

## Chapter

# 13

## EMERGENCY INCIDENT MANAGEMENT

### Learning Objectives

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*Upon completion of this chapter, you should be able to*

- Explain the need for a plan at every incident.
- Differentiate between offensive, defensive, and transition modes of attack.
- Explain the need for organized thought processes in incident assessment.
- Describe the strategic priorities at an incident.
- Explain the terms strategy, tactics, and tasks.
- Explain the need for size-up of an incident.
- Explain how a size-up is performed and what information must be communicated.
- Describe the NIIMS Incident Command System.
- Explain the need for unified command on a multijurisdictional incident.

## INTRODUCTION

Incidents come in all types and sizes. It is the responsibility of everyone at the incident scene to do their part to assure a swift and successful conclusion to the incident. By training yourself in the area of size-up, you can learn to assess the incident from the time the call is received until its conclusion. By applying the strategic priorities in the proper order, you can develop a feel for what has to be done and when it has to be done. As you become more skilled in these areas, you can better assist the person in command of the incident. You will be better able to give him the information he needs from your location. You can also start to become more involved in the planning process that must take place at all incidents.

**Note**  
The officer has the opportunity to turn the incident into a major disaster through poor management, or conversely, to have a positive effect on the outcome of the incident.

To aid in the effective management of incidents, incident command systems have been developed. The incident command systems present structures that are adaptable to all types of incidents. They facilitate resources from different agencies working together in a coordinated fashion. This is accomplished through training, forms development, standard terminology, and command structure. By learning the incident command system prior to an incident, resources from different agencies and disciplines can come together at the scene and operate in an effective, coordinated manner.

## MANAGEMENT RESPONSIBILITY

**Note**  
It is the responsibility of every firefighter at the scene to be involved in assisting in the control of the incident.

Emergency incident management is primarily the responsibility of the first-in fire officer. The officer has the opportunity to turn the incident into a major disaster through poor management, or conversely, to have a positive effect on the outcome of the incident. Not all incidents are handled by the resources that initially arrive at the scene. Some situations require more resources and possibly even long periods of time to control. The first-in personnel must have a complete knowledge of the hazards and potential of the incident as well as their priorities and capabilities. The only way an incident can be brought under control is through the total and coordinated efforts of all personnel at the scene.

**Safety**  
“Victims do not arrive at the scene in fire trucks.”

It is the responsibility of every firefighter at the scene to be involved in assisting in the control of the incident. As a new firefighter, you may feel that you are not involved in the decision-making process. This is not true; all incidents require that everyone at the scene be alert and aware of the hazards and needs at the incident as it develops. The standard rule is “victims do not arrive at the scene in fire trucks.” Your actions at the incident have a direct impact on its outcome. For this reason you need to be aware of and capable of participating in the decision-making process.

**■ Note**

**Every incident must have a plan.**

**strategy**

an overall, big-picture goal.

**■ Note**

**In the offensive mode, resources are applied directly to controlling the fire or other incident.**

**■ Note**

**In situations where the fire is too large or too well established, the defensive mode is used.**

**■ Note**

**There are situations where both offensive and defensive modes may be used at the same time to control an incident.**

## INCIDENT PLANNING

Every incident must have a plan. The plan must be formulated to achieve effective utilization of resources and to resolve the incident with as little damage as possible. The first decision to be made in forming an incident plan is, What are the objectives. Objectives are defined as something toward which effort is directed; an aim or end of action; a goal. If we do not have a clearly defined goal in mind for the incident, we cannot determine how to achieve the goal, nor can we measure progress toward achieving the goal. Objectives for different kinds of incidents will, of course, differ. The objectives in a hazardous materials incident may be only to control the spread of the material. In a wildland incident, they may be, initially, to protect structures in the fire's path and then to effect control. Objectives must be clear and easily understood as well as being measurable.

The next step in the formulation of the plan is to determine the strategies necessary to achieve the objectives. Strategies are defined as the art of devising plans to achieve a goal or objective. From a firefighting standpoint, **strategies** may be defined as the method used to coordinate the tactical operations of units to achieve the desired incident objectives. All of the strategies must support the objectives. Strategies may be divided into three basic operational modes: offensive, defensive, and transition.

### Offensive Mode

In the offensive mode, resources are applied directly to controlling the fire or other incident. This method is often used on small fires or incidents where firefighters can make access without unreasonable risk to their safety and there is still something to save. There have been instances where rescuers have lost their lives on incidents that were essentially body recovery. The incident commander must constantly be aware of the risks versus benefits of actions taken at an incident. As a firefighter, it is your responsibility to be aware of what is going on around you and to constantly evaluate your situation. Direct attack on a wildland fire or interior attack on a structure fire would be considered the offensive mode.

### Defensive Mode

In situations where the fire is too large or too well established, the defensive mode is used. In the constant evaluation of risk versus benefit, if it is found that the risk to personnel is too high in relation to the outcome of their actions, the incident commander should switch from offensive to defensive mode. Structure fires where structural collapse is imminent or has already occurred would require the defensive mode. Attacking a block-sized structure fire with exterior lines and elevated streams from ladder trucks would be considered defensive mode. A wildland fire being pushed through brush with 30-foot flame lengths would also require the defensive mode.

### Transition Mode

There are situations where both offensive and defensive modes may be used in a transition attack mode to control an incident. This must be done in a carefully coordinated attack. The transition mode requires good communications between incident command and the forces and among the forces themselves to avoid one group adversely affecting the safety or operations of the other. Transition attacks are often used on large wildland incidents in the form of direct attack on the slow-moving parts of the fire and indirect attack on the rapidly moving parts. An example of the transition mode of attack on a structure fire would be one group performing an interior attack from one side of the fire while another group protects exposed structures on the downwind side. If the exterior forces were to direct a hose stream into the structure through a window, they would steam the interior forces. This would not only make them extremely uncomfortable but could endanger their safety, further reinforcing the need for a closely coordinated operation when the transition mode is used.

