations will need to be done.

Identifying the problems is also the first step in determining what resources are required. In simple terms, match the problems with resources. In order to do this, it is necessary to have an understanding of the availability and capability of the resources that are on scene or have been requested. Consideration must be given to how long it will take requested resources to arrive at the scene and how much work they can do when they get there.

The assignment of initial alarm resources should be based on what initial actions will do the most good. In most cases, an immediate and aggressive attack on the fire will ensure the safety of the largest number of building occupants. If an immediate attack on the fire cannot be started, evacuation of building occupants may be the best approach. Ideally, an immediate fire attack coupled with evacuation of those occupants in the most danger will work the best.

Consideration must be given to how stairways will be used for fire attack and occupant evacuation. Doing both from the same stairway should be avoided because it can impede the progress of firefighters and endanger civilians who are trying to exit the building. It is much better to designate one stairway for evacuation and another for fire attack. The stairway used for evacuation purposes should be maintained free of smoke. This can be done by using a stair shaft with a roof opening to remove smoke from the stairway, and by pressurizing the stair shaft from below.

The attack on the fire should be from a direction that does not push the fire into unburned areas of the floor. This can be difficult depending on the location of the fire in relation to access points. Positioning a separate hoseline to limit fire extension is often possible; however, care must be taken that this protective hoseline is not used to attack the fire, which could create an opposing hoseline situation.

With regard to hoseline selection, 1-3/4" hoselines normally are sufficient for fires that are confined to one room or a small area. A backup line also should be positioned as soon as possible. Search and rescue personnel should have a protection line when working in areas exposed to the fire. Heat buildup in hallways may require a large (2-1/2") handline to absorb the heat and provide access to the fire area.

Search and rescue operations during fires in nursing homes should consist of a primary and secondary search. The search should be started in the areas most affected by fire conditions. This normally will be the areas of the floor of origin, which are in close proximity to the fire, and floors above to which heat and smoke have traveled. Occupants of the building should be directed to designated evacuation routes.

In some cases, depending on fire conditions, all occupants of the building may not have to be evacuated. If the fire is contained quickly and smoke removal is started early, many of the building occupants will be in no danger and will be safe staying in their rooms. The decision not to evacuate must be based on fire conditions, good judgment, condition of the patients, and the knowledge that the fire and smoke are being controlled.

For most fires that are confined to one room, removal of smoke and heat can be accomplished by simple horizontal ventilation. Placing smoke ejectors in the hallway and opening windows or sliding doors in the affected areas usually is sufficient. Positive-pressure ventilation also can be used effectively in some situations. One of the difficulties with this approach is that narrow corridors make it difficult to obtain the air seal needed if a single room is to be directly pressurized. An alternative is to pressurize the hallway from the stair shaft and open the door to the fire room or area.

Stair shafts in nursing homes can be used to exhaust smoke from the building under certain conditions. The first requirement is that the stair shaft have a roof exit and that it be opened. Smoke ejectors/blowers can be used to channel smoke down corridors to the stair shaft. Care must be taken that this type of operation does not jeopardize building occupants who may be attempting to evacuate the building.

Salvage operations should be started as soon as resources are available. Normally this will entail removal of water from the fire floor and floor below, and smoke removal from the entire building.

Safety issues associated with nursing home fires must be considered when these types of incidents are encountered. Firefighters will become exhausted quickly from the physical labor of moving patients, especially in large single-floor nursing homes or in multistory ones. The duration of the incident and exertion associated with performing tasks at above-ground fires can quickly tire firefighters and lead to injuries. For this reason, periodic reliefs and use of rehab areas at extended incidents are recommended.

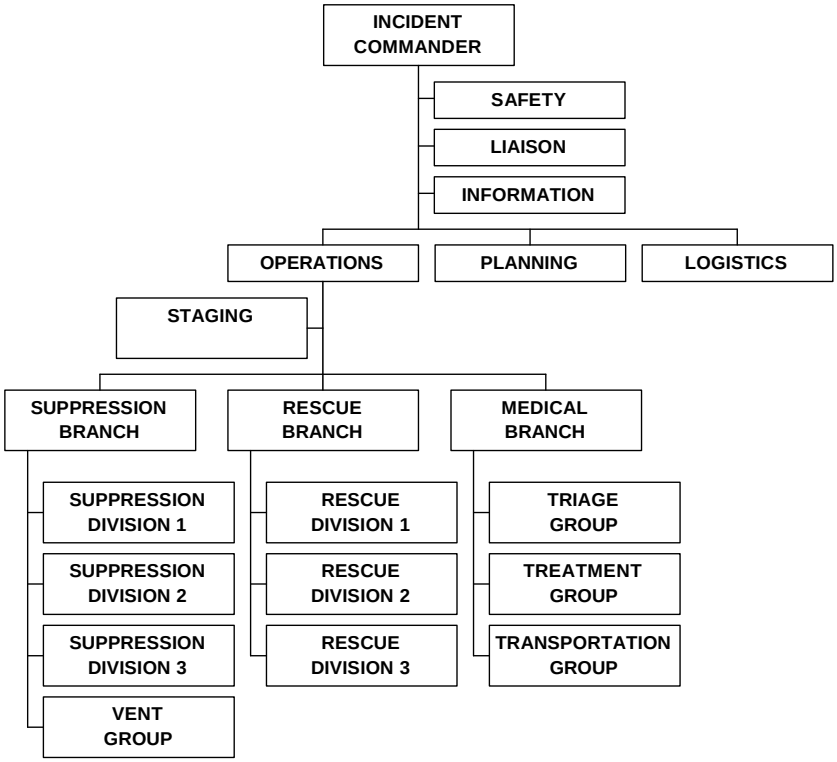
The primary incident consideration is life safety. Occupants are elderly and perhaps nonambulatory. Nursing home patients are typically susceptible to the effects of smoke, even light-smoke conditions. Pneumonia is one of the greatest dangers for these people. This situation may require two- or three-to-one rescue operations, and thus indicate high staffing requirements. Consider a plan that would include separating the fire and smoke from the occupants and internal evacuation. In the event of an actual incident, provide search and rescue and medical assistance. Include locate, confine, ventilate, extinguish, and overhaul as part of the plan.

