

The Incident Command System from an Organizational Change Perspective

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Abstract

No matter how strong or how developed and advanced a country is, it cannot deny that it still faces terrorism and natural disasters as a large opponent to progress and prosperity. Throughout the years the United States (U.S.) has faced both devastating terror attacks and natural disasters. However, after each incident the U.S. strives to learn from the mistakes and weaknesses that were recognized from these attacks and disasters and implement changes to help deter and better respond to such incidents. When researching the history of such incidents it can be found that the U.S. has learned from past disasters and terror attacks and used lessons learned to create better policies and procedures. One of the recent ways in which this has been achieved is the incorporation of the Incident Command System (ICS) an aspect in the National Incident Management System (NIMS). The focus of this paper is to analyze the history of ICS and its implementation using a change management and project management perspective, as well as review literature on ICS in order to identify gaps and successes. In reviewing past incidents, lessons learned, current issues, and any disconnect between doctrine and actual practice, change management and project management techniques are applied and recommendations to improve the system are given.

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Introduction

Background

Throughout history, the United States (U.S.) has experienced several disasters and catastrophes, both natural and manmade. With each disaster has come lessons learned regarding the nation's preparedness to respond to unknown future events. Although the U.S. government does not operate as a traditional business in the sense of producing and selling goods or services for a profit, it still must recognize the need for change and adapt with the rest of society when creating or maintaining policies and procedures. Like most organizations, the U.S. government also operates in a dynamic environment and must respond to emerging opportunities and threats. Although Hayes (2014) argues that the ideal way for organizations to respond to change is for them to engage in continuous implementation of incremental adaptations, there are times when an organization will change due mass external shifts that lead to rapid origination (Gould, 1978). The latter has been the case for the U.S. government in accessing and recreating their national emergency response frameworks. The following two incidents provide background and are examples of disasters that have helped shape the nation's policies when it comes to national response and preparedness. These incidents were driving factors in the U.S. implementing change to national emergency response policies and procedures.

On September 11, 2001, American Airlines Flights the North and South Towers of the World Trade Center sending the building down in flames. Shortly after another plane hit the Pentagon (National Commission on Terrorist Attacks, 2004). Response efforts, evacuation, and emergency response went into effect immediately. It is estimated that 2,996 people were killed

in the attacks of 9/11 (National Commission on Terrorist Attacks, 2004). After the attack and chaos had subsided, reports highlighted successes and failures of the incident response that were identified at both event locations. The city of New York received praise for the heroism by its fire department, police department, and others. However, the city was also cited for having a lack of coordination efforts and interoperability (National Commission on Terrorist Attacks, 2004).

After the attacks of 9/11, a massive revamping of America's homeland security took place. The Homeland Security Act was passed by Congress in November 2002 establishing the Department of Homeland Security (Department of Homeland Security) which transferred disaster emergency response, the U.S. Coast Guard (USCG), and Federal Emergency Management Agency (FEMA) under its authority (Department of Homeland Security, 2015). Not only did the attacks of 9/11 make the country focus on security, but it also shed light on the United States' ability to respond to a large-scale disaster (whether from a terror attack or a natural disaster). Homeland Security Presidential Directive-5 (HSPD-5) was established in 2003 by President Bush and called for the establishment of a national incident management system. National Incident Management System (NIMS) was developed by the Department of Homeland Security and implemented on March 1, 2004, enabling responders' at all jurisdictional levels and across all disciplines to work together more effectively and efficiently (Federal Emergency Management Agency, 2004).

A little over a year later, on August 29, 2005, Hurricane Katrina devastated the coastline in Louisiana and Mississippi. Hurricane Katrina destroyed all infrastructure along its path, flooded the city of New Orleans, and ultimately killed over 1,300 people; making it one of the most destructive natural disasters in American history. Hurricane Katrina became a prime

example of a turning point in the U.S.'s incident response program. Hurricane Katrina came with many lessons learned on the country's preparedness and ability to respond to unknown domestic incidents. Even more tragic than the hurricane's destruction, was the disappointment and frustration that began to build as Americans watched the inability of the government – local, state, and federal – to respond effectively to the disaster. As quoted in *The Federal Response to Hurricane Katrina: Lessons Learned*, "Hurricane Katrina and the subsequently sustained flooding of New Orleans exposed significant flaws in Federal, State, and local preparedness for catastrophic events and our capacity to respond to them" (para., 2). During Hurricane Katrina, the right resources could not be obtained in time due to agencies not being able to correctly identify the needs and coordinate amongst each other. Leadership and officials in Louisiana and New Orleans became part of the national news. Emergency managers lacked the training and knowledge to manage this type of event (Unite States Senate, 2006).

Both of these incidents were nationally significant events. Incident responses are often viewed as successful or unsuccessful by the toll on human lives and property, and how quickly the community was returned to normal. Despite how any of these incidents were judged, they all resulted in large scale changes to national security and emergency response policies and procedures. Change in the field of incident response is largely based on best practices and lessons learned. Sometimes, as unfortunate as it seems, that means that large scale disasters such as those described above create the momentum needed to realize that transformational change is necessary.

