

# COMPONENT III: RESOURCE MANAGEMENT

Emergency management and incident response activities require carefully managed resources (personnel, teams, facilities, equipment, and/or supplies) to meet incident needs. Utilization of the standardized resource management concepts such as typing, inventorying, organizing, and tracking will facilitate the dispatch, deployment, and recovery of resources before, during, and after an incident. Resource management should be flexible and scalable in order to support any incident and be adaptable to changes. Efficient and effective deployment of resources requires that resource management concepts and principles be used in all phases of emergency management and incident response.

From routine, local incidents to incidents that require a coordinated Federal response, resource management involves the coordination, oversight, and processes that provide timely and appropriate resources during an incident. Resources may support on-scene and command operations through the Incident Command Post (ICP) or function within the Multiagency Coordination System(s)<sup>15</sup> (MACS) serving at an Emergency Operations Center (EOC) or similar site.

As incident priorities are established, needs are identified, and resources are ordered, resource management systems are used to process the resource requests. In the initial stages of an incident, most of the resources requested are addressed locally or through mutual aid agreements and/or assistance agreements. As an incident grows in size or complexity, or if it starts on a large scale, resource needs may be met by other sources. In a case of competition for critical resources, MACS may be used to prioritize and coordinate resource allocation and distribution according to resource availability, needs of other incidents, and other constraints and considerations.

**For certain kinds of incidents, resource needs may be anticipated well enough to develop a deployment strategy, incorporating all elements of resource management.**

- **Preincident assignment:** Assigning personnel and teams to specific tasks in anticipation of incident response
- **“Move-up” or “backfill” strategy:** Moving resources nearest to an incident into the incident area, with more distant resources filling the void by backfilling behind the deploying resources
- **Regional pre-positioning of resources:** Using designated areas for final preparation of resources prior to mobilization and for recovery of resources during demobilization

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<sup>15</sup> See page 64, Component IV: Command and Management, for more information on MACS.

# A. CONCEPTS AND PRINCIPLES

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## 1. CONCEPTS

The underlying concepts of resource management are as follows:

- **Consistency:** Provision of a standard method for identifying, acquiring, allocating, and tracking resources.
- **Standardization:** Resource classification to improve the effectiveness of mutual aid agreements or assistance agreements.
- **Coordination:** Facilitation and integration of resources for optimal benefit.
- **Use:** Incorporating available resources from all levels of government, nongovernmental organizations (NGOs), and the private sector, where appropriate, in a jurisdiction's resource management planning efforts.
- **Information Management:** Provisions for the thorough integration of communications and information management elements into resource management organizations, processes, technologies, and decision support.
- **Credentialing:** Use of criteria that ensure consistent training, licensure, and certification standards.

## 2. PRINCIPLES

The foundations of resource management are based on the following five interwoven principles.

### a. Planning

Coordinated planning, training to common standards, and inclusive exercises provide a foundation for the interoperability and compatibility of resources throughout an incident. Jurisdictions should work together in advance of an incident to develop plans for identifying, ordering, managing, and employing resources. The planning process should include identifying resource needs based on the threats to and vulnerabilities of the jurisdiction and developing alternative strategies to obtain the needed resources.

Planning may include the creation of new policies to encourage positioning of resources near the expected incident site in response to anticipated resource needs. Plans should anticipate conditions or circumstances that may trigger a specific reaction, such as the restocking of supplies when inventories reach a predetermined minimum. Organizations and jurisdictions should continually assess the status of their resources in order to have an accurate list of resources available at any given time. Additionally, emergency Management/response personnel<sup>16</sup> should be familiar with the *National Response Framework* and should be prepared to integrate and/or coordinate with Federal resources.

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<sup>16</sup> Emergency management/response personnel include Federal, State, territorial, tribal, substate regional, and local governments, nongovernmental organizations, private-sector organizations, critical infrastructure owners and operators, and all other organizations and individuals who assume an emergency management role.

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### b. Use of Agreements

Agreements among all parties providing or requesting resources are necessary to enable effective and efficient resource management during incident operations. This includes developing and maintaining standing agreements and contracts for services and supplies that may be needed during an incident.

