INCIDENT COMMAND SYSTEM

NATIONAL TRAINING CURRICULUM

MAJOR INCIDENT MANAGEMENT

MODULE 14
I-400

REFERENCE
TEXT
OCTOBER 1994

NFES 2466

CERTIFICATION STATEMENT

on behalf of the

NATIONAL WILDFIRE COORDINATING GROUP

The following training material attains the standards prescribed for courses developed under the interagency curriculum established and coordinated by the National Wildfire Coordinating Group. The instruction is certified for interagency use and is known as:

Major Incident Management

Member NWCG and Training Working Team Liaison

Date 11/7/94

Chair, Training Working Team

Date 10/24/94

Description of the Performance Based System

The Wildland Fire Qualifications System is a "performance based" qualifications system. In this system, the primary criteria for qualification is individual performance as observed by an evaluator using approved standards. This system differs from previous wildland fire qualifications systems which have been "training based." Training based systems use the completion of training courses or a passing score on an examination as a primary criteria for qualification.

A performance based system has two advantages over a training based system:

- Qualification is based upon real performance, as measured on the job, versus perceived performance, as measured by an examination or classroom activities.
- Personnel who have learned skills from sources outside wildfire suppression, such as agency specific training programs or training and work in prescribed fire, structural fire, law enforcement, search and rescue, etc., may not be required to complete specific courses in order to qualify in a wildfire position.

1. The components of the wildland fire qualifications system are as follows:

   a. Position Task Books (PTB) contain all critical tasks which are required to perform the job. PTB's have been designed in a format which will allow documentation of a trainee's ability to perform each task. Successful completion of all tasks required of the position, as determined by an evaluator, will be the basis for recommending certification.

      IMPORTANT NOTE: Training requirements include completion of all required training courses prior to obtaining a PTB. Use of the suggested training courses or job aids is recommended to prepare the employee to perform in the position.

   b. Training courses and job aids provide the specific skills and knowledge required to perform tasks as prescribed in the PTB.

   c. Agency Certification is issued in the form of an incident qualification card certifying that the individual is qualified to perform in a specified position.

2. Responsibilities

   The local office is responsible for selecting trainees, proper use of task books, and certification of trainees, see the Task Book Administrators Guide 330-1 for further information.

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PREFACE

This module is one of seventeen modules which comprise the Incident Command System (ICS) National Training Curriculum. The entire curriculum has been developed by an interagency steering group and a contract consultant. The curriculum was sponsored by the National Wildfire Coordinating Group, and development was directed and supported by the National Interagency Fire Center, Division of Training. The Steering Group was represented by several application areas (Search & Rescue, Law Enforcement, Structural Fire, Wildfire, etc.) which guided the work of the contractor in the development of this package.

The Steering Group was:

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This module describes how major or complex incidents and events can create special problems related to incident organization. It discusses how anticipating these potential problems can result in increased organizing options for the incident that will lead to more effective management. The module describes several models on how to divide major, single incidents for more effective management.

Objectives:

1. List the principal factors often found in, or related to, major and/or complex incidents.

2. List the four expansion options for incident organization, and describe the conditions under which they would be applied.

3. Demonstrate, through an exercise, how to apply the various options related to major or complex incident management.

I. Problems in Major or Complex Incident Management

Major incidents are infrequent and represent less than ten percent of the total incidents which occur. However they create dramatic spectacles which generate significant management problems.

Taken as a whole, major incidents generally:

- Involve more than one agency (often many).
- May involve more than one political jurisdiction.
- Have the more complex management and communication problems.
- Require more experienced, qualified supervisory personnel.
- Require large numbers of tactical and support resources.
- Cause more injury, death, illness.
- Produce the most damage to property and the environment.
- Have extreme elements of crisis/psychological trauma that diminishes human capacity to function.
- Are longer in duration.
- Are the most costly to control and mitigate.
- Require extensive mitigation, recovery, and rehabilitation.
- Have greater media interest.

Incidents can become major in two ways:

A. They start as major incidents - Earthquakes, hurricanes, floods, tanker spills, major HAZMAT situations, simultaneous civil disorders, outbreaks of pests, etc., can all produce major and/or complex incident management situations, some with only minimal or no advance warning.