### Strategic Priorities

**Note**  
Rescue is the first strategic priority.

Most of the strategic priorities in use today are based on those identified by Lloyd Layman in his book *Fire Fighting Tactics*. Layman divided the strategic priorities into seven areas:<sup>1</sup>

1. Rescue is the first strategic priority. Life safety is the most important consideration in any incident operation. In fire situations, this may require evacuating people from the fire's path, searching structures looking for trapped occupants, and erecting ladders to pull people from imminent danger. Another method of rescuing people from fires is to place hose lines into operation that cut off the fire spread toward the trapped persons. In hazardous material situations, rescues may involve evacuation, sheltering in place, or actually pulling people out of tanks and contaminated areas. The first search of the incident is called the *primary search*. When it is completed and all live persons are rescued, the "all clear" message is transmitted to the incident commander. Any search after that is called a *secondary search*. Some incident commanders are of the opinion that if the incident is so well involved that no initial search can be conducted, any search conducted at the incident is considered a secondary search.

2. Exposures are those items that are not yet involved in the incident, but soon will be if no action is taken to protect them. As we know from Chapter 4, radiated heat is a very real problem at fire scenes. When hose lines are placed into operation to protect adjoining structures or foam is applied to the exterior of structures to protect them from advancing wildland fires, this is exposure protection. Exposures can also exist inside of a structure. When a fire spreads through a structure, it usually starts in one area. Interior hose lines are placed so spread of the fire is prevented from happening, in effect protecting interior exposures.

**rekindle**

a fire that reignites after it was thought it was extinguished.

Commonly happens in attics, basements, and walls of structure fires and in logs on wildland fires. Usually due to incomplete overhaul/mop-up.

**rehabilitate**

there are two common usages of this word in fire fighting. To rehabilitate personnel means that they rest, cool off, and replenish body fluids. To rehabilitate a fire line means to construct water bars to direct water runoff and prevent erosion. Under the Federal "Light Hand On The Land" policy rehabilitation may mean the erasure of fire lines as much as possible. This would include flush cutting stumps to the ground, covering them with dirt, and using explosives to shatter the end of the log to hide the fact it was cut down.

3. Confinement is the act of stopping the spread of the incident. Depending on the scale of the incident, confinement can have different meanings. In a hazardous materials incident, confinement may involve diking the spill to keep it out of a storm drain or waterway. In a structure fire incident, it may mean confining the fire to the building or even block of origin. A typical confinement objective on wildland fires is to confine the fire to one canyon or one side of a road.

4. Extinguishment in the case of fires is the act of putting the fire out. In terms of hazardous materials, it could be equated to stopping the source of the leak.

5. Overhaul is performed when the fire is extinguished. Firefighters must make sure that the fire is totally out, which often requires checking concealed spaces in attics and inside walls. Overhaul also includes placing the structure into a condition in which it can be turned over to the owner. This does not include structural repairs. On smaller incidents, like a kitchen fire, it usually includes cleaning up and removing fire debris and water and evacuating smoke. This is not only good safety practice, but good public relations as well. On wildland fires, overhaul is commonly called mop-up. Mop-up consists of searching out embers that could threaten control lines at the fire, dropping dangerous trees, and improving the fire line. Although dirty and nonglamorous, this work is extremely important, often taking longer than extinguishment operations to accomplish. There is nothing like having to return to a fire scene to combat a new fire due to a **rekindle** caused by insufficient or improper overhaul/mop-up. During overhaul operations is no time to let down your guard. At this point in the fire, carbon monoxide concentrations are at their highest and trees and buildings that were damaged by the fire have a tendency to fall down.

6. Salvage operations can be performed at any time during the incident. Salvage is the act of saving the contents of the building from damage due to incident operations. We cannot do anything about the damage that has occurred before we get at scene, but we can try our best to prevent any unnecessary further damage after we arrive. Firefighting usually involves applying water to control the fire. Salvage is the actions taken to protect building contents from water damage. Salvage covers are used to cover furniture and other objects to prevent damage, where applicable objects are carried outside. In some areas these items must be guarded to prevent them from being stolen. After wildland fires, dozer and hand lines are **rehabilitated** to prevent erosion when the rain comes. Salvage is not just good practice to reduce dollar loss; like overhaul, it is good public relations and a part of modern firefighting professionalism.

7. Ventilation is another function that can be performed at any time during incident operations. Considered an incident support operation, ventilation aids in quick and efficient fire control as well as enhancing safety. Ventilation reduces the possibilities of flashover and back draft. It also makes the fire fighting job easier by increasing visibility and reducing heat and steam felt by the firefighters performing the attack. Ventilation, properly performed and used as part of a

coordinated attack, can also act as a confinement tool on the fire ground. By venting smoke and heat buildup from an attic, the attic can be prevented from reaching its ignition temperature. Some types of ventilation operations can be used to cut off fire spread by redirecting heat to the outside of the structure. Salvage is being conducted at the same time.

The seven strategic priorities are listed in order but are not necessarily performed in that order. The main idea is to have a list of options to consider and to aid in the mental process of prioritizing operations.

### Tactics

Tactics are defined as the art of directing and employing resources to achieve the objectives.<sup>2</sup> Engine companies are usually involved at the tactical level of fire fighting. Once the objectives are determined and communicated, and the strategies are selected, the individual companies can employ the tactics necessary to achieve the objectives.

Some examples of tactics would be to perform ventilation to control fire spread or putting in a dozer line and then backfiring to slow the head of a wildland fire.

### Tasks

Tasks are defined as pieces of work (jobs) to be completed in a specified period of time.<sup>3</sup> Tasks are those jobs necessary to achieve the tactics required by the incident plan. Most new firefighters will initially be expected to operate on the task level. An operation like advancing a hose line into a burning structure requires the execution of several tasks. One of the first would be to don the SCBA. Another would be taking the hose line from the apparatus and stretching it out. As you can see, even a simple tactic is made up of a good number of tasks. It is very important that the firefighter master these tasks. Every chain is only as strong as its weakest link. If a firefighter does not know how to don the breathing apparatus quickly, the hose line will not be stretched in a timely manner and the whole operation will be slowed down. In firefighting, efficiency and proficiency lead to incident effectiveness.