Fires in nursing homes, depending on the amount of compartmentation and fire location, can usually be contained to a relatively small area.

Should a nursing home fire require the full evacuation of many patients, transportation needs, medical support needs, and shelter needs have to be taken into account. Do you have sufficient medical units, do you need mutual aid or third party assistance? Will city buses or school buses be available? What is their response time after they are requested? What about police assistance? What about air supply and the ability to refill cylinders for firefighters? Is there an MCI unit available or are there MCI trailers that can be brought to the scene? What if the incident escalates, is there a Plan “B?” Have you considered the safety of the response personnel? How will you handle the media?

All of these questions are really problems that you will face at a nursing home incident of any magnitude. You must be mentally prepared to solve those problems. Failure to solve the problems will severely tarnish the reputation of your department and yourself.

ICS organization for a nursing home incident of serious magnitude:



SETON HALL ARTICLES

The Seton Hall Case Study will be discussed on Day 2 of the course.

SETON HALL:
FROM TRAGEDY TO TRIUMPH

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The evening of January 18, 2000 was a momentous one for the Seton Hall University community in South Orange, New Jersey. That night, the Pirates basketball team of Seton Hall defeated its Big East rival, the Red Storm of St. John's University. No one expected that the events of the next 12 hours would completely overshadow the basketball victory and change the lives of many forever.

At approximately 4:30 a.m., a fire alarm was received for Boland Hall in the security office at Seton Hall. Boland Hall is a six-story coed dormitory located on the western end of the South Orange, New Jersey campus, near the main green. The original building was completed in 1952. A major addition was completed in 1976. The building is of noncombustible construction. Hollow-core block walls separate the common hallways from the individual dormitory rooms. Most rooms have double occupancy. Smoke detection equipment in the common areas of Boland Hall was tied to the fire alarm system together with the manual pull stations that transmit to the security office. In many cases, the construction and fire protection features of the Boland Hall dormitory are not unlike those of many other college dormitories across America.

FIRE SPREAD QUICKLY

The fire on the third floor quickly involved the furniture in the roughly 25-foot by 25-foot elevator lobby and adjoining area. The couches, made of polyurethane-like foam rubber, burned rapidly generating high heat and thick, blinding, choking smoke that would prove deadly. The heat and smoke from these limited combustibles filled the hallways while many students remained in their rooms, ignoring the fire alarms. In just a few short minutes, conditions in the hallways became oven-like.

Within minutes, students became aware that there indeed was a fire and this was no false alarm. The screams of awakened students aroused others, who found themselves trapped. Students would later recount that false fire alarms were almost considered a way of life on the college campus, with the result that they tended to be largely ignored.

Arriving, firefighters immediately began a simultaneous attack on the fire and worked to rescue and remove trapped occupants. However, their efforts were stymied by limited staffing. Mutual aid was called, but the stage was already set for a tragedy. Ultimately,

three freshman students lost their lives, and 58 additional students and staff members and four firefighters were injured. Of the 58 students injuries, five were critical, requiring extensive hospitalization, four at the St. Barnabas Burn Center and one at a trauma center.

MEDIA FOCUS ON CAUSES FOR THE TRAGEDY

The ensuing news reports focused on many things: fire inspections were found to be lacking. The fire alarms sounded, but they were largely ignored. The fire department response was delayed while the validity of the fire alarm was checked. And, like so many other fire tragedies, the building was reportedly in compliance with code requirements at the time of construction but not with current standards — in other words, the building did not have a working functional sprinkler system. This proved to be a defining conclusion by the news media. They finally had identified the single most important issue surrounding this tragedy. The only trouble was that they didn't realize it for several days.

Print and electronic media sought comments from the fire service community and public officials. They asked, "Why weren't sprinklers required? Would sprinklers have made a difference? How did the fire start?" These questions were met with icy replies: "The fire is under investigation," and worse yet, "No comment." While the aspects of the investigation should have been kept close to the vest, why couldn't there have been an official comment that addressed the known and perceived fire protection issues? Unfortunately, the fire service, to a large extent, does not know how to deal with the media, let alone master art.

