

# History of ICS

*This page is intended to serve as an unofficial, working history of the Incident Command System (ICS). Homeland Security Presidential Directive 5 (HSPD-5) and the subsequent release of the National Incident Management System (NIMS) have recently made the Incident Command System (ICS) a household concept among emergency management and incident response personnel in the United States. Many people misleadingly point to NIMS as the beginning of ICS application to all-risk, all-hazard incident management, but they may not be aware of ICS's complete origins. This paper attempts to provide a compressive history of ICS to explain how and why the system was developed, how it has been applied, and how it has evolved since its original development in the 1970s to a true, all-hazards incident management system.*

*This write-up is for informational purposes only and does not follow standard scholarly or academic research and citation procedures. We recommend that if you are conducting academic research you consult primary sources or contact us for clarification.*

*One of the scholarly sources that inspired this piece is the article "Engineering the Incident Command and Multiagency Coordination Systems" by Dr. Joseph Barbera and Ms. Kimberly Stambler from George Washington University. Published in 2011 in the Journal of Homeland Security and Emergency Management, "Engineering the Incident Command and Multiagency Coordination Systems" is one of the most thoroughly researched histories of ICS and the Multiagency Coordination System (MACS), providing deep insight into the design process and intent of both systems. The complete article is available here: <http://www.degruyter.com/view/j/jhsem.2011.8.issue-1/jhsem.2011.8.1.1838/jhsem.2011.8.1.1838.xml?format=INT>*

## **FIRST, THERE WAS FIRE: THE 1970 FIRE SEASON AND THE BEGINNING OF FIRESCOPE**

ICS was developed in the 1970s by an interagency group in Southern California called FIRESCOPE. FIRESCOPE stood for **F**irefighting **R**esources of **S**outhern **C**alifornia **O**rganized for **P**otential **E**mergencies and they set out to develop two interrelated, yet independent, systems for managing wildland fire. Those two systems were the:

- Multiagency Coordination System (MACS)
- Incident Command System (ICS)

The impetus for the development of these systems was the disastrous and devastating 1970 fire season in Southern California. At the time, the sky was full of giant smoke columns and fire apparatus were passing each other on their way to incidents, with some going north as others headed south. Individual Command Posts and fire camps were established by multiple agencies for the same incident. Response resource availabilities reached critically low levels. The number of fires burning at the same time taxed the organizational capability to protect lives, property, and the environment,

especially where wilderness bordered urban communities, creating a dangerous wildland-urban interface. These fires, over 13 days, resulted in 16 deaths, 700+ destroyed structures, more than 500,000 acres burned, and over \$234 million in damage.

As part of the after-action review, the U.S. Forest Service, with their partner response agencies in Southern California, examined the incident management efforts. They discovered the following issues:

- At the incident or field level, there was confusion derived from different terminology, organizational structure, and operating procedures between the various response agencies.
- Above the incident or field level at the agency or coordination level, the mechanisms to coordinate and handle competing resource demands and to establish consistent resource priorities was inadequate.

Based on the devastating fire season of 1970 and these findings, Congress allocated \$900,000 to the U.S. Forest Service to develop a system to improve the capabilities of wildland fire response agencies to effectively coordinate multiagency, multijurisdictional response. Specifically, they were to “make a quantum jump in the capabilities of Southern California wildland fire protection agencies to effectively coordinate interagency action and to allocate suppression resources in dynamic, multiple fire situations” (FIRESCOPE Program Charter, 1973). The Congressional funding was used to establish a Research, Development, and Application (RD&A) program at the Riverside Fire Laboratory in Riverside, CA which eventually became known as FIRESCOPE.

It should be noted that at the beginning of this work, despite the recognition that there were incident or field level shortfalls in organization and terminology, there was no mention of the need to develop an on the ground incident management system like ICS. Most of the efforts were focused on the multiagency coordination challenges above the incident or field level. It wasn't until 1972 when FIRESCOPE was formed that this need was recognized and the concept of ICS was first discussed.