**Note**  
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To look at this whole process, and the relationship of the parts, let's look at a relatively simple, but common, fireground operation at the scene of a structure fire with one bedroom involved. The objectives would be to ensure life safety and confine the fire to the room involved, causing as little property damage as possible. The strategies would be primary search and interior attack, offensive mode. The tactics would be to ventilate the roof, advance a hose line in through the front door attacking the fire at its seat, conduct the search, and perform salvage. Some of the tasks involved would be to don SCBA, ladder the roof, cut the ventilation hole, advance the hose line, search the structure, remove any occupants, attack the seat of the fire, and so on. It is easy to see that the incident

could easily require the effort of numerous personnel to bring it to a swift and successful conclusion. This incident could easily utilize two engine companies and a truck company to perform all of the operations.

Even an incident of this small size requires a plan with closely coordinated management and effective communications between all of the personnel involved. When the companies start the attack, a lack of coordination may mean that one company directs its hose stream in a window while the other company is advancing its hose through the interior. The interior attack personnel are going to get steam burns if this happens. If things do not go as planned and the incident switches to the defensive mode, it will become more complex still. Exposures will have to be protected, water supplies need to be further developed, crews need rehabilitation, and more.

Without a well-thought-out plan of operations, the incident we just looked at can easily turn into a minor disaster. All of the firefighters at the scene must be aware of how the operation is proceeding. If the plan is not working, the objectives, strategy, and tactics will have to be changed to take into account the new situation.

**■ Note**  
The incident commander needs to communicate the plan to the company commanders, the company commanders must communicate their portion of the plan to their companies.

**■ Note**  
The incident commander not only needs to communicate decisions to the company commanders, but must also receive information from them in return.

One of the key elements here is communication. The incident commander needs to communicate the plan to the company commanders, the company commanders must communicate their portion of the plan to their companies. Operations should not proceed until all participants have a clear understanding of their responsibilities. This does not mean that they stand around for 30 minutes and discuss it. The personnel, through their knowledge of strategic priorities and tactics, should not need lengthy instructions. The incident commander tells the company commander to make an interior attack and primary search. The company commander tells her crew which size hose line to use and that they are going to make an interior attack and primary search. The firefighters know that SCBA will be required as well as what other tools to bring in case forcible entry is necessary. Beforehand, the firefighters should know whose responsibility it is to pull the hose and who will get the tools.

Communication should be two-way. The incident commander not only needs to communicate decisions to the company commanders, but must also receive information from them in return. At an incident of any size much larger than a vehicle fire, the incident commander cannot see all of the incident. In a structure fire, the incident commander cannot see through the walls. At a wildland incident, the fire may be spread over many acres, even extending over the back side of a hill or into a canyon. On large wildland incidents, the incident command post may be miles from the actual incident. When a job is completed, the incident commander may have other work for the involved company and needs to know they are available. If some part of the plan is or is not working, it must be communicated back to the incident commander. When the operation is going wrong, the plan must be amended to correct the deficiencies. The incident commander cannot make these decisions if not informed of the necessity for change.

An example of this would be from the previously mentioned bedroom fire. The truck company is told to “ventilate the roof.” The engine company is waiting to perform interior attack once the hole is completed. If the truck company officer does not notify the incident commander that the ventilation operation is completed, the engine company will be waiting at the door for the order to advance their line. Once the hole is completed, the incident commander may want the truck company to start salvage operations. Without two-way communication, the operations are slowed down and inefficient use is made of resources. At worst, the fire develops to the point where it is beyond the capabilities of the resources at scene or someone is seriously injured.

### Size-Up

■ **Note**  
Size-up is a mental process.

At this point, it is common to ask yourself “How will I ever be able to take into account all of the factors that are required to come up with a plan of operation?” Lloyd Layman helped us with this too. In his book, *Fire Fighting Tactics*, Layman presented the process of size-up.<sup>4</sup> The first-in officer is to size up the incident. Size-up is a mental process requiring the incident commander to perform the following steps.

1. Determining facts when the alarm is received: The time of day, which will affect whether life safety is likely to be a major factor; the weather, especially important in wildland incidents; the address or location of the incident; what type of occupancy is involved, a school, hospital, or vehicle; what type of incident is reported—fire, traffic accident, or hazardous materials spill. These are just a representative sample of the facts the firefighter can start to consider as soon as the alarm is received. Size-up starts even before units arrive at the scene.

Preplanning is also a part of the size-up function. Through proper preplanning and inspection, many facts about the occupancy involved will already be known. A tremendous aid in entering a business after dark to fight a fire is to have been on a preplan or inspection tour under nonemergency conditions. Knowing something of the building layout is a great help when the smoke is thick and the rooms are pitch black.

2. Anticipating probabilities: Probabilities are the likelihood of what may be involved in the reported incident. If it is a reported small brush fire on a hot, windy summer day, it will probably spread quickly. A traffic accident or car fire at rush hour on the freeway will probably cause access problems for fire apparatus. Some probabilities can be anticipated through study and experience, others cannot.

3. Assessing your own situation: The actual situation facing the firefighter. The ladder truck is in the shop for repair and the building on fire is higher than the longest ladder available at the scene. The fire is putting up a large column of smoke, visible as you leave the station. There is no smoke showing and building occupants report that they have it under control. There are a wide variety of

situations that you will be confronted with over the course of your career. You must be prepared to think clearly and act decisively at all of them.

4. Making a decision: The time when the firefighter, considering the facts, probabilities, and own situation, determines what is the best course of action under the given circumstances. Is a second alarm needed? Should we go offensive or defensive attack mode? This is when the incident commander makes or breaks the incident. Now is the time to determine the objectives, strategies and tactics. Too conservative and the incident gets out of hand. Too liberal and resources are wasted and unavailable if another incident occurs.

5. Planning the operation: This is when the tactics are put into action. The incident commander communicates the plan to the resources at scene and things start to happen. The attack is started. Resources report back with their progress. Are we winning or losing? Are we going to save the structure or create a new parking lot?

**■ Note**  
Size-up does not stop when the plan is put into operation.

**■ Note**  
The person who wishes to become an effective incident commander will go back over this process after the incident and evaluate where improvements could be made.

Size-up does not stop when the plan is put into operation. When resources report their progress and the incident commander observes what is happening, the process starts over again with new facts. As the facts, probabilities, and your own situation change, there will have to be new decisions and adjustments to the plan of operation. As previously mentioned, size-up is a process. It starts before you leave the station and continues on through the incident.