Several days passed before the media were able to reach individuals they described as prominent fire fighting officials who were willing to comment on record. Not surprisingly, the focus of almost all of the comments was on the lack of automatic sprinkler protection. Now the news media had their story. Front-page headlines and leading story introductions dominated the news coverage of the story. Newspapers and television stations were asking the same question, "Why didn't the building have a sprinkler system?"

A CATALYST FOR ACTION

As has happened in the case of past tragedies, the Seton Hall fire set in motion a chain of events that ultimately taught the nation and the nation's fire service lessons that resulted in fire code revisions aimed at preventing such disasters in the future.

Following the fire at the Cocoanut Grove nightclub in Boston on November 28, 1942, which killed 492 people, the news media focused on the fact that the exit doors swung inward instead of outward. The fire codes were soon revised to have the exit doors swing out instead of in.

During the 1958 Our Lady of the Angels School fire in Chicago, Illinois, fire raced up the unenclosed stair towers unchecked. The news media documented how 95 students and nuns were killed as a result. The fire codes were changed to require that exit stair towers be enclosed.

In the wake of the Seton Hall fire, some members of New Jersey's fire service community felt that the time was ripe to take advantage of this tragedy and salvage some good from it

Shortly after the news reports, a number of state legislators expressed, sorrow and indignation. They also introduced at least six pieces of legislation aimed at requiring the retrofit installation of automatic sprinkler protection in all college and university dormitories. Each of the proposed bills had its own special requirements with just enough differences that the bills could be log jammed in the legislature with no hope of passage in sight. The bills designated different buildings to be sprinklered, different time frames for compliance, different funding mechanisms, and varying amounts of funding.

COALITION FORMED

The fire service leadership decided to develop alliances with those outside the fire service to push the legislation along to a successful conclusion. This group came to be known as the Coalition for Safe School Housing and included the fire service; organized labor; the sprinkler industry; and a multitude of organizations, including the state's AFL-CIO. It was also apparent to this group that most of the political figures dealing with this issue needed to be educated about what automatic sprinklers are and how they work.

Within weeks, hearings were scheduled on the bills in the State Senate and Assembly. The Senate bill called for only dormitories to be sprinklered. Amendments to extend it to fraternities, sororities, and boarding schools were initially spurned. The first bill would have required compliance within 15 months, but that was soon amended to two years. It was clear that there was support for the installation of sprinklers, but the proposed legislation was not as broad as the fire service would have liked. The college community also expressed support for the requirement. Its concerns were the time frame for compliance and the funding mechanism.

On the Assembly side, no fewer than three separate hearings were held on the bills. John V. Kelly chairman of the, Assembly's Housing Committee and also chairman of the state's Fire Safety Commission, called for the hearings. In a wise procedural move, Kelly invited members of the Assembly's Education Committee to participate in the hearings. During these hearings, the sentiment was to ensure that the legislation was complete and comprehensive enough to address the need rather than rush something through for the sake of appearance.

Testimony offered was in support of the need for sprinkler protection and covered the size and scope of the areas that needed to have sprinkler systems, the resources within the sprinkler industry to meet the need, and the time frame in which the work could be done.

There was conflicting testimony pertaining to the latter. The colleges and universities' position was that the work could be done only during the summer months when school was not in session. The sprinkler industry countered that work could proceed throughout the year.

It cited experience in hotels and motels as evidence of its ability to work within an operating building. Ultimately, in April, Kelly visited Seton Hall, which was in the process of installing sprinklers in all dorms. Based on that visit, Kelly found out first-hand that the work could be done while school was in session.

Other concerns were identified, and had to be addressed as the process evolved. These issues included how asbestos abatement needed to be done at many of the older buildings that would be affected. Legislators asked whether price per square foot could be relied on to develop budgeting numbers for the legislation. The range of anticipated costs was from a low of $2.50 to a high of $11 per square foot. The higher numbers typically included other work that would result from the sprinkler installation, such as patching, spackling, and painting.

Glaring differences between the Senate and Assembly bills included the time frame for compliance, what would be included in the requirement, the amount of money for the work, and where the money would come from. The Senate bill was requiring compliance in two years and covered only dormitories. Money was to come from a modification of a higher education bonding act that developed approximately $50 million. The Assembly version was leaning to five years, and, more importantly, included fraternities, sororities, and boarding schools. The Assembly bill set up funding of between $90 and $100 million to establish a revolving low-interest loan program.

For several weeks following the Seton Hall fire, area newspapers reported almost every fire that occurred at a college or university in New Jersey. They were all relatively minor in nature, and at least one fire was contained by, a single sprinkler resulting in minor damage.

PENNSYLVANIA TRAGEDY

Then, two months to the day after the Seton Hall fire, tragedy struck at a fraternity house fire in Bloomsburg, Pennsylvania. Five fraternity brothers were killed. Ironically, one of the fraternity brothers killed in the Bloomsburg University frat house fire was from the same town and church parish as one of the freshman students killed eight weeks earlier at Seton Hall.