When the FIRESCOPE Program Charter was formally approved in 1973, there were seven partner agencies. The FIRESCOPE partner agencies included:

- California Division of Forestry (CDF)
- Governor's Office of Emergency Services (OES)
- Los Angeles County Fire Department
- Los Angeles City Fire Department
- Ventura County Fire Department
- Santa Barbara County
- U.S. Forest Service California Region

The FIRESCOPE partner agencies agreed to four fundamental principles upon which all FIRESCOPE products would be based. The principles included:

- Commonality and uniformity between responding agencies will improve response performance.
- Timely, accurate, and complete information is paramount for effective crisis management.
- Incident management procedures that are designed to integrate and support a regional coordination system will improve crisis management performance.
- Modern technologies can be effectively integrated into the Fire Service to improve response performance.

The FIRESCOPE Program was subdivided into three parts:

- Command Systems Policy and Operations
  1. Policy
  2. Command Operations
  3. Tactical Field Control Operations
- Command System Development
- System Implementation

Part 1, Command Systems Policy and Operations, was intended to identify “authorities and resolution of interagency constraints associated with the implementation of a Multiagency Command and Control System and the definition of functional requirements for its operational use” (Aerospace Corporation, *Command and Control System Study Final Report*, 1973). Part 1 was further broken down into three sub-parts.

- Part 1A, *Policy*, was intended to “establish a coordination concept that can be fitted to the legal, procedural, and political requirements and constraints of all agencies.”
- Part 1B, *Command Operations*, was intended to “specify system performance requirements for resource status monitoring, situation assessment, logistics, communications, decision criteria, and other operational needs.”
- Part 1C, *Tactical Field Control Operations*, was intended to “develop uniform procedures, terminology, and training standards.

(Mission Research Corporation and System Development Corporation, *A conceptual definition of a wildland fire management regional coordination system*, 1974)

MACS was an outcome of Part 1A and Part 1B while ICS was an outcome of Part 1C.

Along with developing ICS and MACS, the FIRESCOPE program focused on developing six supporting technologies that included:

- Meteorological Network
- Automated Data Processing
- Training

- Communications
- Coordination Systems
- Incident Intelligence

### **Origin of T-Cards**

Love 'em or hate 'em, but it's hard to argue the effectiveness of T-Cards to manage and track resources on an incident. But where did the idea for this colorful system come from? It came from the French military. The development of LFO and ICS were shaped in part by veterans returning from World War II and their experiences. One of the management tools they observed in the European Theater was T-Cards. During World War II, the French used a T-Card system to track and maintain status on pieces of artillery. Thus, T-Cards were incorporated into LFO and continued on in ICS. Today, there are several software applications that perform the same function, but T-Cards are still a valuable and effective means of tracking resources.

### **ICS ORIGINS IN LARGE FIRE ORGANIZATION**

While significant improvements were needed in wildland fire management following the 1970 fire season, the FIRESCOPE Task Force did not start from scratch, leveraging what they could from the previous wildland fire management system Large Fire Organization (LFO). LFO had been developed after World War II by returning veterans who applied their military command and control experience to wildland fire management. While LFO bore some resemblance to military command and control, it was specifically adapted to wildland fire management and bears no direct linkage.

As an incident management system, LFO was capable of expanding to incorporate multiple agencies, but its downfall was it lacked a strong central coordinating mechanism. This was one of the shortcomings exposed during the 1970 fire season.

The basic LFO organizational structure consisted of a Fire Boss who supervised a Line Boss and a Plans Chief. The Fire Boss was the modern-day Incident Commander, while the Line Boss and Plans Chief were the modern-day Operations Section Chief and Planning Section Chief, respectively. While several areas of LFO proved inadequate to the complex incident management demands of the 1970 fire season, other components worked well and were retained in the new system development. One of those components was the Plans function of LFO, with several similarities between the modern-day ICS Planning Section and LFO Plans. Under LFO Plans, much of the modern-day Situation Unit functions were performed by the Intelligence Officer and the Maps – Records Officer. Similarly, modern-day Resources Unit functions were performed by the Status – Check-in Officer. While the Maps – Records Officer position has gone away and the function has been absorbed into the Situation Unit and Documentation Unit, the Status – Check-in Officer lives on as the Status Check-in Recorder in the Resources Unit.