It is a daunting task to create a national organizational structure with the sole purpose of being prepared and capable of responding to unpredictable disasters at any scale, any location,

and anytime. From hurricanes, terrorist attacks, airplane crashes, and chemical spills, to other natural or technological incidents, disasters can have potentially life-threatening effects which can be devastating to the nation. The U.S. is expected to have, at any given notice and in any given geographical location, a force ready to efficiently handle any of these types of incidents. After September 11, 2001 emergency management organizations at the local, state, and federal level were mandated to use the ICS through the National Incident Management System (NIMS) to organize response efforts to any given incident involving multiple agencies. For the U.S., the system used to respond to large-scale events has been evolving over time (Federal Emergency Management Agency, 2004). When unusual events occur, the U.S. responds to the best of its ability and uses lessons learned to continue to create, change, and implement those changes into the ICS.

The intent of ICS is to build a systematic approach that makes responding to incidents better organized, faster, and less complex. The United States Department of Labor, Occupational Safety and Health Administration (OSHA) website defines ICS as “a standardized on-scene incident management concept designed specifically to allow responders to adopt an integrated organizational structure equal to the complexity and demands of any single incident or multiple incidents without being hindered by jurisdictional boundaries” (OSHA). ICS is a type of incident management system. ICS has specific processes and procedures, such as a scalable hierarchy of command, standardized terminology, and standardized forms.

An analysis of the literature on ICS reveals some challenges in meeting that intent. This research paper focuses on how ICS came to be and what change techniques have been used in the system’s evolution over time. ICS integrates a “combination of facilities, equipment,

personnel, procedures, and communications operating within a common organizational structure” (Federal Emergency Management Agency, 2014, para. 2). The methodology of this research includes reviewing literature, case studies, incident action plans, and after-action reports, analyzing the gathered information, drawing comparisons and conclusions using change management and project management principles. The research outlines how changes to ICS have been implemented from an organization change perspective, highlighting what has worked and what has not.

The U.S. has put significant investment into ICS to create a system that is standard across the nation, easy to implement and organize, and is flexible enough to use in response to all incidents regardless of complexity, scope, or severity. The Homeland Security Presidential Directive-5 (HSPD-5) mandated the development of a national incident management system to provide a consistent nationwide approach for federal, state, and local governments to work together in response incidents (HSPD-5, 2003). NIMS, which includes ICS, was developed by the Department of Homeland Security in 2004 and required state and local adoption (Federal Emergency Management Agency, 2004). Over the last decade, the federal government has put a significant amount of time and funds into developing ICS. It is critical to further research if the implementation of ICS has been successful and what gaps still need attention because of its envisioned role in response efforts across the U.S. A significant number of investigations and observances contend that the system is not yet fully understood, utilized, or accepted. The premise of this study is to use organizational change management theories to discover the gaps in ICS implementation and recommendations for continuing ICS implementation. Although ICS

implementation has come a long way since its employment, it has not been fully accepted by emergency management agencies across the nation.

Beckhard and Harris (1987) describe a transition state in an organization in the process of implementing change, as the period between the identification of the need for change the achievement of the desired future state. It is important for the transition state to be implemented properly in order to achieve the highest success in the change initiative. By researching the current implementation of ICS against proposed change management procedures, flaws and focus areas can be highlighted. Thus, this purpose of this research is to describe the change management techniques used during the implementation of ICS so that any gaps and successes can be highlighted.

What follows outlines how ICS has been implemented to date and evaluates which organizational change and project management techniques have been used by emphasizing critical change management beliefs and models. First a brief background of change management will be presented. Next, an outline of the history and evolution of ICS will be presented. Then, what has been successful and what gaps remain in the implementation of ICS will be reviewed using literature and case studies on ICS successes and challenges. Different models and techniques, specific incident project management examples, and leadership practices will be highlighted, both successful and unsuccessful. Discussion and recommendations will follow these analyses.

Organizational Change Leadership Background

The only constant that remains in today's business environment is change. Unfortunately, today, more change efforts end in failure than success. Change management is a discipline that

exists to enable organizations to effectively lead change through processes and methods that raise the likelihood of success. Organizational change is often accompanied by high emotions and resistance, which is better managed with a proactive approach that determines risk and impact (Epperson, 2006). Hiatt and Creasey (2012) suggest that change management is about people and their ability to bring about successful organizational change.

The attacks of 9/11 were a large turning point in how the U.S. would respond to large scale emergency incidents. Throughout the last 50 years, the U.S. has been working on implementing and improving their national response framework. One of the purposes of change management is to transform the status quo in order to improve. The goal of any change management strategy is to improve an organization or the individuals in that organization and align them with that organization's vision. Organizations typically remain in a balanced state or the status quo at any given time without external forces driving change. Miles and Snow (1984) suggest that perfect alignment is rarely achieved and therefore it is more beneficial to think of change as a process that involves a search for the best possible fit between the organization and its environment. Change management models such as those presented by Lewin (1951), Beckhard and Harris (1987), and Gersick (1991) are important to be aware of when implementing any large scale change initiative. It is also important to be aware of the resistance that may be faced by any change initiative and ways to mitigate it.