The momentum initially generated gained even more steam. The focus now became not just dormitories but all student residences. The deaths in Bloomsburg reinforced the lessons of the 1996 University of North Carolina, Chapel Hill fraternity house fire. Among the contributing factors in that fire were lack of a sprinkler system, careless disposal of smoking materials, and unclosed central stairways. For this legislation to be truly effective, fraternities, sororities, and boarding schools would have to be included.

The scope of the installation meant that more than 36,000 beds were to be protected by sprinklers. This represented approximately 71 percent of the college beds in New Jersey and affected 56 of the state's public and private colleges and universities. This would mean that it would more likely take up to five years to complete the work instead of the two years stated in the Senate bill, which by now had passed in the Senate and was awaiting action in the Assembly. Just as it appeared that the five-year plan was to be adopted, Governor Christine Todd Whitman's office issued a statement indicating her support of the bill, but with a four-year window for implementation.

It was late May, and the legislature was busy working to formulate the state budget, which by state constitution had to be completed by July 1. In what can only be described, as an incredible game of legislative ping pong, the sprinkler bill was passed in the Assembly with the five-year window; was sent over to the Senate, where it was amended to the four-year window, as requested by the Governor; and was sent back to the Assembly, where the amended bill was approved. All this was done in a matter of three weeks. The bill was sent to the Governor for her signature to complete the process.

On July 5, 2000, in a modestly attended bill signing ceremony on the green of Seton Hall University, in the shadow of Boland Hall, the most comprehensive legislation requiring sprinkler protection in the college dormitories, fraternities, sororities, and boarding schools was signed into law. The law requires that automatic sprinkler be installed within a maximum period of four years. All schools are required to submit a compliance plan within 120 days to the state's Division of Fire Safety. The installation must be done in phases that stipulate that roughly 25 percent of the work be done each year at a minimum. One key element of the legislation is that water companies are prohibited from assessing water supply stand-by charges for any of these sprinkler systems. This was seen as a major victory for the fire service in New Jersey, which has been pushing this issue for almost two decades. Similar legislation is pending in Pennsylvania.

Naturally, there are some downsides to the legislation. For one, the state of New Jersey still does not have any regulations on the books for the licensing or certification of individuals or firms that install automatic sprinkler systems. Interestingly enough, there is strong support for this type of regulation from the affected industry. The fear expressed by the fire service is that " anyone with a pickup truck and pipe wrench" will be flocking to the state to install sprinklers.

LESSONS LEARNED AND REINFORCED

What are the lessons learned from the Seton Hall fire?

- Perhaps the most important is that it is possible to have an impact and effect positive change in light of a serious tragedy. But that would require doing things that the fire service hasn't really done well in the past, including talking and working with the media, building coalitions, educating public policy makers about fire safety issues, and recognizing that there are others who do not share our passion for a particular issue.

- We still have a long way to go to overcome attitudes about fire safety, including the subject of fire-related human behavior. Most people still think that fire don't happen to them, that they happen to other people, and that when a fire alarm activates it must mean it's a false alarm because that's all it ever is. The even larger issue is overcoming the acceptance of false fire alarms.

- The fire at Seton Hall University also exposed a number of areas where improvement is warranted. Fire department staffing and response, alarm notification procedures, pre-incident planning, fire code enforcement, and inspections have all been identified as lacking. Passing a mandatory sprinkler law will not alleviate the need to address these issues. At the bill signing, Assemblyman Kelly reminded all present that sprinklers alone are not the answer. Sprinklers in conjunction with strong fire prevention efforts, code enforcement, fire safety education, and an adequately staffed fire department are all necessary components of an effective fire defense system.

Recognizing that most advances in fire safety come only after we have made a prepayment in human suffering, the fire service must be ready to seize the moment when a tragedy strikes. This may sound cold, but it is truth. If the deaths and injuries sustained in fires are to result in any positive outcomes, it will only be because the fire service was prepared to act on them. We also need to constantly remind ourselves that if it has happened somewhere else, it can happen here. The real tragedy of the Seton Hall fire is that there is little, if any, action moving ahead for similar legislation in other states other than Pennsylvania.

Taken From:
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COLLEGE DORMITORY FIRE SAFETY

BY FRANCIS L. BRANNIGAN
FIREHOUSE CONTRIBUTOR EDITOR
FELLOW OF THE SOCIETY OF FIRE PROTECTION ENGINEERS

After the recent Seton Hall University dormitory fire in which three students died and a number of others were injured, some seriously. I was asked by Firehouse to write on the subject.

The first material at hand was the *Operation Life Safety Bulletin* of July/August 1999, which contained the winning essay in a contest, "Why Campus Housing Should Have Fire Sprinklers," by Kathleen Grant of Huntington, WV. She reported on several fires at major universities and commented, "Students who have scored high enough on the SAT to be accepted by MIT, Yale and Duke caused fires. They must be bright, yet they committed stupid acts leading to the destruction of property and risk of human life."