## ICS IS BORN

The initial development of ICS was born out of the FIRESCOPE Program's Part 1C, Tactical Field Control Operations. It should be noted that the system was not always called ICS; it was originally called Field Command Operations System. The original design intent was to "field a system which would provide uniform terminology, procedures, and incident organization structure required to ensure effective coordinated action when two or more agencies are involved in a combined effort" (U.S. Forest Service, *FIRESCOPE a record of significant decisions*, 1981).

FIRESCOPE members involved in the original research and development for ICS came from varied backgrounds and brought diverse experiences to the development process. Including wildland fire response and experience with LFO, the group had experience with systems engineering, business management, public safety administration, and military service. Throughout their individual careers, the group members had been influenced by various business management practices and principles. In many cases, they subconsciously incorporated these concepts into the system development. Included in this is Peter Drucker's famous concept of Management by Objectives. Other management concepts, such as Span of Control, were considered and included as well. Due to the diverse backgrounds of the group, it is hard to point to anyone experience or model that influenced the development of the system. In the end, the system became an amalgamation of several different experiences, theories, and models, as well as considerable compromise.

While the group worked to develop the principle level components of the system, a parallel effort focused on the details related to policies, procedures, and integration of facilities and equipment necessary to operate the system. This provided the basis for a comprehensive organizational structure that incorporated the functional requirements for managing the system. The outlined requirements specified that the organization be able to provide resource status monitoring, situation assessment, logistics, communications, lines of decision making, and the ability to meet operational needs. Based upon these requirements, the system created five key functions that had not existed before situation assessment, status keeping, resource utilization, logistics management, and housekeeping (e.g., feeding personnel and maintaining incident facilities). These functions were incorporated into the original system organization chart.

By 1974 the functional framework for the modern-day ICS organization had been developed. Like the ICS organization chart today, it consisted of Command, Planning, Logistics, and Finance, all with sub-units with specific functional responsibilities. The one change is Operations. In 1974, the modern-day Operations Section was still called the Suppression and Rescue Section, paying homage to the system's origins in firefighting, though this would soon change.

There are several interesting observations to be made about the 1974 organization chart.

- “Officer” is a specific term for those who are directly delegated areas of responsibility that specifically reside with or are specifically vested in the Incident Commander. Once clear direction is provided, the IC delegates the accomplishment of these tasks to Officers on the Command Staff. The original Command Staff notes that in addition to Information, Liaison, and Safety, there is acknowledgement that other Command Staff positions might be required (“others as required”). As the incident management environment has grown more complex and ICS has been applied ever increasingly in all-risk, all-hazard situations, additional Command Staff positions have been introduced as needed, including Intelligence, Security, and Legal to name a few. From the beginning, the system had this inherent flexibility, but Command Staff functions are still inherent functions of Command.
- As noted above, the Suppression and Rescue Section was changed to the Operations Section to reflect the all-risk, all-hazard applicability of ICS. Other evolutions in the Operations Section included changing Ground Operations Branches simply to Branches and introducing the concept of functional organization at the Division level with Groups to organize tactical operations around functions in addition to geographic areas.
- The Planning Section was always considered a critical component of the system and development of the Planning Section was largely informed by LFO. The original Planning Section was designed to address a wide range of issues. Over time, the original Planning Section was simplified for wildland fire use, with specific emphasis on fire behavior mapping, and information processing. Despite the original intent, the simplified organization is now how most people think of the Planning Section. When developing the ICS Planning Section, FIREScope members considered the Situation function to be the most important part of the whole system. While not considered part of the traditional wildland fire ICS Planning Section, the Environmental Analysis Unit has grown to be an invaluable part of oil and hazardous materials responses. Simply called the Environmental Unit, this function is a staple in the modern-day all-risk, all-hazard ICS Planning Section.
- The Logistics Section has seen a few changes. The original Documentation Unit was moved to the Planning Section and the Base Unit was renamed the Facilities Unit. The Air Support Unit was moved to the Air Operations Branch in the Operations Section. The Communication Unit and Food Unit were added and all of these units were reorganized under the Services and Support Branches.
- In the Finance Section, the Injury Compensation Unit and Claims Unit have been combined to be the Comp/Claims Unit. The Obligation Unit was replaced with a Procurement Unit as well and the Cost Analysis Unit was moved from the Planning Section and renamed Cost Unit.