The person who wishes to become an effective incident commander will go back over this process after the incident and evaluate where improvements could be made. A group critique of the operations performed is a good idea. Critiques should be examinations of what went right and wrong. When approached positively and not used to place blame or criticism, the people involved can be honest and the critique can be used as a training tool.

When you arrive at the scene, you may not have enough resources to have any direct effect on the fire at that time. One thing you can do is give an effective size-up that will help your supervisor determine what the fire's resource needs are going to be. It is often better to scout the fire and give a good size-up than to get involved in firefighting that will have little effect. By giving a good description, your supervisor can get the needed help started to the scene. Time is critical. If he is still several minutes out, he can at least get the additional resources ordered. Most incident commanders would rather have to turn some resources around than not have enough and have the fire get away.

### Vegetation Fire Size-Up/Report of Conditions

The following is an example of the requirements of a size-up/report of conditions for wildland fires. This information should be given to your supervisor or the dispatch center over the radio. The other units responding should be able to hear your description also.

1. Correct location: Often reports of wildland fires come in from passers by or persons who see the smoke but are some distance from the fire. It is important

to make sure to give a corrected location when necessary. This may also require you to give the other responding units directions to the scene. By doing so, responding units can more easily approach the fire and the dispatch center can give the corrected information to any aircraft that are requested.

**2. Size:** The current size of the fire. This is given as the number of acres involved. No one is perfect at this, especially when the fire is in hilly terrain. Give your best estimate.

**3. Fuel type:** In determining the type of additional resources that may be necessary, the type of fuel burning is critical. In grass and light fuels, control and extinguishment can usually be accomplished with pumpers and dozers assisted by air tankers when necessary. The fuel burns clean and leaves little mop-up work. In heavy fuels, such as brush and timber, the extinguishment and mop-up require hand crews. In these fuels, helicopters are very effective. Also, the heavier fuels are more likely to produce **spot fires**.

#### spot fires

in heavier fuels, flying fire brands can land outside the fire perimeter and start new fires.

**4. Slope and aspect:** The slope of the hill the fire is on has a lot to do with its rate of spread. A fire out in the flats is not going to spread nearly as rapidly as a fire at the toe of a slope. A fire on the very top of a hill tends to burn downhill slowly. The slope also affects the type of resources needed. A steep slope may not allow pumping equipment to be used without putting in hose lays. This tactic is much slower to place into operation than **pump and roll** tactics. Slopes that are too steep for dozers or hand crews to operate will necessitate an indirect attack.

#### pump and roll

a tactic used in grass fires utilizing pumpers that can drive while the pump is operating. Hoselines are connected to the apparatus and water is sprayed to extinguish the fire edge.

Aspect is the relationship of the slope to the points of the compass. A fire on a south-facing slope tends to have lighter fuels and have the sun shining on it for most of the day. The fuels will also be drier, causing them to burn more rapidly. North-facing slopes tend to have heavier fuels and do not get as much sun.

**5. Rate of spread:** Given as slow, moderate or rapid. In planning for resource needs, the rate of spread of the fire directly affects the size of the fire perimeter by the time the additional resources arrive. The higher the rate of spread, the more control line that is going to have to be put in.

**6. Exposures:** The exposures should be specified as to the number and type. Exposures consist of structures and other improvements, such as power poles. When structures are endangered, resources must be ordered to protect them as they are of the highest priority.

**7. Weather conditions:** Wind is going to have a direct effect on the spread of wildland fires. They tend to spread rapidly with the wind and slowly against it. A strong downslope wind can drive a fire at extremely high rates of spread in a downhill direction. This is contrary to the common wisdom that fires spread uphill at a higher rate.

**8. Potential of the fire:** Is the fire going to be easy to control or is this going to be a major operation? Will we be out of here in a couple of hours or a couple of days? Should we order fire camp to be set up?

**9. Additional resource needs:** In your best estimate, what additional resources are needed to control the fire? When requesting resources from outside

your own department's capabilities, they can require a four- to eight-hour lead time. If you need help, ask for it. One of the great truths of firefighting is that if you do not order what you need, it is not coming.

**10. Objectives:** All of the resources responding need to know what the plan is. Clearly stated objectives, as well as a good size-up, can aid them in getting a mental picture of what you have and what you will need them to do when they arrive.

### Structure Fire Size-Up/Report of Conditions

In the size-up/report of conditions of a structure fire many of the considerations are the same as for wildland fires.

1. Correct location: Self-explanatory.
2. Height/stories: The height of the structure involved. Specify which floor the fire is on.
3. Size: The size of the structure. There is a big difference in the resource requirements for a single-family dwelling versus a large commercial building.
4. Type of structure: A wood frame structure is handled differently than a concrete tilt-up structure. Factories have different resource requirements than hospitals.
5. Location and area involved: Is the fire in the front or the back? The size of the area involved is usually given as a percentage. For example 10%, up to and including fully involved.
6. Level of involvement: Whether the fire is visible. Examples are nothing showing, smoke showing, smoke and flames showing, and through the roof.
7. Exposures: Number and type. This could be a car parked next to the structure or a separate building in close proximity that is threatened. Remember that radiated heat is not affected by wind.
8. Potential of fire: Whether the fire is small or coming out of every window and threatening to spread to the adjacent structures.
9. Additional resource needs: Number and type. For example, one more engine, three more engines, or a ladder truck.
10. Objectives: State your priorities. When the structure is fully involved, all you may be able to do is protect the exposures until sufficient resources arrive and water supply is set up to attack the fire. Specify whether the attack is to be offensive, defensive, or combination.
11. Obtain an "all clear." Life safety is the primary objective at any incident and the "all clear" signifies that the primary search is over and all victims who could be rescued have been. This is not going to be possible in every case but should always be one of the first considerations.

One of the best things the first arriving unit can do is give the others responding a clear picture of what is happening. This way they get a mental picture of the incident and start their own size-up process. At this time, the responding supervisor may wish to pose questions as to what you have and what you need. This helps them to get their thought processes started as well.

## INCIDENT COMMAND SYSTEM

### National Incident Management System

In Homeland Security Presidential Directive (HSPD)-5, *Management of Domestic Incidents*, the president directed the Secretary of Homeland Security to develop and submit for review to the Homeland Security Council a National Incident Management System (NIMS). The system is to provide a consistent nationwide approach to prepare for, prevent, respond to, and recover from domestic incidents, regardless of cause, size, or complexity.