### c. Categorizing Resources

Resources are organized by category, kind, and type, including size, capacity, capability, skill, and other characteristics. This makes the resource-ordering and dispatch process within and across jurisdictions, and among all levels of governments, NGOs, and the private sector, more efficient and ensures that needed resources are received.

### d. Resource Identification and Ordering

The resource management process uses standardized methods to identify, order, mobilize, and track the resources required to support incident management activities. Those with resource management responsibilities perform these tasks either at the request of the Incident Commander (IC) or in accordance with planning requirements. Identification and ordering of resources are intertwined. In some cases, the identification and ordering process is compressed, where an IC has determined the resources necessary for the task and specifies a resource order directly. However, in larger, more complex incidents, the IC may not be fully aware of resources available. At this point, the IC may identify needs based on incident objectives and use the resource management process to fill these needs.

### e. Effective Management of Resources

Resource management involves acquisition procedures, management information, and redundant systems and protocols for ordering, mobilizing, dispatching, and demobilizing resources.

#### **(1) Acquisition Procedures**

Acquisition procedures are used to obtain resources to support operational requirements. Examples include mission tasking, contracting, drawing from existing stocks, and making small purchases. A key aspect of the inventorying process is determining whether an organization needs to warehouse specific items prior to an incident. Material resources may be acquired in advance and stockpiled or obtained “just in time” through appropriate preincident contracts. Those with resource management responsibilities make this decision by considering the urgency of the need, whether sufficient quantities of required items are on hand, and whether the required items can be produced quickly enough to meet demand.

#### **Stockpiling vs. Just in Time**

**Resources may be acquired in advance and stored in a warehouse (i.e., stockpiled) or supplied “just in time,” typically using a preincident contract. Planning and resource accounting procedures should accommodate both types of resource supply.**

Another important part of the process is managing inventories with shelf-life or special maintenance considerations. Strict reliance on stockpiling raises issues concerning shelf life

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and durability; however, strict reliance on "just in time" resources raises its own concerns related to timely delivery. Assets that are counted on for "just in time" need to be accurately accounted for to ensure that multiple jurisdictions or private-sector organizations are not relying solely on the same response asset, which can lead to shortages during a response. Those with resource management responsibilities should build sufficient funding into their budgets for periodic replenishments, preventive maintenance, and capital improvements. An integral part of acquisition procedures is developing methods and protocols for the handling and distribution of donated resources.

### ***(2) Management Information Systems***

These systems are used to provide decision support information to managers by collecting, updating, and processing data, and tracking resources. They enhance resource status information flow and provide real-time data in a fast-paced environment where different jurisdictions, emergency management/response personnel, and their affiliated organizations are managing different aspects of the incident and should coordinate their efforts. Examples of management information systems include resource tracking, transportation tracking, inventory management, reporting, and geographical information systems. The selection and use of systems for resource management should be based on the identification of the information needs within a jurisdiction.

### ***(3) Redundant Information Systems***

Those with resource management responsibilities should be able to identify and activate backup systems to manage resources in the event that the primary resource management information system is disrupted or unavailable. Management information systems should also have sufficiently redundant and diverse power supplies and communication capabilities. If possible, the backup storage should not be co-located, and the information should be backed up at least every 24 hours during the incident.

### ***(4) Ordering, Mobilization, and Demobilization Protocols***

Protocols are followed when requesting resources, prioritizing requests, activating and mobilizing resources to incidents, and returning resources to normal status. Preparedness organizations develop standard protocols for use within their jurisdictions. Examples include tracking systems that identify the location and status of mobilized or dispatched resources, and procedures to demobilize resources and return them to their original locations and status.

## **B. MANAGING RESOURCES**

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To implement these concepts and principles in the primary tasks of resource management, NIMS includes standardized procedures, methodologies, and functions in its seven-step resource management process. This process reflects functional considerations, geographic factors, and validated practices within and across disciplines and is continually adjusted as new lessons are learned.