B. They become major incidents - Smaller incidents such as fires and hazardous substance spills can become major as result of wind or surface conditions, and also as a result of response time delays, poor initial management, and/or lack of resources or support.

Major incidents are often thought of as covering a large geographical area. For example, many acres burning, an entire area flooded, or several floors in a building.

Major incidents can also be incidents with great complexity, requiring the application of a variety of tactics and resources to successfully bring the situation under control.

There is virtually no geographic location that is free from the potential of having a major or complex incident.

Smaller jurisdictions can and do have major and complex incidents. Even though the smaller jurisdictions do not have all of the personnel and equipment resources necessary, they can effectively use ICS. To do so requires adequate training, and planning with adjacent jurisdictions and agencies to jointly develop the capability to effectively manage major incidents.

II. Characteristics of Major/Complex Incidents

This module will examine several ways in which ICS can be extended for major or complex incidents. Characteristics of these kinds of incidents can include the following:

- All of the Command and General Staff positions are filled, and a large organization is in place or is developing.
- Most or all of the functional organizational units within sections are needed.
- Divisions/groups are established to geographically facilitate making work assignments.
- The number of Divisions may be such that Operations Section Branches are needed to reduce span of control.
- Multiple operational periods are probably required.
- There will be a transition to a more qualified Incident Commander, and the most qualified personnel will be used throughout the organization.
- Other agencies or jurisdictions will be assisting.
- Written action plans will be required.
- Operations personnel may exceed several hundred per operational period.
- Costs associated with maintaining the incident are high.

Major incidents are clearly the exception. It is likely that most incident managers may never deal with incidents so major or complex that they require taking one or more of the measures described in this module.

However, because major and complex incidents do occur, it is necessary to develop and to describe the ways in which the

Incident Command System can be effectively used in these kinds of situations. ICS has great versatility. Some of the examples of that are described in this module.

III. Major Incident Management Organizations

Primary factors in determining the size of the overall organization will be:

- Administrative and jurisdictional complexity.
- Geographical area involved.
- Span of control considerations. This includes span of control in Operations as well as all other organizational elements.
- Functional specialties required.
- Incident logistical, planning, and other support needs.
- Potential for growth.

Using a recommended span of control guideline of a 5 to 1 reporting ratio, an Operations Section could have up to five branches. Each branch could have up to five divisions/groups. Each division/group could have task forces or strike teams assigned. This is the preferred method of assembling resources. The actual number of personnel would be determined by the kinds of task forces and or strike teams involved.

Example:

A division on a wildland fire incident could be a mixture of resources including hand crews, engines,
and bulldozers. If these resources were formed into strike teams as shown below, the total personnel complement for the division could be 130 personnel.

Example Division (wildland fire model)

Personnel

3 Hand Crew Strike Teams	108
1 Bulldozer Strike Team	6
1 Engine Strike Team	16

Extending this same configuration across a twenty-five division/group incident, the total Operations Section personnel could exceed 3000 personnel for each operational period.

Obviously, this is an extreme example, however it gives an indication of the flexibility of ICS to accommodate a very large combination of resources if necessary. If the span of control guideline was increased to 1 to 6 or 1 to 7, which would still be within acceptable limits, the organization could be much larger.

While the standard ICS structure is adaptable to meet the needs of most major incidents, not all situations are alike. Other forms of ICS organization may be needed to meet extraordinary situations.

The management principles that relate to ICS are important, however, it is also important that the system work effectively to meet the needs of the incident. On major and/or complex incidents this may require tailoring the organization to meet the needs of the situation.

Agencies faced with the possibility of having to manage very major incidents have several options available to them under ICS. Four of these will be described:

- Multiple incident management with a single ICS organization (an Incident Complex).
- Dividing a single incident into two (or more) incidents.
- Expanding the ICS planning capability for incidents.
- Expanding the ICS organization to accommodate a second Operations or Logistics Section.