HSPD-5 requires all federal departments and agencies to adopt the NIMS and to use it in their individual domestic incident management and emergency prevention, preparedness, response, recovery, and mitigation programs and activities, as well as in support of those actions taken to assist state, local, or tribal entities. The federal government has established the NIMS Integration Center to assist agencies to come into compliance through training. NIMS training is available on the Internet at [www.fema.gov/nims/](http://www.fema.gov/nims/).

The NIMS consists of five components; Incident Command System (ICS); Preparedness; Communications and Information Management; Joint Information Systems (JIS); and NIMS Integration Center (NIC). Only the ICS portion of the NIMS will be described in this text, as it is the most applicable to the new firefighter.

The NIMS is not to be confused with NIIMS (National Interagency Incident Management System). The NIMS incorporates the position descriptions and organization table from NIIMS.

The National Interagency Incident Management System (NIIMS) has been developed to provide a common system that fire protection agencies can utilize at local, state, and federal levels. NIIMS has two major components. The first is the National Inter-Agency Fire Qualification System (NIFQS). The NIFQS includes qualifications, training, and certification. The qualifications and training in this system are currently focused on the wildland and wildland/urban interface fire protection problems. These may be easily adapted to any departmental need.

The Incident Command System (ICS) is the second part of the NIIMS. ICS was developed through the efforts of local, state, and federal agencies in a cooperative interagency effort known as FIREScope. The purpose was to create a basic organizational structure that could be used on all types of emergencies. ICS

is designed to be used on small incidents as well as large and complex incidents. The system was developed as a result of needs recognized after several large destructive fires in Southern California. Upon analyzing these fires it was determined that a common terminology and operating system were needed when resources from many diverse organizations were brought together to combat them.

Operating requirements (objectives) for the system were identified.

1. The system provides for operations on single jurisdiction/single agency, single jurisdiction/multiagency, and multijurisdiction/multiagency incidents.
2. The system's organizational structure is adaptable to any kind of incident to which a fire agency is likely to respond.
3. The system is applicable and generally acceptable to any fire agency throughout the country.
4. The system is readily adaptable to new technology or new types of incidents.
5. The system is able to expand and contract in a modular fashion from minor to large-scale incident, including when the incident started small and became large or vice versa.
6. The system is based on common elements of organization, terminology, and procedures designed to take advantage of already developed qualifications and standards. The system is also designed to provide for the continuation of a total mobility concept.
7. The system is designed to be implemented with the least possible disruption of systems already in place.
8. The system is intended to provide all of the above requirements and require low operational maintenance costs.
9. The system is designed to be user friendly and once the basics are learned, it is relatively easy to build on the knowledge base.

**Note**  
The system's organizational structure is adaptable to any kind of incident to which a fire agency is likely to respond.

### Components of the ICS

The ICS has eight components that work together as a system to effectively implement the operation:

- Common terminology
- Modular organization
- Integrated communications
- Unified command structure
- Consolidated action plans
- Manageable span of control

Predesignated incident facilities  
Comprehensive resource management

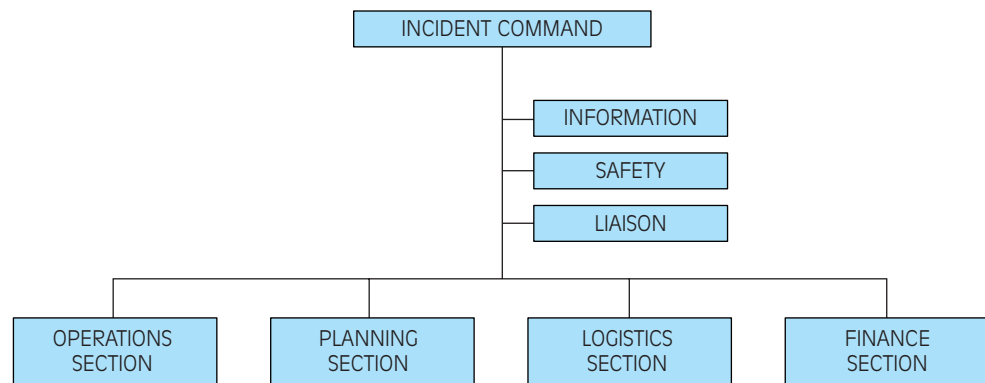
**Common Terminology** Common terminology is essential for operations, especially where incident resources are from different agencies involved in joint operations. Common terminology is established for organizational functions, resources, and facilities.

*Organizational functions:* Major functions and functional units have been standardized as to size and/or type.

*Resource Elements:* Resources are the combination of equipment and personnel used in tactical operations at the incident. Resources, (e.g., engines) that vary in capability because of size, power, or staffing are typed accordingly.

*Facilities:* Facilities used in and around the incident are given common identifiers.

**Modular Organization** The ICS organizational structure develops in a modular fashion depending on the size and type of incident (**Figure 13-1**). The staff of the organization builds from the top down, with the incident commander being the first position filled. If there is only one person at the incident, he assumes the position of incident commander. It is the responsibility of the incident commander to implement the ICS. If the incident increases in size and complexity, four other major functional areas—operations, plans, logistics, and finance—may be established as necessary. The organization developed will depend on the needs of the incident. If one person can manage all of the major functional areas, no further organization need be implemented. Positions that are not assigned are assumed by the next higher level of management. Basically, if you are the incident commander and you do not assign an operations chief, you are the operations chief also. If one or more of the major functional areas reaches the point where it requires independent management, a person is assigned the responsibility of that function.



**Figure 13-1** Incident command system command and general staff.

For differentiation between the levels of management each level has a distinct title:

<i>Level</i>	<i>Title</i>
Incident Command	Incident Commander
Command Staff	Officer
Section	Section Chief
Branch	Director
Division/Group	Division/Group Supervisor
Unit	Unit Leader

**Integrated Communications** All incident communications are managed through a communications plan and an incident-based communications center. All communications are to be made in clear English (Clear Text); no codes are to be used. Messages should be limited to those that are essential to the incident. On a major incident, units operating in the same area may not have the capability of contacting one another directly. For purposes of establishing a well-coordinated attack, it is essential that adjoining forces know how to contact one another. This is the purpose of the communications plan. The plan specifies which channels to use to contact the next level of management for coordination of attack and how to contact the incident base in case of medical or other emergency.