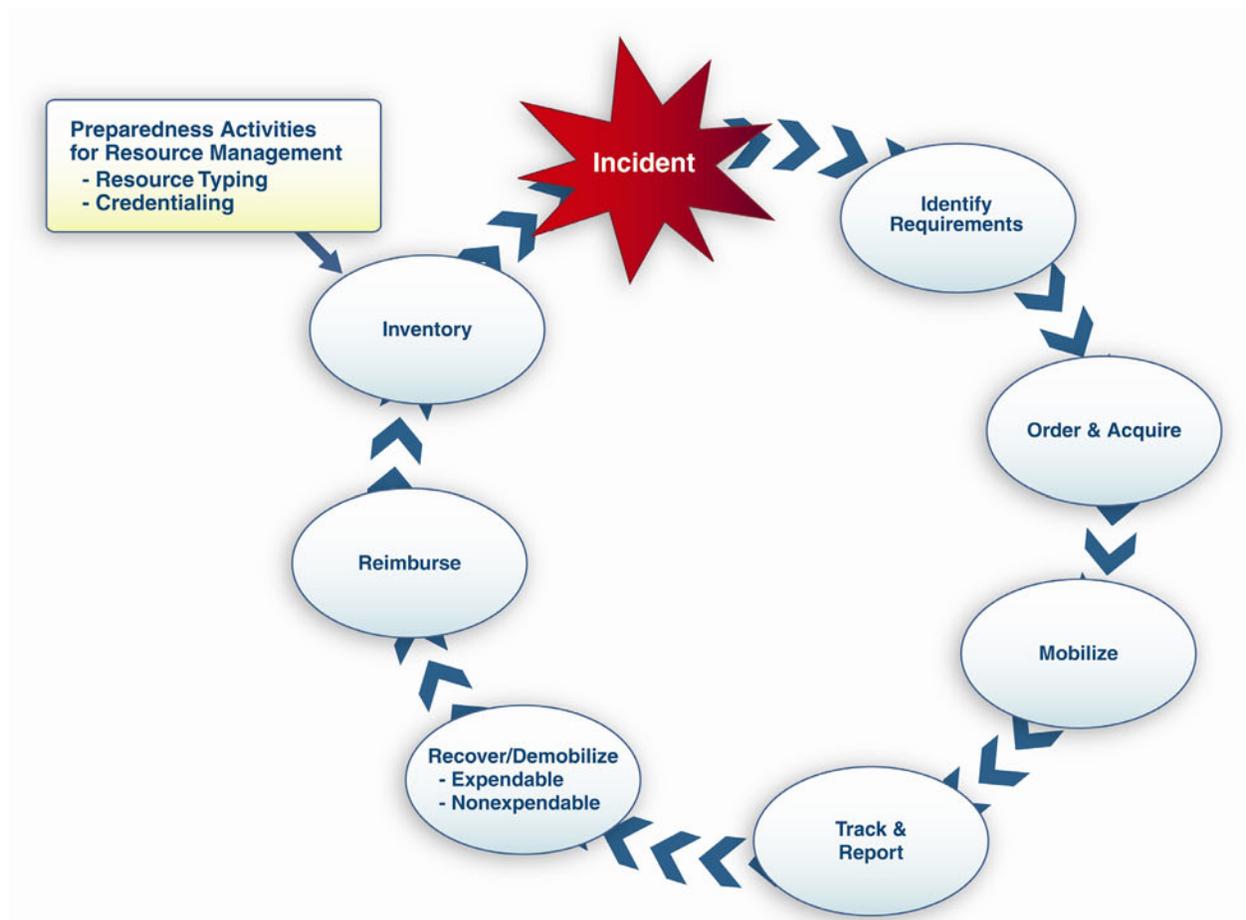
Resource maintenance is important throughout all aspects of resource management. Maintenance prior to resource deployment ensures availability and capability. Maintenance during the deployment phase ensures continued capabilities, such as adequate fuel supplies during use. Postoperational inspection and maintenance ensures future availability.

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The foundation for resource management provided in this component will be expanded and refined over time in a collaborative cross-jurisdictional, cross-disciplinary effort led by the National Integration Center (NIC).

The resource management process can be separated into two parts: resource management as an element of preparedness and resource management during an incident. The preparedness activities (resource typing, credentialing, and inventorying) are conducted on a continual basis to help ensure that resources are ready to be mobilized when called to an incident. Resource management during an incident is a finite process, as shown in Figure 1, with a distinct beginning and ending specific to the needs of the particular incident.