Another example of major incident management is the use of Area Command. Area Command differs from the above examples in that it is another organization established over two or more incidents, to ensure inter-incident coordination. Area Command is covered in Module 15.

A. Incident Complex - Multiple Incident Management with a Single ICS Organization

An Incident Complex is two or more individual incidents located in the same general proximity which are assigned to a single incident management team or unified command to facilitate management.

When an Incident Complex is established over several individual incidents, the general guideline is that the previously identified incidents would become branches within the Operations Section of the Incident Complex structure.

If any of the incidents within an Incident Complex has major potential, it is best to establish it as a separate incident and utilize Area Command.

Examples where an Incident Complex may be used:

- An earthquake, tornado, flood, etc., situation where there are many separate incidents occurring close together.
- Several separate fires are burning in close proximity to one another.
- One incident is underway with an ICS management team assigned, and other smaller incidents occur in the same proximity.

Considerations for the use of a complex:

- A complex may be managed under a single or a unified command.

- The incidents are close enough to be managed by the same incident management team.

- Some staff and/or logistical support economies could be achieved through a combined management approach.

- The number of overall incidents within the jurisdiction requires consolidations wherever possible to conserve staff and reduce costs.

- Planning, Logistical, and Finance/ Administration activities can be adequately provided to the Incident Complex from a single management team.

As a general guideline, it is usually advisable to establish each of the separate incidents within an Incident Complex as a branch. This provides more potential for future expansion if required.

The reason for this is that more flexibility is then available within each branch to later establish divisions or groups if required. Also, because divisions and groups may already have been established at each of the incidents, the same basic structure can be carried on.

B. Dividing a Single Incident into Two Incidents

Some incidents become so large that they could best be managed as separate incidents. Examples of these could include:

- An incident has spread into another jurisdiction(s) and can best be managed separately. For example, flooding situations which continue to expand into downstream low-lying areas. Unified Command would still be the first choice, but may not always be the only solution.

- Earthquake and wildland fire situations where terrain and access considerations have an affect on operational or logistical mobility, and the ability to manage from one location.

- HAZMAT or major spill situations which affect both an initial location and expand to affect other areas.

- Incidents which are naturally separating or where there are clearly different objectives.

If only one of the principal ICS sections is overtaxed then one of the other examples discussed below might be used. However, if two of the principal sections are overtaxed due to the size of the incident, then the incident should be divided into two incidents. An example of this would be when:

- The Planning Section can no longer adequately provide planning services. This would be because of the size of the incident or because of the varying objectives and strategies needed, and just adding people to the staff is not the answer.

- The Logistics Section can no longer, or will soon not be able to, serve the widespread facilities and operations from a single incident base.

At this point, the Incident Commander, (or Unified Command) in consultation with the jurisdictional agencies involved, could recommend that the incident be divided into two separate incidents.

Each of these would have its own name and separate incident management team.

The following steps are required:

A decision would be reached on how best to divide the incident. This could be done in several ways, depending upon:

- Terrain and access considerations.
- Locations of future resource and logistical support.
- Jurisdictional/administrative boundaries.
- Current Operations Section structure (branches, divisions, etc.).

Incident Commanders and the Command and General Staff would be selected for each incident.

Supporting organization facilities, location, etc., would be designated.

An appropriate time would be designated for establishing two separate incidents with individual names.

The two incident management organizations could be directed to coordinate planning strategies and the use of critical resources between the incidents for at least the next operational period.

An Area Command could be established to assist in overall coordination.

C. Expanding the ICS Planning Capability for Incidents

Expanding the planning capability at an incident can take several forms. Two examples will be used.

1. Branch Tactical Planning

If the incident becomes so large that there is no logical set of objectives that pertain to the entire incident, <u>or</u> if the preparation and/or distribution of the Incident Action Plan could not be feasibly accomplished within the required timeframe, then a modified planning structure could be adopted.

The solution would be to have detailed action planning done at the operations branch level. This could be accomplished by the Planning Section providing the following to each Operations Section branch.

- General incident objectives
- Strategy for the branch for the next operational period
- Branch resource summary for the next operational period
- Weather and safety information
- Any changes to logistical support
- Personnel to support planning as required

With this information, individual branches can perform detailed action planning. The Planning Section would have to ensure that necessary inter-branch coordination took place wherever necessary.