It is not only students who are ignorant of or unreceptive to fire safety. College managers often lack a fundamental understanding of the fire problem, possibly because it is considered too menial for their attention or they resent some other authority telling how to spend THEIR money. At Princeton University, professors — world leaders in the physical sciences — attempted to inert a huge room, which was open to the atmosphere, with portable CO2 extinguishers because of fear of "water damage." The fire chief of the Naval Air Station at Lakehurst, NJ, traveled 60 miles to put the fire out in 90 seconds.

Students are naturally rebellious and resist rules. Like many older people, they place great reliance on their own experiences and reject out of hand precautions based on blood and tears shed elsewhere. Therefore, the only real fire protection for them is automatic sprinklers and smoke detectors in any area where people sleep.

In my experience, scientists and many administrators are born with a severe prejudice against using water on fires. When a fire at the Livermore Laboratory was stopped just short of dispersing enough radioactive material to contaminate the place out of existence, they were organizing committees to control experiments. I argued that they were cutting their throats in the research field and that if they would only sprinkler the buildings they could work with anything short of dynamite. They were unimpressed, until I declaimed, "Automatic sprinklers gave academic freedom." They cheered and drowned out the three last words, "to do stupid things."

Automatic sprinklers free the decent, responsible students who will probably contribute to society from death by idiots who smoke while drunk, go to sleep with candles or incense burning, bring hazardous materials into their dorm rooms, or even set fires "just for fun." Educational programs are fine, but unfortunately soon forgotten.

EXTINGUISHERS NO HELP

When this subject is discussed, much is sometimes made about fire extinguishers. I spent a number of years on the National Fire Protection Association (NFPA) Portable Extinguisher committee looked hard for cases in which extinguishers made an effective difference. There were few, and they probably were balanced by the number of times the futile use of extinguishers delayed the sounding of the alarm.

Some years ago, the University of Maryland tired of extinguishers being used as moron play-toys and took them all out. A reporter rushed to the campus to get the opinions of students. One said, "I don't feel safe without an extinguisher in the hall." Unfortunately, there was no one there to toss him one and say, "Show us how to use it." The answer might have been, "I can't read the directions. I took off my glasses to look better on TV."

We expect an untrained civilian in ordinary clothes (or less) to tackle a fire with a 1/8-inch stream — to send a firefighter that close; we provide thousands of dollars' worth of equipment. In today's fast-burning toxic plastic environment, the opportunity window to use an extinguisher effectively and safely is very narrow. Fire creates a deadly environment and the students should get away from it as fast as they can.

ARSON IS LEADING CAUSE

There have been a number of disastrous fires in college dormitories. The Federal Emergency Management Agency (FEMA) reports an estimated 1,700 dormitory fires occur each year. The most prevalent cause is arson, proven or suspected. Years ago, college administrators often refused to accept arson as the cause of such fires, feeling that such a crime was beneath the intellectual college community.

The Princeton Cyclotron fire in 1950 occurred in a pre-war "Model T" cyclotron. Carnegie Tech and Rochester were getting brand-new, up-to-date cyclotrons from the Atomic Energy Commission. A burned cyclotron would be replaced by a new model. The focusing magnets had been left on, a deviation from procedure, but this had been pronounced impossible. When I suggested arson, the magnets became the cause of the fire.

Nowadays, arson can be cited to excuse poor management, because of our national focus on the CAUSE OF THE FIRE instead of THE CAUSE OF THE DISASTER, WHICH OFTEN INVOLVES MANAGEMENT CULPABILITY.

TWO COLLEGE FIRES STAND OUT IN THE NUMBER OF DEATHS

Providence College, December 13, 1977, 2:47 A.M. the building was a high-rise dormitory of protected non-combustible construction, deficiencies were:

Dead-end corridors.
The design of the heating system. Room air returned to the corridor through louvers in the doors.
No self closers on doors.
High-density (think Masonite) ceiling finish concealed above the suspended mineral tile ceiling.

The corridors and room partitions were masonry. The corridors were lined with Christmas decorations for a contest involving both rooms and corridors. Material included natural Christmas trees and paper on walls and ceilings. Masking tape was "rolled" to provide an attachment, which left about a half inch of air space behind the paper, thus accelerating combustion. Obviously the administration was totally unaware of the potential for deadly flame spread.

The fire started in a fourth-floor room occupied by three girls. They opened the window, thus providing, air which spread the fire to the corridor. Sadly, two of the girls jumped as fire apparatus arrived. The third stayed in the room and was rescued by ladder, uninjured.

When firefighters reached the fourth floor, the fire was almost out. The paper was mostly consumed. The fiberboard above the ceiling was not involved, probably there was not enough sustained heat and smoke to kill eight young women, frighten two into jumping to their deaths and injure several others.

The 60-plus-foot-long, one-way-out, dead-end corridor was involved in four of the deaths, though one girl who was injured made a run for the stairway early in the fire and survived.