From the original ICS organization as developed in 1974 to the ICS organization we have today, we see a few, but not many, changes to that basic concept. These concepts have stood the test of time and countless responses.

In March of 1974, the first publication on the system titled the Field Command Operations System Conceptual Design Description was released. Concurrent with this release was the publication of a corresponding Operations Manual that detailed each of the positions in the system and the generic operating procedures. Shortly after publication of these documents, the name of the system was changed from Field Command Operations System to the Incident Command System in June of 1974. Members of the development Task Force opted for the name change because they preferred to put the emphasis on the Incident rather than the System.

### **ICS Forms Numbers**

Why are ICS forms numbered 200-something? As ICS was being established the contractors working with the FIRESCOPE technical team developed a filing system to keep track of ICS notes, documents, and guides. Development documents and notes were filed away in 100 series, The 200 series was established for common forms, The 300 series for training documents, and The 400 series for ICS guides.

### **ICS Shift to All-Risk, All-Hazard**

While the intent in 1974 was for ICS to be used to manage all wildland fire field activities for the fire service, the design intent of the system almost immediately evolved into an all-risk, all-hazard system. Early in the development process, participants recognized that the system they were designing needed to be simple enough for the “common man,” work within each department’s day-to-day response structure, and be effective for a wide range of incidents, simple to complex. It did not make sense to have different systems for different types of incidents. A member of the development Task Force noted that they “had to build a system that worked for a dumpster fire, a high-rise fire, a flood, or a major Haz-Mat incident” (Robert Irwin, quote from Barbera and Stambler, *Engineering the Incident Command and Multiagency Coordination Systems*, 2011).

By 1976, the focus began to unofficially shift into the development of an all-risk, all-hazard system that could be used to manage an incident of any nature. During this time period, some of the fire-specific references were removed from the system, including the Suppression and Rescue Section, and replaced with more generic references, such as the Operations Section. With the shift in focus, the official FIRESCOPE charter was modified to acknowledge the all-hazard transition. This is a significant fact that is lost on many incident response and emergency management personnel: ICS has been an all-risk, all-hazard system since its original development.

## MULTIAGENCY COORDINATION SYSTEM (MACS) DEVELOPMENT

While ICS was developed to solve the incident-level management challenges, MACS was developed to address the off-site coordination issues above the incident level. Designed in conjunction with ICS to be an independent yet interrelated system, MACS is an equally critical component of successful incident management.

In 1974, shortly after the release of the Field Command Operations System Conceptual Design Description, a document titled the Conceptual Definition of a Wildland Fire Management Regional Coordination System was published. The document articulated the functions of MACS and the conceptual design of the Operations Coordination Center (OCC), the pre-cursor the wildland fire Multiagency Coordination (MAC) Group. The first OCC was established in 1974, “at the Riverside County Communications Center and manned that first year primarily by Task Force members” (U.S. Forest Service, *FIRESCOPE a record of significant decisions*, 1982). The original OCC experiment demonstrated continued difficulties in obtaining timely and accurate information about the incident and resource status. In 1975, a more permanent OCC was established in a vacant Los Angeles County fire station in El Monte, California. Based upon the initial experiments and a major design study, more detailed functional specifications, personnel, and facility considerations for MACS and OCCs were published in 1977.

### Interesting Side Story

An interesting side story captured by Dr. Joseph Barbera and Ms. Kimberly Stambler as part of their article “Engineering the Incident Command System and Multiagency Coordinating System” perfectly captures the design intent of MACS. The contrast between the management of multiagency coordination in MACS versus command authority of ICS was never more apparent than during the 1980 fire season. As recalled by Robert Irwin, “Vice President Mondale came out and he was very impressed with things, and the rudimentary OCC that was part of a fire warehouse at the CDF [California Department of Forestry] Headquarters. But it was the way it worked and he was really impressed with that. When he got back, we had 5 Army Colonels come to see what Mondale saw. They said ‘Oh this is really marvelous but who is in charge’ and they could not believe that it was the process that was running the whole thing, not any particular person with command authority. It was the process and series of forms. Each of those guys got me in a corner and said ‘Ok, now who is really in charge?’” Robert Irwin joined the U.S. Forest Service in 1947. Trained as a wildland firefighter with a degree in Forestry, he progressed through the agency. In 1975, he was assigned as FIRESCOPE Program Manager and continued with the program until its charter concluded in 1982.