Additional resource requirements over those authorized would have to be made known to the Operations Section Chief.

A modification to this model could be accomplished by designating only certain branches, e.g., those with less complex situations, as branches which would perform branch action planning. Other branches would continue under a central planning structure.

In either case, the Planning Section would provide each branch doing individual branch planning with the required support in terms of personnel and other support resources to get the planning accomplished.

2. Advance Incident Planning (Contingency Planning)

One of the functions of the Planning Section is to assess all available intelligence and to provide periodic predictions on incident potential.

On very major or complicated incidents, and for incidents that require extensive planning for each operational period, it is often difficult to find the personnel or the time to take a long-range look at the future incident planning needs.

A solution to this is for the Planning Section Chief to designate staff to concentrate only on advance planning.

The ways this can be accomplished are:

- Assign a Deputy Planning Section Chief the advance planning function. Provide staff as necessary.
- Assign a Technical Specialist(s) to perform the function.
- Establish a special unit within the Planning Section to handle advance planning.

Incident advance planning should look ahead at least 36-72 hours. The staff responsible for advance planning should use the following as they consider the long-range future of the incident:

- Overall goal and incident objectives
- Previous and present operational period plans adequacy
- Future agency and mutual-aid resource availability

- Strategy assessment and alternatives
- Environmental factors (terrain, weather, etc.)
- Organizational assessment and alternatives
- Political issues
- Economic issues
- Long-term recovery/rehabilitation needs

The goal of this advance planning effort should be to provide the Planning Section Chief and the Incident Commander or (Unified Command) with a range of alternatives related to management of the incident beyond the next operational period.

D. Expanding the ICS Organization to Accommodate Another Operations Section or Logistics Section.

While not likely, it is possible to establish a second Operations or Logistics Section within a single incident.

1. A Second Operations Section

This model describes a major incident where the sheer volume of resources required means that the Operations Section cannot be further expanded without exceeding ICS span of control guidelines.
Examples:

- Earthquakes, hurricanes, tornadoes, and floods covering several political jurisdictions.
- Major wildland fire that continues to expand.

- Major (foreign substance) spill in a waterway.

As indicated earlier, the size of the Operations Section is determined by the composition of resources within each division or group.

If the organization has grown to the point where it is not desirable to expand the Operations Section further, a second Operations Section could be established.

Major steps should include:

- Ensuring that other Command and General Staff functions can adequately support the expansion.

  This could require establishing a Deputy Incident Commander for Operations to provide management supervision over the two Operations Section Chiefs.

- Ensuring that adequate incident action planning can be accomplished.

- Ensuring that Logistics, Facilities, and Communications are adequate to support the additional section.

- Establishing the second Operations Section at the beginning of an operational period.

- Ensuring that all incident supervisory personnel are aware of the expanded organization.

This situation may arise when the incident is already operating under Unified Command. Unified Command is not a requirement however.

The Deputy Incident Commander for Operations (if established) has the responsibility to ensure that all aspects of the original and the additional Operations Section are fully coordinated with each other and with other sections.

The Deputy Incident Commander for Operations is normally collocated with the Incident Commander at the Incident Command Post.

Separate staging areas are established to support each operations section.

Depending upon the nature of the incident and the use of aircraft, one Air Operations Branch could be designated to serve both sections.

This requires separate airborne coordinators for each section who communicate with each other. It also requires ensuring that the Air Support Group can provide the necessary support.

An alternative approach, again depending upon the nature of the incident, would be to establish separate Air Operations branches for each section.

A single incident helibase could serve both sections. Separate helispots would be designated for each section.

2. A Second Logistics Section

If an incident were so large geographically that it would not be possible for the Incident Base or off-site suppliers to support the required number of camps and other incident logistical needs, it may be necessary to establish another Logistics Section to support one part of the incident.

In this situation, an incident base for each Logistics Section could be established. Additional camps supported by that base could be established.

At this point, a Deputy Incident Commander for Logistics could be added to the command structure if necessary to ensure coordination of the two logistics efforts.