I have checked with Battalion Chief Curt Varone of the Providence Fire Department and learned that the building is now sprinklered and the dead-end corridors situation corrected

Cornell University Ithaca, NY, Nine Die in Dormitory Fire. The dormitory was a fire-resistive two-story and basement building. There was much combustible plywood finish, furred out with wood strips, thus providing two fire surfaces. Combustible acoustical ceilings had been removed, but the hazard of the plywood was unrecognized.

At 4:00 A.M., 69 students were sleeping. The fire originated in the basement lounge (smoking?). The doors had been removed from the stairway on the second floor for shortening to accommodate carpeting, but the basement doors were wedged open. (The wedged-open door is a perennial problem. The only solution is the door held open by a

magnetic latch that is tripped by smoke detectors on both sides of the doorway.) There was no alarm system.

The Cayuga Heights Volunteer Fire Department responded and on arrival requested mutual aid from the Ithaca Fire Department. (Automatic first-alarm mutual aid should be in place for any building that presents a major life hazard. I am unaware if it would have made a difference in this case.)

Nine victims died, all of asphyxiation. The professor who telephoned the alarm to university security was among the victims. The building had sprinkler system and Cornell adopted a proactive fire safety program. At FDIC, I spoke with a person close to the situation and it appears that the memory of the disaster has faded and the fire safety program greatly reduced.

The Code Problem

It has been reported that the State of New Jersey has taken over the inspection authority of the South Orange Fire Department on the Seton Hall campus because the last inspection showed no problems. I know nothing of the details, but I will say that very often an inspection centers on violations of the CODE. Here I cite two instances of how inspecting to the CODE did not produce safety to the occupants.

Some years ago, we delivered a bright granddaughter to a major North Carolina university for a special summer program for gifted high school students. The dormitory hall ceiling was finished in combustible acoustical tile glued up to the surface. This is extremely hazardous — fire can spread faster than a person can run. Tall plastic rubbish containers in the halls were full to overflowing, providing ready fuel to ignite the ceiling. All the rooms had deadly transoms and most were open for ventilation. The stage was set for a terrible disaster.

Fortunately, outside fire escapes had been added to the building and the entrance to one was right opposite our granddaughter's room. I bought a smoke detector, installed it over the door on the corridor side, closing the transom in the process, and instructed the girls in the action to be taken if the alarm sounded: Head down, open the door running, hit the panic bar on the exit and keep going

I immediately wrote a two-page letter to the university expressing my concerns. They were most appreciative and promised to take action. The following quote is most interesting, but unfortunately not surprising; "Our Safety Office has looked at the acoustical tile and agrees with your recommendation that it be replaced. In fact we hired an architectural firm to do an exhaustive study in 1973 of safety and BUILDING CODE deficiencies (caps supplied) in our dormitories and this item should have been picked up corrected at that time."

Here I can only surmise. Was the architectural firm ignorant of the flame-spread hazard? Based on my experience, very likely, particularly with respect to existing buildings. Or was "CODE" the key word?

"Grandfather" clauses that permit the continuing existence of known hazards are common in codes. Essentially, they represent the thinking of those who put property rights above human rights. Retrospective safety requirements to existing buildings are not "unconstitutional," though building interests often make this argument to uninformed legislators. Professor Vincent Brannigan, JD, of the Fire Protection Engineering Department at UMD, will be happy to provide legal citations for you if this argument is used.

My children attended a parochial school lined with combustible tile. When I protested the principal triumphantly produced the last inspection report. The only deficiency noted was a cracked glass in the occupancy sign!

The fire marshal's idiotic bureaucratic defense was that they couldn't report anything that wasn't illegal! As is often the case, there was a RIGHT reason and a REAL reason. In fact, the reason was that the county school board had spent about $2 million putting in combustible tile and would be embarrassed if the county passed a law against it. They promised to take it out quietly during two summers if the fire marshal would not go for legislation. The tile was removed after the situation was brought to the archbishop.

If "grandfathered" hazards are a problem in your area, I urge that you add a section to your report: "The following conditions are hazardous, but not illegal because the code unfortunately refers only to new construction. For the safety of the occupants we urge that the following action be taken." Then let the management know informally that such a report would be fatal to their defense in the inevitable negligence lawsuits after a fire. Mere compliance with the code is no defense to negligence, particularly when the hazard has been pointed, out by competent authority. (I am a grandfather of 14. "Grandfathers" are kindly senior citizens who give their grandchildren candy and later help them go to college. I don't like the kindly word "grandfather" being used to describe maintaining conditions known to be safe.)

When sprinklers are recommended in existing buildings, the cost is often cited as prohibitive. Be sure to make the owner distinguish between the cost of sprinklers and the cost of hiding the system for aesthetic reasons. We want only the sprinklers. Aesthetics is his problem. Why not paint the pipes red and put up signs "You are incredibly safer from fire in this building because of the sprinkler system"?

The historic Hotel Colorado in Glenwood Springs, CO, was retrofitted with exposed sprinkler piping. I stood at the desk as scores of guests were registered. I heard no one say, "Honey, let's go to another hotel, this one has exposed sprinkler piping."