**Figure 1. Resource Management During an Incident**



### 1. IDENTIFY REQUIREMENTS

When an incident occurs, those with resource management responsibilities should continually identify, refine, and validate resource requirements. This process involves accurately identifying what and how much is needed, where and when it is needed, and who will be receiving or using it. Resources to be identified in this way include equipment, supplies, facilities, and personnel or emergency response teams. If a requestor is unable to describe an item by resource type or classification, those with resource management responsibilities should provide technical advice to enable the requirements to be defined and

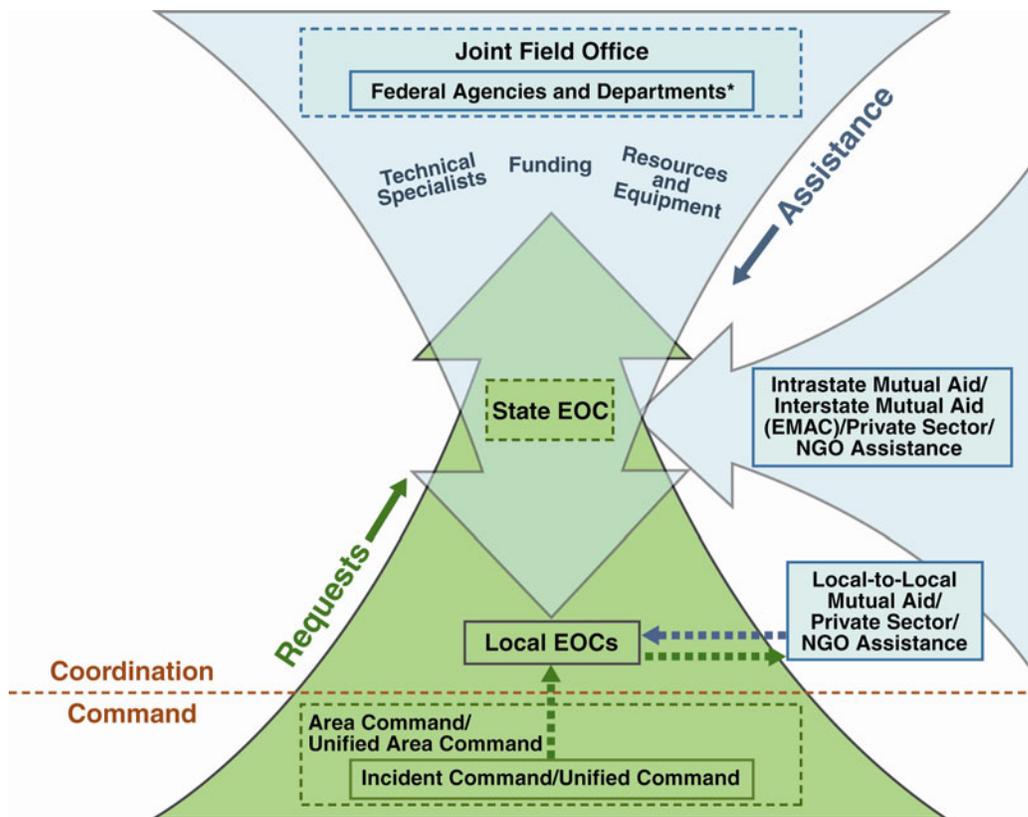
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translated into a specification. Specific resources for critical infrastructure and key resources may need to be identified and coordinated through mutual aid agreements or assistance agreements unique to those sectors, and should be accessible through preparedness organizations and/or MACS.

Resource availability and requirements will constantly change as the incident evolves. Consequently, all emergency management/response personnel and their affiliated organizations participating in an operation should coordinate closely throughout this process. Coordination should begin as early as possible, preferably prior to the need for incident response activities.

In instances when an incident is projected to have catastrophic implications (e.g., a major hurricane or flooding), States and/or the Federal Government may position resources in the anticipated incident area. In cases where there is time to assess the requirements and plan for a catastrophic incident, the Federal response will be coordinated with State, tribal, and local jurisdictions, and the positioning of Federal resources will be tailored to address the specific situation. The flow of requests and assistance is shown in Figure 2.

**Figure 2. Flow of Requests and Assistance During Large-Scale Incidents**



\*Some Federal agencies (U.S. Coast Guard, Environmental Protection Agency, etc.) have statutory responsibility for response and may coordinate and/or integrate directly with affected jurisdictions.