## ORIGINAL ICS IMPLEMENTATION

By 1975 the conceptual definition and organizational structure of ICS was relatively well defined. The system had been examined through a rigorous exercise conducted at the California Specialized Training Institute at Camp San Luis Obispo in late 1974 and shortly thereafter, the Los Angeles City Fire Department began to test parts of the system as a means of validation. It is known that elements of ICS were used in 1976 on the Occidental Tower high-rise fire in Los Angeles, demonstrating that even from the beginning, ICS applicability was greater than simply wildland fire incidents.

In April 1976, the first ICS implementation proposal was developed and when the FIRESCOPE charter was renewed in 1977, the focus for the next five years became implementing the system components. Part of the implementation proposal focused on exercising and evaluating the relationship between ICS and MACS. The original implementation plan recommended evaluating the systems in a designated geographic area. The limited geographic area for field testing designated the "Core Area", included the Angeles National Forest, parts of Los Angeles City and County, northwestern Ventura County, and a portion of the Los Padres National Forest. The implementation plan for the MACS also included developing more robust operational procedures for MACS and subsequently training personnel in those procedures.

In 1978, the Pacoima fire on the Angeles National Forest became the first large incident to officially be managed using ICS and MACS. To accommodate the influx on responders not familiar with the new system, just-in-time training was set up to educate them on ICS. While ICS demonstrated effectiveness, according to Chuck Mills the system was not initially as successful as anticipated for the following reasons:

- Appropriate training on the system had not been conducted.
- Agencies had not integrated the new system into their daily response operations procedures.
- Some agencies were trying to operate in both the old and new systems.

Due in large part to these reasons, after a few days of experimenting with ICS, management of the Pacoima Fire shifted back to using the old LFO system.

But the continued use of ICS became inevitable and, in 1978, Los Angeles City Fire Department adopted ICS service-wide for all responses. By 1980, CDF, Cal OES, and the State Board of Fire Services endorsed and adopted ICS. By 1981, use of ICS was common in Southern California by major fire agencies and its usage for non-fire incidents was growing.

The FIRESCOPE Program fell victim to federal budget tightening and experienced significant cuts in funding in 1982; development on many of the initiatives was suspended, including ICS and MACS. While the U.S. Forest Service final report on

FIRESCOPE estimated that the development of ICS was nearly 90% complete, MACS was estimated at only 40% complete.

### **NATIONWIDE ICS ADOPTION (1980s)**

At the same time that ICS was being rolled out in Southern California, the National Wildfire Coordinating Group (NWCG) realized that they were conducting parallel efforts regarding wildfire incident management as they continued to operate under LFO. The NWCG performed an analysis of FIRESCOPE ICS for possible national application, the results of which lead to the development of the National Interagency Incident Management System (NIIMS), which closely resembled the FIRESCOPE ICS and MACS systems, and called for nationwide implementation of ICS. With the NWCG calling for nationwide implementation of ICS, ICS training and qualifications standards became part of the NWCG Red Card position qualification system. This measure addressed an earlier criticism of FIRESCOPE ICS, since the program components of FIRESCOPE lacked a qualification and certification system.

By 1983, FEMA began including ICS in the curriculum at the National Fire Academy. As the use of ICS by the fire service gradually extended across the US, even non-fire agencies were investigating ICS and working to incorporate it into their response procedures. For example, in 1984 the San Bernardino County Sheriff's Department (SBCSD) conducted a project to make ICS applicable to the diverse emergencies confronted by law enforcement. The SBCSD persuaded the California Police Standards and Training Commission (POST) to sponsor training in the law enforcement version of ICS and it was first conducted in 1986.

The Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA), commonly known as SARA Title III, required "methods and procedures to be followed by facility owners and operators and local emergency and medical personnel to respond to any release of" hazardous materials (US Code, Title 42). To meet this requirement, many communities began to adopt ICS.

In 1986, FEMA recognized the FIRESCOPE Program as an exemplary practice in emergency management.

In 1989, FEMA began the development of the National Urban Search and Rescue (US&R) System; ICS was incorporated into the structure and functional processes of the USAR Task Forces and the USAR Incident Support Team that integrates the Task Forces with the local response during emergencies. During the 1990s, FEMA began deploying Wildland Type I Incident Management Teams to large complex incidents including Hurricane Andrew and Hurricane Iniki in 1992. During Hurricane Iniki the ICS Planning Process was used for the first time to manage the federal response to support the State of Hawaii. ICS expansion within the fire service discipline was further encouraged when National Fire Protection Association standard 1500 was revised in 1992, requiring all fire departments to establish procedures for the use of ICS.

While the 1982 FIRESCOPE budget cuts did not seem to impact the national implementation of ICS, the same is not true for MACS. With only 40% of MACS developed when the funding stopped, MACS concepts did not proliferate or evolve with the same success. MACS concepts were not originally adopted by NWCG or any similar organization. Implementation of MACS was initially limited to California and it was not as widely implemented and applied outside of California until recently with the release of NIMS. The development of MACS elements and processes has not evolved at the same rate as those in ICS.

### Using ICS

Many people ask what the first non-fire incident to be managed using ICS. Unfortunately, that piece of trivia has been lost to history, but with early adoption by Los Angeles City Fire Department for all response, one can easily imagine that ICS must have been used on a search and rescue, flood, or hazardous materials incident in the late 1970s. Additionally, with ICS proliferating throughout Southern California it is likely that early on there was a law enforcement incident that was managed using ICS.

## U.S. COAST GUARD ICS ADOPTION

One of the first national organizations to adopt ICS outside of the wildland fire community was the U.S.

Coast Guard. At the same time, ICS was spreading through structural and wildland fire response communities in the 1990s, the U.S. Coast Guard struggled with managing multiagency response operations. Following the Exxon Valdez oil spill in March 1989, the Coast Guard began to look at how to better integrate its efforts into overall state and local government. If one looked at the after-action report from the Valdez incident, he or she could find many of the same issues that surfaced during the fires in the 1970s.

Coast Guard personnel realized that, although managing wildland fires was pretty far removed from typical Coast Guard mission areas, the process used had many similarities to the response challenges the Coast Guard often faced. For example:

- There were multiple agencies involved
- They needed coordinated operational planning and tactical response management
- They had to manage the status and activities of hundreds to thousands of resources from all over the country
- They had to manage information in a coordinated way
- They needed a consistent, repeatable system

Several senior officers in the Coast Guard's marine safety program recognized the need to learn about ICS and attended training available through the wildland fire community. In the early 1990s, Coast Guard members started a grassroots effort to use ICS, and the seed was planted. Like an incoming tide, ICS use within the Coast

Guard throughout the 1990s touched every corner of the service. In 1991, Coast Guard Marine Safety Office (MSO) Puget Sound used ICS to manage a collision case involving a fishing vessel and a container vessel. Over the next year, additional incidents at MSO Puget Sound were managed with ICS. Shortly thereafter, MSO Detroit used ICS for a major pollution response exercise between the U.S. and Canada on the Detroit and St. Clair River system in Michigan.

Throughout the Coast Guard responders recognized the value of the system in bringing order to chaos right from the outset of an incident. It soon became a matter of routine at some Coast Guard units, even for small-scale responses.

As time went on, ICS use increased within the Coast Guard and leadership created a cadre of ICS instructors within the National Strike Force to teach ICS-200 and ICS-300 courses throughout the U.S. Moreover, Coast Guard Training Center Yorktown began to offer ICS courses. In 1996 a Commandant instruction directed ICS use for oil and hazardous materials response and, in 1998, another instruction required ICS use for all-hazards response.

As the Coast Guard adopted ICS, select Coast Guard members pursued ICS qualifications based on the NWCG positions qualification standards. Coast Guard ICS adoption and implementation took off in the early 2000s with a robust training program. In 2006, current EMSI President Ron Cantin became the first Type 1 Incident Commander in the Coast Guard.