The Deputy IC for Logistics would normally function from the Incident Command Post. The Deputy IC would ensure that all necessary coordination was taking place between the two Logistics Sections.

<u>Major steps to establish a second Logistics Section include:</u>

- Ensuring that Command and General Staff functions can adequately support the expansion.

  This may require designating a Deputy Incident Commander for Logistics. This person will provide management supervision over the two logistics section chiefs.

- Ensuring that adequate incident action planning can be accomplished. A new Incident Action Plan would be required to reflect these changes.

- Establishing the second Logistics Section at the beginning of an operational period.

- Ensuring that all incident supervisory personnel are aware of the expanded organization.

IV. Small Group Exercise

In this exercise, we will examine how separate incidents could be brought into a single ICS management structure called an Incident Complex.

Two scenarios are offered. Scenario A covers an earthquake, tornado, or hurricane situation which has affected the jurisdiction. Scenario B covers wildland fires.

In small groups, develop an Incident Complex organization. Address the questions accompanying the scenarios.

Give a briefing on your organization.

MODULE 14

MAJOR INCIDENT MANAGEMENT

Exercise Scenario A
Exercise Scenario B
Resource Table

Scenario

Exercise A:

A major portion of the city has been affected by the _____. Three incidents are reported within a two block area. Initially, each of these was designated as an individual incident and resources were separately assigned to each.

Incident A: Damage to a hospital requiring evacuation, search and rescue, and relocation of 50 persons.

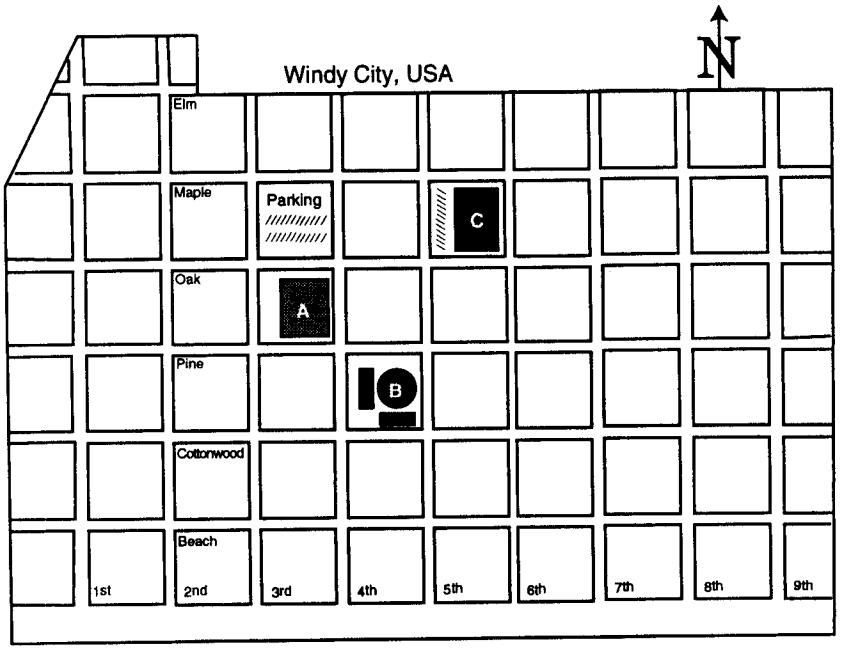
Incident B: Fire and possible HAZMAT situation at a commercial chemical storage facility.

Incident C: Partial collapse of a roof in an open supermarket. Persons injured and looting is taking place.

Because of the large number of simultaneous incidents throughout the community, the City Emergency Operations Center (EOC) has directed that one incident management team assume on-scene responsibility for all three of these incidents.

The most qualified Incident Commander is currently located at Incident B.

Task: Develop the incident organization structure for this Incident Complex.



Address the following questions in small group settings.

1. What would the overall organizational structure look like?

2. How would the Operations Section be set up to address these problems? Should it be functional or geographic, or both?

3. How would Staging Areas be handled?

4. How would you recommend that incident action planning be done?

5. How would the Command Staff positions be established?

6. How could Air Operations best be managed?

7. What are the two or three major problems you would have in operating either one or both of these incidents as Incident Complexes?