A SURVIVOR'S LETTER

A powerful letter appeared on the Internet shortly after the Seton Hall Fatal fire. It is printed here verbatim with misspellings and Internet shorthand. I was heartened to see the evidence that it had been relayed to many other colleges. It would be worthwhile to get into the hands of every dormitory resident.

Note among other items that the writer's roommate was going to hide in the closet because she had heard that the administration was going to check on those who stayed in rooms. Firefighters know to look under beds and in closets for little children who don't know better. We had best include this practice in SOPs for dormitory fires.

She changed her clothes. Some years ago, I investigated a garden apartment fire; there had been a wild party. A woman's husband went to his car to sleep. Her boyfriend went to sleep on the couch. He awoke with couch in flames and jumped out over the balcony. The fire was alarmed by the tenant next door when the fire, which burned down through the floor, came up along side his bed. The wife and another woman went to a closet to get suitable clothes. They were dead at the closet.

Hi everyone! I'm writing to you to tell you what happened at my dorm since some of you want to know the story.

It was 4:30am and I was about to go to sleep. My roommate Becky was already sleeping. The fire alarm went off so I tried to wake her up. Although we never go out for them b/c we have so many fake ones, I had a feeling about this one b/c it was out of the blue. Also, we had a floor meeting a few days before and my RA said that they are going to check every room to make sure everyone goes out. I had to fight with Becky to go outside. She was saying that she was going to hide in the closet. Eventually she got up, went to the bathroom, and changed her clothes. When she was in the bathroom she looked outside to see if there were any people outside and she said there weren't so she wasn't going. I had to tell her off to get her outside. Finally, she was going to go so I played mommy making sure that she had her coat, gloves, shoes, and of course, cigarettes. Then I went to my friends' room across the hall and banged on their door, thinking they were already outside b/c I knew they were awake. Right before I was about to go outside, they opened the door. They were pretending to be sleeping. Then I told them off and told them to hurry up b/c it was real. Then I went to the next door and did the same thing.

When we were in the hallway of my floor about to go downstairs, we started to see a lot of gray smoke. I thought it was just someone stupid who lit a smoke bomb. Then we walked down the stairs to the 3rd floor (I live on the 4th) and it was all black. I was in shock just standing there, looking at it, and breathing it in. That's when Becky became my mommy. She yelled at me to cover my face and to keep walking. The smoke was so heavy that I became lightheaded. I couldn't imagine actually being where the fire was; I probably would've passed out.

Finally we got outside and walked around to the front of the building. That's when it was the most, scary. There were a few girls hanging out of their window screaming for help with a huge cloud of black smoke behind them. Becky said, "let's get out of here whatever we see is going to be bad." There were no fire trucks here yet so we didn't know how long they would last. Finally one came and a huge crowd of people jumped in front of it pointing at the girls. They were going to go the other side of the building. They yelled for anyone to help and a bunch of the guys ran to assist them. Eventually they got the girls out. Then we just stood outside for hours in the cold worrying if everyone was OK. While standing there, we talked to a kid who jumped out of his 3rd floor window. He was limping and his clothes were all ripped. Also kids, who got out early enough, ran across the street to some man's house and woke him up and he brought over a ladder, which saved dozens of kids

I was home for a week wearing only the clothes on my back. I had no money, no license, no make-up, nothing. I went home wearing slippers. Ironically, I had to bring everything to school because we are moving out of my house. Everything I owned was at school.

Now I just got back to school and things are very different. A lot of people moved out and the 3rd, 4th, and 5th floors north are in a hotel. It's not ever going to be the same. Luckily, none of my things are ruined. I actually think they cleaned up our room a little bit. I had a beer in the room, and it ended up hidden behind my bed and our window fan was out.

I just wanted to let you know to take fire alarms seriously! Even if it is just drill. On the news…I heard about a fire alarm in another dorm on campus going off and some girl from Seton Hall said that the fire alarm went off and she looked out the window, saw no fire trucks so went back to bed. Obviously, some people haven't learned, even when a real fire killed some people on her campus.

Thank you all for being so concerned. It means a lot.
Feel free to forward this to anyone who asks.

Lizzy

3 KILLED IN FRATERNITY HOUSE FIRE

An early morning fire in a fraternity house near Bloomsburg University in Bloomsburg, PA, left three people dead on March 19. Three other people escaped the fast-moving fire, which broke out at 6 A.M. The two-story structure, located two blocks from the campus, collapsed before the three victims could be removed.

It was reported that the fraternity house had been cited for code violations in October. Most of them were corrected within a month. (In 1944 five people died in a fraternity house fire at the university)

Related recent incidents include:

- A two-alarm fire on March 6, ripped through an apartment complex near Duke University in Durham, NC, displacing dozens of students.
- On March 16, a student at Doane College, in Crete, NE was charged with arson after playing a prank by moving a smoldering couch into a dormitory where eight students were sleeping. The fire gutted one room.
- Three people were injured in a March 19 dormitory fire at Ferris State University in Big Rapids MI.
- A fire in a Boston College dormitory on March 24 injured six students, some of who were rescued by ladder.
- Two students at Drew University in Madison, NJ, were charged with setting four fires in campus dormitories on March 26.
- On April 3, a student at St. Joseph's College in Standish, ME was accused of setting fire to her dormitory room to divert suspicion regarding previous fires in the dormitory.
- A female student suffered burns over 65% of her body from an April 10 fire in a dormitory at the Massachusetts Institute of Technology in Cambridge, MA. Seven campus police officers were treated at a hospital after inhaling smoke and fumes from fire extinguishers.