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### 2. ORDER AND ACQUIRE

Requests for resources that cannot be obtained locally are submitted using standardized resource-ordering procedures. These requests are generally forwarded first to an adjacent locality or substate region and then to the State.

The decision cycles for placing and filling resource orders are different for field/incident personnel with resource management responsibilities and resource coordination processes such as MACS. The IC will develop resource requests based on priorities that consider current and successive operational periods. Decisions about resource allocation are based on organization or agency protocol and possibly the resource demands of other incidents. Requested resources will be mobilized only with the consent of the jurisdiction that is being asked to provide the resources. Discrepancies between requested resources and those available for delivery must be communicated to the requestor.

#### **Avoid Bypassing Systems**

**All of those with responsibilities for managing resources, including public officials, should recognize the limitations inherent in requesting resources by circumventing the official resource coordination process within the multiagency coordination system supporting the incident(s). These requests do not proceed within the context of orderly resource management systems, and typically lead to inefficient use and/or lack of accounting of resources.**

### 3. MOBILIZE

Emergency management/response personnel begin mobilizing when notified through established channels. At the time of notification, they are given the date, time, and place of departure; mode of transportation to the incident; estimated date and time of arrival; reporting location (address, contact name, and phone number); anticipated incident assignment; anticipated duration of deployment; resource order number; incident number; and applicable cost and funding codes. The resource-tracking and mobilization processes are directly linked. When resources arrive on scene, they must be formally checked in. This starts the on-scene check-in process and validates the order requirements. Notification that the resources have arrived is made through the appropriate channels.

The mobilization process may include deployment planning based on existing interagency mobilization guidelines; equipping; training; designating assembly points that have facilities suitable for logistical support; and obtaining transportation to deliver resources to the incident most quickly, in line with priorities and budgets. Mobilization plans should also recognize that some resources are fixed facilities, such as laboratories, hospitals, EOCs, shelters, and waste management systems. These facilities assist operations without moving into the incident area in the way that other resources are mobilized. Plans and systems to monitor resource mobilization status should be flexible enough to adapt to both types of mobilization.

Managers should plan and prepare for the demobilization process at the same time that they begin the resource mobilization process. Early planning for demobilization facilitates accountability and makes the transportation of resources as efficient as possible—in terms of both costs and time of delivery.

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### 4. TRACK AND REPORT

Resource tracking is a standardized, integrated process conducted prior to, during, and after an incident by all emergency management/response personnel and their affiliated organizations, as appropriate. This process provides a clear picture of where resources are located; helps staff prepare to receive resources; protects the safety and security of equipment, supplies, and personnel; and enables their coordination and movement. Those with resource management responsibilities use established procedures to track resources continuously from mobilization through demobilization. Managers should follow all procedures for acquiring and managing resources, including reconciliation, accounting, auditing, and inventorying.

### 5. RECOVER AND DEMOBILIZE

Recovery involves the final disposition of all resources, including those located at the incident site and at fixed facilities. During this process, resources are rehabilitated, replenished, disposed of, and/or retrograded.

Demobilization is the orderly, safe, and efficient return of an incident resource to its original location and status. It can begin at any point of an incident, but should begin as soon as possible to facilitate accountability. The demobilization process should coordinate between incident(s) and MACS to reassign resources, if necessary, and to prioritize critical resource needs during demobilization.

The Demobilization Unit in the Planning Section develops an Incident Demobilization Plan, containing specific demobilization instructions, as part of the Incident Action Plan. Demobilization planning and processes should include provisions addressing the safe return of resources to their original location and status, and notification of return. Demobilization should also include processes for tracking resources and for addressing applicable reimbursement. Furthermore, documentation regarding the transportation of resources should be collected and maintained for reimbursement, if applicable. Demobilization provisions may need to meet specific organizational requirements.

#### a. Nonexpendable Resources

Nonexpendable resources (such as personnel, fire engines, and durable equipment) are fully accounted for both during the incident and when they are returned to the providing organization. The organization then restores the resources to fully functional capability and readies them for the next mobilization. Broken or lost items should be replaced through the appropriate resupply process by the organization with invoicing responsibility for the incident, or as defined in existing agreements. It is critical that fixed-facility resources also be restored to their full functional capability in order to ensure readiness for the next mobilization. In the case of human resources, such as Incident Management Teams, adequate rest and recuperation time and facilities should be provided. Important occupational health and mental health issues should also be addressed, including monitoring the immediate and long-term effects of the incident (chronic and acute) on emergency management/response personnel.