In addition to innovative all-risk, all-hazard ICS training, several new tools were developed through the Coast Guard ICS program such as the ICS Planning P and the U.S. Coast Guard Incident Management Handbook, both of which are used extensively in all-risk, all-hazard ICS training and response today. During the 2005 hurricane season, one of the few bright spots in the federal response was the Coast Guard's ability to manage the response and bring order out of chaos, and the investment in ICS training and implementation was critical in this regard.

## **HOMELAND SECURITY PRESIDENTIAL DIRECTIVE-5 AND NIMS (9/11)**

The September 11th terrorist attacks highlighted the need for a national approach to incident management. In response to observations and lessons learned from September 11th, President Bush issued HSPD-5, directing the development of a single, national incident management system. After careful review of existing command and control and incident management systems, ICS and MACS became cornerstones of the National Incident Management System (NIMS) command and management in 2004. After years of successful application as not only useful tools for managing wildland fires but all-risk, all-hazard incidents, these two systems became the national standard. National implementation of NIMS, including ICS and MACS, officially began in 2005 with federal emergency preparedness grant funding tied to various NIMS implementation metrics.

NIMS implementation continues today. Since 2004, there have been challenges in the national implementation of NIMS, to include ICS and MACS implementation. Many of these challenges are similar to those experienced in the late-1970s and 1980s during the national implementation of ICS in the wildland fire community. The same challenges noted by Chuck Mills in 1978 have appeared in NIMS implementation today. But at the end of the day, the design intent of the systems, ICS and MACS, have withstood the test of time and is still applicable.

## **INTERNATIONAL ADOPTION**

ICS has proven not only useful for managing U.S. based incidents, but it has been implemented and adapted for use outside of the U.S. as well.

### **Australia**

In the 1980s, the Australasian Inter-Service Incident Management System (AIIMS) was first developed in Australia as a derivative of the U.S. developed NIMS and based largely on ICS. Designed to be “a management system for any emergency” (The Australasian Inter-service Incident Management System, Third Edition, April 2004), AIIMS was first implemented in the early 1990s. While it has been principally used by fire and land management agencies, there has been increasing recognition of the benefits of a coordinated public safety approach to incident management involving all of the emergency service providers. This has been reflected in legislation, government policy, and disaster/emergency management planning arrangements established within and between public safety organizations.

While quite similar to ICS, there is one major difference: the term “Command” has been replaced with “Control”. In Australia, ICS is referred to as a “Control System” and the “Incident Command” function is called “Incident Control”. Regardless of these semantic differences, AIIMS is largely based on and compatible with ICS. During heavy wildland fire seasons, the U.S. and Australia have historically exchanged Incident Management Teams, further demonstrating the similarities between the systems.

### **U.S. Department of State**

In 1986, following the international response to the devastating Mexico City earthquake, where response operations were not as effective and efficient as desired, the U.S. Department of State began to look at using ICS to support future international response operations. After slight modifications in the operating procedures and organizational structure, ICS became the incident management system for coordinating U.S. relief efforts internationally.

## ICS Canada

ICS was first implemented in Canada on a large scale by the Province of British Columbia in the mid-1990s. In 2002, the Canadian Interagency Forest Fire Centre (CIFFC) introduced the CIFFC ICS Canadian Version doctrine along with a complete set of training materials to the wildland fire community across Canada as part of its mandate to its provincial, territorial, and federal members. A number of non-wildland fire organizations also soon adopted this model and, over the ensuing years, adoption of ICS increased significantly.

In 2009, CIFFC was preparing to update the Canadian wildland fire ICS curriculum. At that time the Alberta Emergency Management Agency (AEMA) was also reviewing their need to provide a single all-hazard command and control system that would meet their long term provincial emergency management needs. Concurrently, CIFFC was sponsored through Parks Canada to apply for a New Initiatives Fund contribution agreement to provide a complete ICS training program for all Ground Search and Rescue within Canada.

The collaboration of these initiatives into one effort formed the basis for ICS Canada and today ICS Canada has a number of member agencies.