**Note**  
The need for a unified command is based on the fact that incidents have no regard for jurisdictional boundaries.

**Unified Command Structure** The need for a unified command is based on the fact that incidents have no regard for jurisdictional boundaries. A large fire may start in the city and cross into the county. These jurisdictional boundaries are political and are only lines drawn on maps. Any large incident, such as a flood, earthquake, tornado, or major wildland fire is likely to cross jurisdictional boundaries. There are also functional boundaries. The police and fire departments both have responsibility for their functions in the same geographic area, but their missions are quite different. In an incident that requires both police and fire to respond, their objectives, responsibilities, and capabilities differ.

The concept of unified command is that all agencies that have a jurisdictional responsibility at a multijurisdictional incident contribute in

- Determining overall incident objectives.
- Selection of strategies.
- Ensuring that joint planning of tactical operations are conducted.
- Ensuring that integrated tactical operations are conducted.
- Assuring maximum use of all incident resources.

The selection of participants in a unified command structure are based on

- The location of the incident—which political jurisdictions are involved.
- The type of incident—which functional agencies of the involved jurisdiction(s) are required.

There should be an official representative from each involved jurisdiction on the unified command team. This may be a representative from each political jurisdiction in a multijurisdictional incident or a representative from each functional area in a single jurisdiction incident.

**Note**  
The tactical implementation of the action plan is the responsibility of a single individual, the operations chief.

**Incident Action Plan** In a multijurisdictional incident, the objectives and strategy should be written. These lead to the creation of a written incident action plan. The tactical implementation of the action plan is the responsibility of a single individual, the operations chief.

Every incident needs a plan. In the ICS, this is called the incident action plan (IAP). On small incidents, it need not be written. The incident commander tells the personnel at scene what the objectives are and implements the tactics to achieve them. On a larger incident, the IAP is a written document that states the objectives and strategies for control of the incident.

**Manageable Span of Control** Span of control is based on safety issues and management practice. The standard number of people managed by a single person in the ICS is five, although it may vary from three to seven. Any less than three and personnel are being wasted filling management positions; more than seven and it is too many to manage correctly and safely.

**Designated Incident Facilities** The size and nature of the incident determine which of the incident facilities are needed. The most commonly used ones are included here.

- **Incident Command Post (ICP).** Established on every incident, this location is where the incident commander coordinates incident operations. There is only one ICP for each incident; any more would lead to an uncoordinated attack. This position should be established immediately so that other agencies and resources know where to report when they arrive.
- **Staging Area.** This is where resources report on a larger incident. Initially the incident commander can become completely overwhelmed with the number of resources reporting at scene. The use of staging areas also keeps the arriving resources from positioning themselves where they can not get out if not needed at the current incident. In the staging area, the resources are considered to be available to respond within three minutes of being called for. In the case of an incident that requires several engine strike teams, the staging area would most likely be a parking lot.
- **Incident Base.** The base is the location where incident support activities take place. On smaller or short duration incidents, logistical needs for the incident would be taken care of at the base.
- **Camp.** The camp is the place where, on extended incidents, logistical needs such as feeding and sleeping of personnel are provided. On major wildland fires, camps can be required to provide for the needs of upwards of 2,000 people and can resemble small cities.

**Comprehensive Resource Management** There are three ways in which resources are managed in the ICS.

1. **Single Resources.** These are individual pieces of apparatus, such as an engine, helicopter, or bulldozer. The single resource includes the crew necessary to operate it. A single resource may also be a person filling a position, like safety officer or division supervisor.
2. **Task Force.** A task force is a combination of resources that can be *temporarily* assembled for a specific mission. All resource elements in a task force must have common communications and a leader. The leader is usually in a separate vehicle. An example of this would be several engines and a water tender or a hand crew and bulldozer.
3. **Strike Team.** Strike teams are a set number of resources of the same kind and type, which have an established minimum number of personnel. Strike teams always have a leader, usually in a separate vehicle, and have common communications among resource elements. Examples of a strike team would be engines, crews, or bulldozers. The use of strike teams and task forces optimizes the use of resources, minimizes span of control problems, and cuts down on radio traffic at the incident. By requiring the leader to be in a separate vehicle and have common communications within the strike team or task force, the resources can be used safely and effectively with the least amount of confusion.

For more information on resource typing see ICS Resource Typing in Appendix E.

Another aspect of resource management is a standardized way of accounting for resources and their availability for use on the incident. There are three levels of incident status:

1. **Assigned**—when resources are committed and in use on the incident.
2. **Available**—resources in this status are considered to be ready to respond within three minutes of being called for. Units in the staging area are considered to be in the available status.
3. **Out-of-Service**—not ready for available or assigned status. This does not mean that the resource is totally unavailable; it may just be in the base or camp. Resources in the out-of-service status should still keep themselves available and ready to respond if needed.

## Organization

The ICS is divided into five major functional areas: Command, Operations, Plans, Logistics, and Finance.

1. **Command.** Command is responsible for the overall management of the incident. Command of an incident is either single command, unified command/one jurisdiction, or unified command/multiple jurisdiction. The incident may have

more than one incident commander. It is important that the incident commanders work closely together so they present only one set of incident objectives. They are all expected to have input, but only one speaks for the group when the objectives are presented. They must release control of their resources to the incident. In this way the operations chief can use all of the available resources in achieving the incident objectives.

**Incident Commander:** Responsible for incident activities including the development and implementation of strategic decisions and for approving the ordering and releasing of resources. The incident commander has several positions that work directly for him, called the command staff. These are

**Safety officer.** Responsible for monitoring and assessing hazardous and unsafe situations and developing measures for ensuring personnel safety.