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### b. Expendable Resources

Expendable resources, such as water, food, fuel, and other one-time-use supplies, must be fully accounted for. The incident management organization bears the costs of expendable resources, as authorized in financial agreements executed by preparedness organizations. Restocking occurs at the point from which a resource was issued. Returned resources that are not in restorable condition, whether expendable or nonexpendable, must be declared as excess according to established regulations and policies of the controlling jurisdiction, agency, or organization. Waste management is of special note in the process of recovering resources, as resources that require special handling and disposition (e.g., biological waste and contaminated supplies, debris, and equipment) are handled according to established regulations and policies.

## 6. REIMBURSE

Reimbursement provides a mechanism to recoup funds expended for incident-specific activities. Processes for reimbursement play an important role in establishing and maintaining the readiness of resources and should be in place to ensure that resource providers are reimbursed in a timely manner. They should include mechanisms for collecting bills, validating costs against the scope of the work, ensuring that proper authorities are involved, and accessing reimbursement programs. Reimbursement mechanisms should be included in preparedness plans, mutual aid agreements, and assistance agreements. Some resources rendered may or may not be reimbursed, based on agreements established before the incident.

## 7. INVENTORY

Resource management uses various resource inventory systems to assess the availability of assets provided by jurisdictions. Preparedness organizations should inventory and maintain current data on their available resources. The data are then made available to communications/dispatch centers and EOCs and organizations within MACS. Resources identified within an inventory system are not an indication of automatic availability. The jurisdiction and/or owner of the resources has the final determination on availability.

Inventory systems for resource management should be adaptable and scalable and should account for the potential of double-counting personnel and/or equipment. In particular, resource summaries should clearly reflect any overlap of personnel across different resource pools. Personnel inventories should reflect single resources with multiple skills, taking care not to overstate the total resources. For example, many firefighters also have credentials as emergency medical technicians (EMTs). A resource summary, then, could count a firefighter as a firefighter or as an EMT, but not as both. The total should reflect the number of available personnel, not simply the sum of the firefighter and EMT counts.

Deployable resources have different inventory, ordering, and response profiles depending on their primary use during the response or recovery phases of an incident. Planning for resource use, inventory, and tracking should recognize the fundamental difference in resource deployment in the response and recovery phases. The response phase relies heavily on mutual aid agreements and assistance agreements, while recovery resources are typically acquired through contracts with NGOs and/or the private sector.

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### a. Credentialing

The credentialing process entails the objective evaluation and documentation of an individual's current certification, license, or degree; training and experience; and competence or proficiency to meet nationally accepted standards, provide particular services and/or functions, or perform specific tasks under specific conditions during an incident.

For the purpose of NIMS, credentialing is the administrative process for validating personnel qualifications and providing authorization to perform specific functions and to have specific access to an incident involving mutual aid.

Figure 3 illustrates the following NIC-recommended process for credentialing under NIMS:

When a request for mutual aid is received, the potential supporting department or agency evaluates its capacity to accommodate the anticipated loss of the resources that would be deployed without compromising mission performance (e.g., can a fire department allow 20 percent of its equipment and personnel to be deployed to another jurisdiction for 30 days and still meet its own community's needs?).

If the potential supporting department or agency determines that it can accommodate the requested deployment of resources, it must next identify specific personnel who will be deployed. The department or agency then submits applications for each member selected for deployment to an authorized accrediting agency identified by the credentialing authority of the State to which the mutual aid will be provided.

The accrediting agency evaluates each application and determines whether the applicant meets the established criteria for the positions required by the mission. Applications that the authorized accrediting agency determines fail to meet established criteria are returned to the submitting department or agency, and may be resubmitted with additional documentation or when the applicant's qualifications change. For applications that are approved by the authorized accrediting agency, the following steps are taken:

- The applicant's department or agency is notified.
- A record is created on the individual in the official credentialing database.
- An identification card or other credential is issued to the individual. (The identification card or credential should include an expiration date and be reissued as appropriate.)
- Information on the applicant is uploaded to the incident management infrastructure.