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OPERATION LIFE SAFETY

BY KATHLEEN GRANT
FIRST PLACE ESSAY IN AFSA
1998-99 NATIONAL SCHOLARSHIP
ESSAY CONTEST

Why Campus Housing Should Have Fire Sprinklers

It's time! All of the preparation, studying, and testing of high schools are now behind me. No longer will my parents be there to counsel and direct me. I am now a high school graduate and will head to college. I leave behind friends, family, and a level of security, which I have taken for granted. In my new world many decisions will be mine and mine alone. What to do, where *go*, who to see, and where I live will be a few of the choices that must be made in the near future.

The choice of a living space for my freshman year will be made by the college, however. They know what is best. They will provide me to provide me with a safe and secure environment. They would not let harm come their way. Would they?

"Fire at East Campus Does Little Damage," reported *The Tech*, student newspaper of the Massachusetts Institute of Technology. "A trash receptacle under a chute caught fire when some flammable material was dropped down the chute. Not all of the smoke detectors went off, even when smoke was quite dense."

Fire causes $2,000 Damage in House P" stated *The Chronicle* of Duke University. A fire started in a student's room when the student left candles unattended, igniting a lampshade reported the Director of Public Safety.

"Freshman Suspected of Arson" blared, the headlines of the *Yale Daily News*. "The freshman laughed and took pictures, but the joke went too far when the couch shot up in flames and the students found nearby fire extinguishers ineffective."

Students who scored high enough on the SAT to be accepted by MIT, Duke, and Yale caused these fires. They must be bright, yet they committed stupid acts leading to the destruction of property and the risk of human life.

In each of these fires, while no loss of life occurred, lives were disrupted and the belongings of students in adjacent rooms were subjected to smoke and water damage. College students are living in a period of their lives when all of their possessions can fit in a single room. These students lived in college-supervised dormitories yet they found themselves displaced and without clothing, texts, and the few items which made their room their own.

The National Fire Protection Association reported on the fire in a Franklin, Massachusetts dormitory that the "building was successfully evacuated without loss of life or injury. The building, however, was a total loss." The dormitory had "an automatic fire alarm system with heat and smoke detectors." Yet the report gave "significant factors which contributed to the loss of property in this incident." Among those listed were "lack of an automatic sprinkler system, which would have controlled the fire in the early stages." In a second report of the NFPA, a fraternity fire at the University of North Carolina is investigated. Five occupants of the fraternity were killed and three were injured. While the building had "noncombustible interior finishes" and "battery powered smoke detectors were installed," a "significant contribution to the loss of life" was the "lack of automatic sprinkler protection." These fires were in college-supervised structures, yet the thoughtless actions of students brought about tragic results.

What can a college do to protect students from their own stupidity and that of their neighbors? Rutgers University has Fire Safety Regulations that lists the types of fire safety equipment (extinguishers, smoke alarms, manual pull stations, and heat detectors) and the items, which are prohibited in student living spaces. Space heaters, hot plates, candles, incense, and a variety of wall hangings are among those prohibited items. Common sense would dictate that these items and their use are unacceptable in a dormitory environment. Other items would appear to be less dangerous as they have received the Good Housekeeping Seal for general use by the public. These include Halogen lamps; extension cords exceeding six feet in length, and light dimmer switches. Other prohibited items could make the students studies more difficult. A chemistry major could justify the possession of magnesium ribbon and an art student's collection of paints and thinners may appear to be normal. Yet when these items are brought into a living environment, the safe handling and storage of these items is compromised. The university and its students accept some level of responsibility for reasonable behavior.
Rules will be bent, and violations will occur.

While smoke detectors and alarms provide some warning, an immediate response to the flames within a confined space is necessary. A turnout time of three to five minutes by a local fire department is excessive when the fire is in room with less than two hundred square feet of living spare. "Fire sprinklers are widely recognized as the single most effective method for fighting the spread of fires in their early stages."

Sprinklers, in use for over 100 years, react to the temperature at the point of installation. They will only respond to their own environment, confining the application of water to the area of the fire. The NFPA reports that "damage in fires was 78% less in structures with sprinklers and there is no record of a fire killing more than two people in a completely sprinkler system building."

Given the immediate alert sprinklers provide, coupled with the reduced heat, smoke, and water damage, it is apparent that the best protection available is a fully sprinkler building coupled with smoke and hear detectors. College students represent what some believe are "the best and the brightest." They will, however behave, like the rest of the population, in a manner which involves risk. The security of the sprinkler head in dorm rooms will provide some measure of the sense of well being I left at home.

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