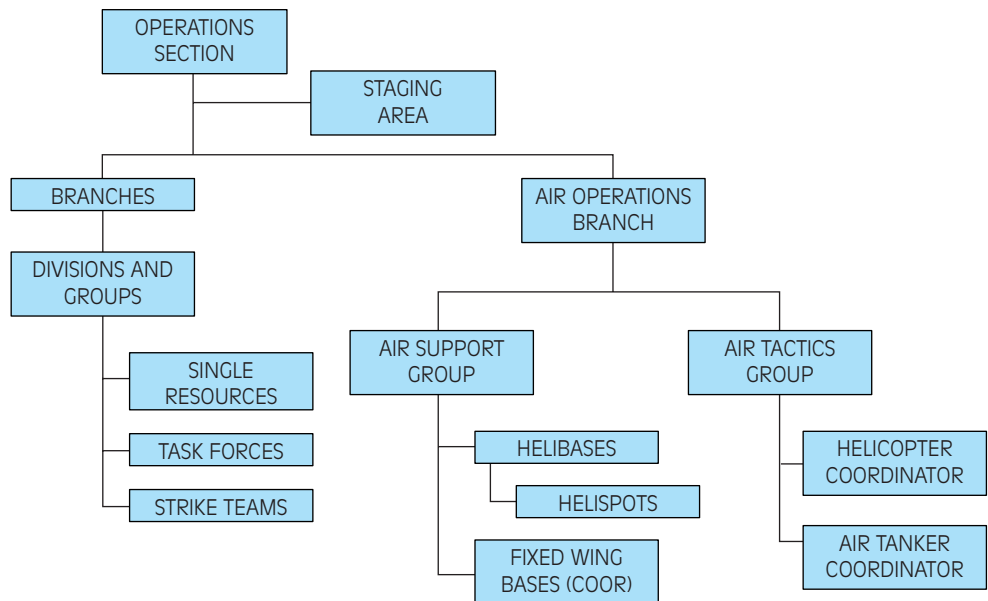
**Information officer.** Responsible for formulating and releasing information about the incident to the news media and other appropriate agencies and organizations.

**Liaison officer.** Point of contact for the cooperating and assisting agency representatives.

All of these positions answer to and derive their authority directly from the incident commander.

The heads of the major functional areas are called the general staff and are called operations, plans, logistics, and finance chiefs.

**2. Operations Section.** The operations section (**Figure 13-2**) is headed by the operations chief who is responsible for the direct management of all tactical



**Figure 13-2**  
*Operations section.*

activities at the incident. He/she is also involved in preparation of the IAP. The positions under the operations chief are directly involved in operations at the incident. These are staging area manager, branch director, divisions/groups, single resources, strike teams, and task forces.

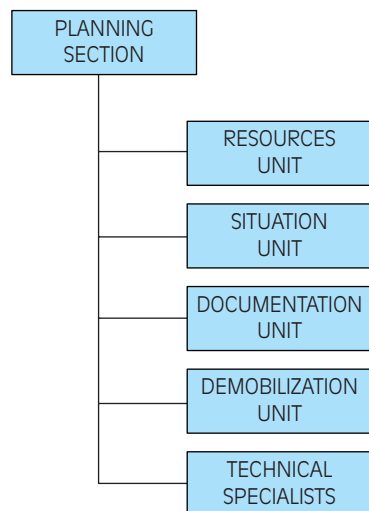
Staging area manager. Coordinates the area where resources in the “available status” are kept until needed at the incident.

Branch Director. Person in charge of several divisions/groups on a large or functionally diverse incident.

Division Supervisor. Person in charge of resources assigned to a specific geographical area of the incident. On a high-rise fire, this would be a specific floor of the building. On a wildland incident, this would be an length of the fire perimeter.

Group Supervisor. Groups are functional. A group supervisor would be in charge of resources performing a specified function. Because groups are functional they may operate across divisional boundaries. Examples of this would be rescue group, ventilation group, foam group, or dozer group.

3. Planning Section. The planning section is headed up by the planning section chief. The section is responsible for the collecting, evaluating, and disseminating of tactical information about the incident. The planning section maintains information about the current and predicted incident status and status of resources assigned to the incident. It also prepares and documents the IAP. Planning has four primary units and may have a number of technical specialists to assist in evaluating the current and forecasted situation. The four primary units are resources unit, situation unit, documentation unit, and demobilization unit (**Figure 13-3**).



**Figure 13-3** Plans section.

Resources Unit. Makes sure that all resources have checked in at the incident. Also keeps track of the status of all resources at the incident. Commonly called Restat.

Situation Unit. Collects, organizes, and processes situation information about the incident. Develops projections and forecasts about future events. Prepares maps for incident use. Commonly called Sitstat.

Documentation Unit. Maintains complete and accurate incident files for legal, analytical, and historical purposes.

Demobilization Unit. Develops the incident demobilization plan. When resources are released they go through the demobilization process. Commonly called Demob (pronounced demobe).

Technical Specialists. Used on complex incidents. For example structural engineers, hazardous materials, weather and fire behavior specialists. As the public is becoming more concerned with the long-term effects of incidents on the environment, the use of environmental impact specialists are more common.

4. Logistics Section. The logistics section is responsible for providing all service and support functions for the incident. Managed by the logistics section chief. The logistics section can be divided into two branches if deemed necessary (**Figure 13-4**).

#### ***Service Branch***

Communications Unit. Makes plans for the efficient use of communications resources and channels available to the incident. Develops communications plan portion of the IAP.

Medical Unit. Provides for all medical needs at the incident. Develops the medical plan portion of the IAP.

Food Unit. Determines food and water needs for the incident. Makes sure meals are cooked and served, including meals in the camp and lunches for resources assigned at the incident.

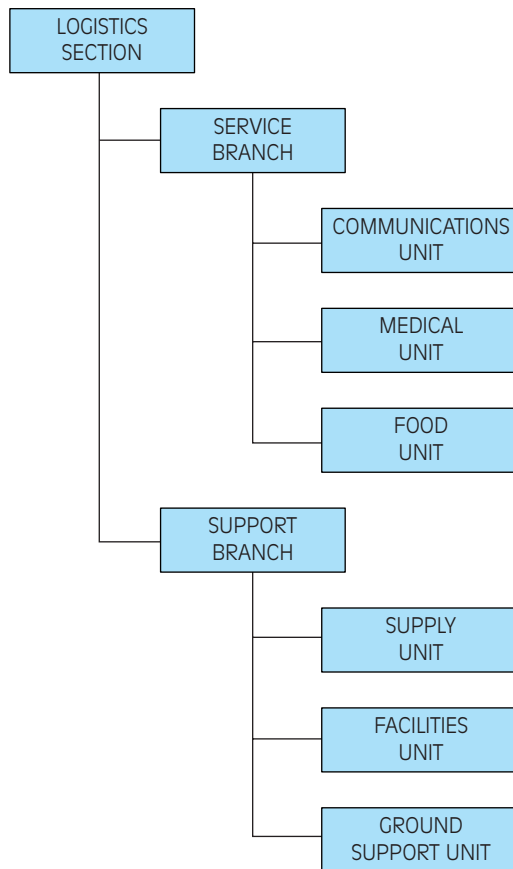
#### ***Supply Branch***

Supply Unit. Responsible for making sure that all matériel needed for the incident is ordered, received, processed, and available for use. This includes personnel and equipment.