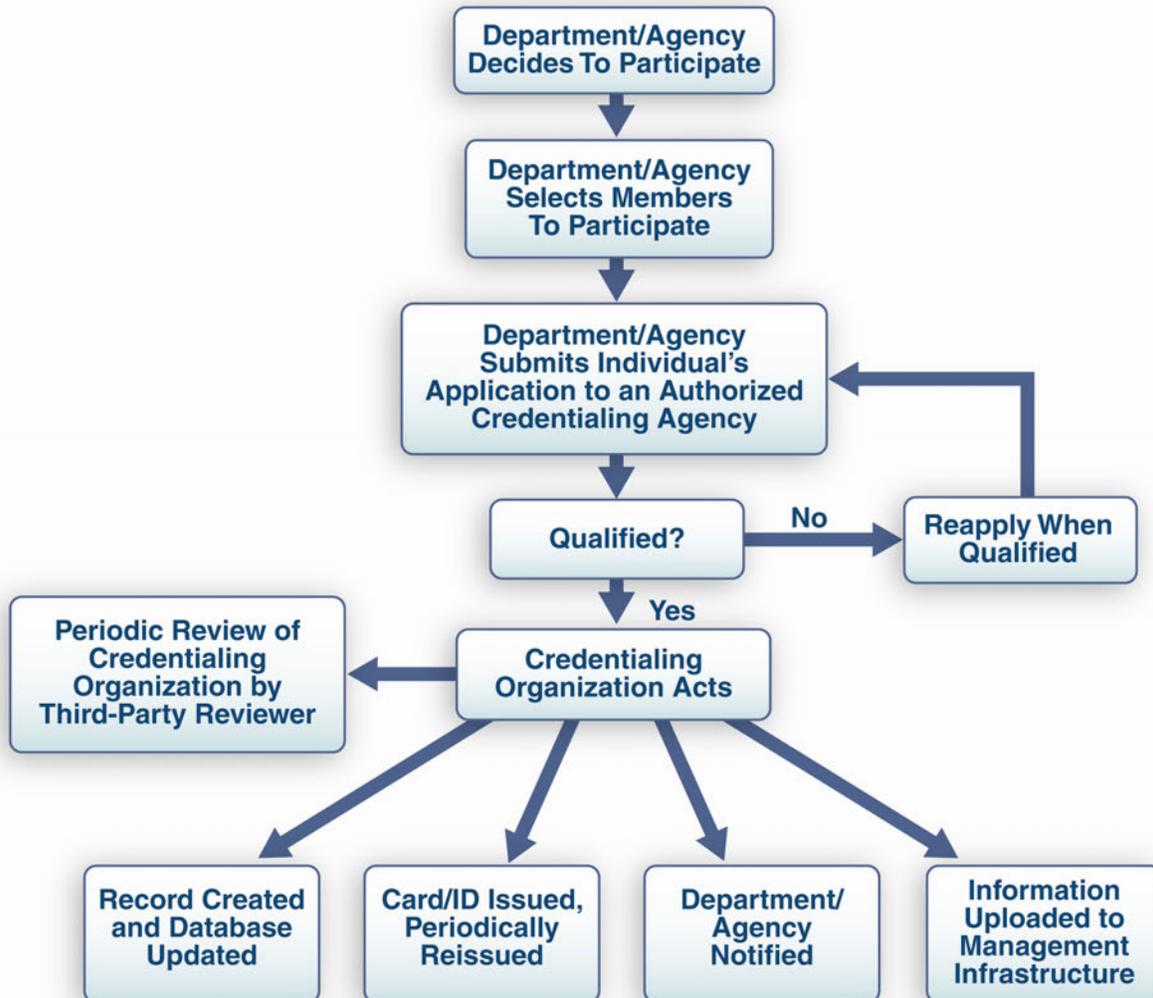
While credentialing includes the issuing of identification cards or credentials, it is separate and distinct from the incident badging process. When access to a site is controlled through special badging, the badging process must be based on verification of identity, qualifications, and deployment authorization.