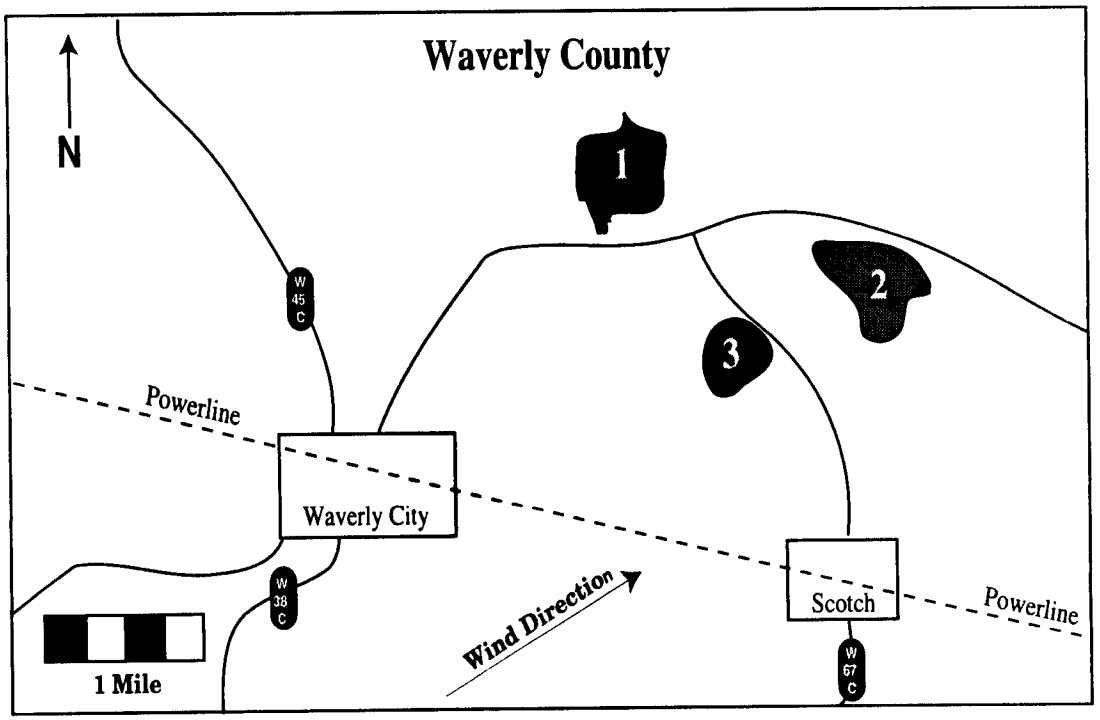
Scenario

Exercise B

A wildland fire (1) was initially reported. Resources were dispatched. Within 30 minutes two additional fires (2, 3) were reported. Additional units were dispatched.

Because of the high fire danger, and the shortage of qualified personnel to manage these incidents, the jurisdictional agency designated these three incidents as an Incident Complex. The Incident Commander for incident #1 was made the Incident Complex Commander.

Task: Develop the incident organization structure for this Incident Complex.



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RESOURCE TABLE FOR USE IN EXERCISES

KIND OF RESOURCE				
ALS UNITS				
BLS UNITS				
BULLDOZERS				
BUSES - 30 PASS 50 PASS				
COAST GUARD VES.				
COMMUNICATION UNITS				
CRANES				
DUMP TRUCKS				
EMS UNITS				
FIRE ENGINE CO'S				
FIRE TRUCK CO'S				
FIREBOATS				
FOUR WHEEL DRIVE PASS. VEH.				
HAZMAT UNITS				
HELICOPTERS				
K-9 UNITS				
MARINE RESCUE UNITS				
MOTORCYCLE UNITS				
PASSENGER VEHICLES				
PATROL UNITS				
PICKUP TRUCKS				
PRIVATE AMBULANCES				
SAR UNITS				
STATION WAGONS				
WATER TENDERS				

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