Facilities Unit. Responsible for establishing, setting up, maintaining, and demobilizing all facilities used in support of the incident.

Ground Support Unit. Takes care of the maintenance and fueling of all ground resources, such as engines. Develops incident traffic plan portion of the IAP.

5. Finance Section: The finance section, headed by the finance section chief, is used when specific financial services are required on the incident. The



**Figure 13-4** Logistics section.

finance section consists of the time unit, procurement unit, compensation/claims unit, and cost unit (**Figure 13-5**).

**Time Unit.** Makes sure that personnel and equipment time records are maintained.

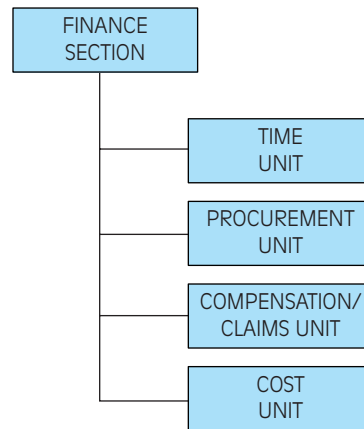
**Procurement Unit.** Deals with all vendor contracts, such as caterers, shower units, and other contract equipment.

**Compensation/Claims Unit.** Deals mainly with worker's compensation and damage claims resulting from incident activities.

**Cost Unit:** Provides cost analysis data for the incident.<sup>5</sup>

**Note**  
The advantage of the ICS is that all positions and the trained personnel to staff them are identified before the incident occurs.

To make the ICS more useful in specific situations, several incident type sections have been added over the last several years. These sections include full organization charts and position checklists for hazardous materials, multicasualty, urban search and rescue, (US&R) and high-rise.<sup>6</sup>



**Figure 13-5** *Finance section.*

The advantage of the ICS is that all positions and the trained personnel to staff them are identified before the incident occurs. The incident command system works so well because the personnel that staff the necessary functions to support the incident are prepared to assume their positions. When the ICS is implemented, the resources can be called up and placed into action in a structure that was organized and prepared before the incident began. Everyone in the organization should know where they fit, in terms of who they report to and who reports to them. As you can see, a major incident requires a lot of personnel just to staff the ICS positions that support the personnel and equipment operating to control the incident. This provides for an orderly development of the organization as the incident increases or decreases. With the standardization of the ICS across the nation, a team from another area can be brought in to manage an incident if the need arises. As incidents increase in size, special teams are brought in to manage the incident and a smooth transition can take place.

The system also provides adaptability for almost any type of incident. The management team can adapt the structure and positions of the organization within the ICS framework. Once the objectives are specified, the resource needs are determined to manage and control the incident.

## SUMMARY

At any time at an incident, you should be able to answer three questions: What do you have? What do you need? What is your plan? If you cannot do so, you are operating on automatic pilot and not doing your job fully. If you ever hope to become an effective incident commander, you must think along these lines at all times when operating at emergencies. As you progress in your experience and training, the answers to these three questions will become more refined. As you are given more responsibility, the amount of information that goes into determining your answers will increase and so will the importance of your decisions.

For effective management of any type of incident, there must be a plan. Plans are based on the incident objectives with strategies and tactics

designed to achieve the objectives. Only through a proper size-up and logical thought processes can a plan be developed. Any time plans are developed, all members of the management team must buy into the plan and fully support it.

The incident command system is a method of placing the plan in operation. It does no good to have a complicated organization without a clearly defined set of objectives. Conversely, it is not effective to have a clearly stated set of objectives and strategies with no structure for placing the plan into operation. Through a working knowledge of a position in the incident command system, any firefighter can be assigned to any incident and carry out the duties of that position.

## REVIEW QUESTIONS

1. What position is in charge at an incident?
2. Define objectives.
3. Define strategy.
4. Define tactics.
5. What are the three attack modes?
6. Interior attack is performed in which mode?
7. List the seven strategic priorities.
8. List the steps in a size-up. Give a listing of the information necessary for structure and wildland size-ups.
9. What are the two main components of the NIIMS?
10. Whose responsibility is it to implement the ICS on incidents?
11. What are the positions of the command staff?
12. What are the positions of the general staff?
13. What is the difference between a group and a division?
14. What is the difference between a strike team and a task force?
15. What does it mean to be in available status?
16. When operating an engine on an ICS-managed incident, which unit do you see for fuel?

## DISCUSSION QUESTIONS

1. Why is unified command important in the case of a multiagency or multijurisdiction incident?
2. Why is it important to have a commonly understood incident command system in place before agencies are required to help each other out in times of major emergencies?
3. With the activation of resources on a nationwide basis (e.g., Oklahoma City bombing, Pentagon, and New York's World Trade Center), do you think the fire service needs more or less standardization in incident command systems?
4. What will be the next area (e.g., hazmat, US&R) that has to have a special section with position descriptions in the ICS?

## NOTES

1. Lloyd Layman, *Fire Fighting Tactics* (Quincy, MA: National Fire Protection Association, 1972).
2. Merriam Webster, *New Collegiate Dictionary* (Springfield, MA: Merriam Webster, Inc., 1985).
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4. Lloyd Layman, *Fire Fighting Tactics* (Quincy, MA: National Fire Protection Association, 1972).
5. Fire Protection Publications, *I-120 Incident Command System* (Stillwater, OK: Fire Service Publications, 1988).
6. Incident Command System Publication, *Fire Service Field Operations Guide ICS 420-1* (June, 2004).