Organizations utilizing volunteers, especially spontaneous volunteers, are responsible for ensuring each volunteer's eligibility to participate in a response. These organizations—governmental agencies responsible for coordinating emergency responses, volunteer management agencies (e.g., Red Cross, Emergency System for Advance Registration of Volunteer Health Professionals, Medical Reserve Corps, etc.), and other potential users of volunteers (e.g., hospitals, fire and police departments, etc.)—must develop protocols governing the activation and use of volunteers. Careful coordination is required to ensure

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the provision of services is not hindered by unaddressed safety and security considerations or legal or regulatory issues.

**Figure 3. Recommended NIMS Personnel Credentialing Process**



### b. Identifying and Typing Resources

Resource typing is categorizing, by capability, the resources requested, deployed, and used in incidents.<sup>17</sup> Measurable standards identifying resource capabilities and performance levels serve as the basis for categories. Resource users at all levels use these standards to identify and inventory resources. Resource kinds may be divided into subcategories to define more precisely the capabilities needed to meet specific requirements. Resource typing is a continuous process designed to be as simple as possible; it facilitates frequent use and accuracy in obtaining needed resources. To allow resources to be deployed and used on a national basis, the NIC (with input from Federal, State, tribal, local, private-

<sup>17</sup> See pages 83–87, Appendix A, for more information on resource typing.

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sector, nongovernmental, and national professional organizations) is responsible for facilitating the development and issuance of national standards for resource typing and ensuring that these typed resources reflect operational capabilities.<sup>18</sup>

### (1) *Category*

This is the function for which a resource would be most useful. Table 2 lists examples of categories used in a national resource-typing protocol.

**Table 2. Example Categories for National Resource Typing**

• Transportation	• Health and medical
• Communications	• Search and rescue
• Public works and engineering	• Hazardous materials response
• Firefighting	• Food and water
• Information and planning	• Energy
• Law enforcement and security	• Public information
• Mass care	• Animals and agricultural issues
• Resource management	• Volunteers and donations

### (2) *Kind*

Kind refers to broad classes that characterize like resources, such as teams, personnel, equipment, supplies, vehicles, and aircraft.

#### (a) *Components*

Components are the elements that make up a resource. For example, an engine company may be listed as having the eight components shown in Table 3.

**Table 3. Example of a Resource With Multiple Components (Firefighting Engine Company)**

(1) Pump	(5) Water tank
(2) Hose 2½"	(6) Ladder
(3) Hose 1¾"	(7) Master stream
(4) Hand tools	(8) Personnel

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<sup>18</sup> Proposals for additions to the NIMS Typed Resources Definitions may be submitted to the NIC, Incident Management Systems Division, for consideration.

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As another example, urban search and rescue teams consist of two 31-person teams, four canines, and a comprehensive equipment cache. The cache is divided into five separate color-coded elements and is stored in containers that meet specific requirements.

### **(b) Measures**

Measures are standards that identify capability and/or capacity. The specific measures used will depend on the kind of resource being typed and the mission envisioned. Measures must be useful in describing a resource's capability to support the mission. As an example, one measure for a disaster medical assistance team is the number of patients it can care for per day. An appropriate measure for a hose might be the number of gallons of water per hour that can flow through it.

### **(3) Type**

Type refers to the level of resource capability. Assigning the Type 1 label to a resource implies that it has a greater level of capability than a Type 2 of the same resource (for example, due to its power, size, or capacity), and so on to Type 4. Typing provides managers with additional information to aid in the selection and best use of resources. In some cases, a resource may have fewer than or more than four types; in such cases, either additional types will be identified, or the type will be described as "not applicable." The type assigned to a resource or a component is based on a minimum level of capability described by the identified measure(s) for that resource. For example, the U.S. Coast Guard has typed oil skimmers based on barrels per day, as outlined in Table 4.

**Table 4. Example of a Resource With Multiple Types  
(Coast Guard Oil Skimmer)**

Type 1	9,600 bbls/day	Type 3	480 bbls/day
Type 2	2,880 bbls/day	Type 4	N/A

### **(4) Additional Information**

The national resource-typing protocol will also provide the capability to use additional information that is pertinent to resource decisionmaking. For example, if a particular set of resources can be released to support an incident only under particular authorities or laws, the protocol should alert responsible parties to such limitations.