Lewin (1951) identified that it is often difficult to change the status quo and he refers to this state as a "stable quasi-stationary equilibrium." Lewin (1951) argues that the reason it is difficult to change the status quo is that at any given time there is a force-field comprising a balance of forces pushing for and resisting against change. Lewin later created a three-stage

model that included stages of unfreezing, movement, and refreezing in which a change manager can use as a tool to plan for the proper management of any major change.

In relation to Lewin's theory, Beckhard and Harris (1987) suggest the use of a three-stage model that centers on defining the present and future, managing the transition, and maintaining and updating the change. According to Hayes (2014) the model highlights the importance of the following:

- (1) Developing change relationships: between all stakeholders and change agents.
- (2) Diagnosis: defining the current status quo and the desirable future state.
- (3) Strategies and plans: how to move the organization towards the desired states.
- (4) Implementation: translating those strategies and plans into change efforts.
- (5) Maintaining the change: and making continuous improvements.

Aside from Lewin's (1951) and Beckhard and Harris' (1987) models it is important for organizations to recognize and respond to other patterns of change as well. Hayes (2014) argues that the rate of change is dependent on the structure and environment of the organization and can be either inconsistent, incremental, or transformational. Until recently, most of the known models for change were incremental and continuous. Some argue that continuous adaptation is the most effective because it allows an organization to remain aligned with its constant changing environment. In the case of ICS, effective emergency planning needs to be viewed as a continuing process. Threats and hazards, organizational structure, and emergency facilities and resources change over time, so the emergency planning process must be able to identify and respond to these changes. This point is often overlooked however. Wenger, Quarantelli, & Dynes (1990) have found that "there is a tendency on the part of officials to see disaster planning as a

product, not a process” (p.134). Hayes (2014) argues that the way to respond to continuous change as well as forced change is known as punctuated equilibrium paradigm. The punctuated equilibrium paradigm describes incremental change as focusing on improvement of processes during periods of stability and is referred to as continuous improvement, whereas periods of revolution occur when deep structures are fundamentally altered (Hayes, 2014). Deep structures are referred to by Gersick (1991) as “the set of fundamental choices a system has made of (1) the basic parts into which its units will be organized, and (2) the basic activity patterns that will maintain its existence” (p.14). The earlier the need for change is recognized, the more options managers have when responding. When a manager is forced to respond to an urgent and pressing need for change there is more constraints (Hayes, 2014).

One challenge for any change initiative is for leaders to motivate others to support change. As noted above, organizations seek to maintain a state of equilibrium and intentionally intervening to change the organization can disturb this state and create pressure to restore it. When members of an organization feel that the organization or their role in it is being changed in a way they feel is at a disadvantage to them, they will be motivated to resist the change and maintain the status quo (Hayes, 2014). Murthy (2007) argues that organizational culture can serve as a powerful force against change which can threaten the cultural assumptions that promote common understanding. Change agents can implement many strategies to minimize resistance and increase the motivation to change (Hayes, 2014). Some techniques given by Hayes (2014) include persuasion, participation, facilitation and support, negotiation, manipulation and co-option, explicit or implicit coercion, and goal setting. Expectancy theory considers how stakeholders’ expectations can influence their motivation. It also provides a basis

for assessing whether a stakeholder will or will not support the change initiative. The expectations that dictate whether stakeholders will be motivated to support or resist change include (1) their ability to deliver a satisfactory level of performance after the change; (2) whether good performance will lead to the achievement and valued outcomes in the change initiative; and (3) whether the benefits they will get out of the change initiative will be greater others (Hayes, 2014).

It is important to understand the patterns and stages of a change process so that managers can accurately identify gaps and successes in any change initiative. The models presented by Lewin (1951), Beckhard and Harris (1987), Gersick (1991), and Hayes (2014) provide a background on the processes of change and issues that can arise. Most all change initiatives are met with some type of resistance and it is beneficial for managers to know how to interpret that resistance in order to provide motivation to those involved. Next the development and implementation of ICS will be reviewed using Hayes' (2014) change process model in order to gain a better understanding of successes and gaps. Following the background and history of ICS, a literature review will highlight both good and bad opinions on the system and in order to help gain an understanding of areas that are best practices and others that need improvement.

Development of the Incident Command System

The Federal Emergency Management Agency (FEMA) site defines ICS as “a management system designed to enable effective and efficient domestic incident management by integrating a combination of facilities, equipment, personnel, procedures, and communications operating within a common organizational structure” (Federal Emergency Management Agency, 2014, para. 2). ICS is a key feature of NIMS. It creates a standardized management tool for

meeting the demands of small or large emergency or nonemergency situations. The system represents best practices and is the standard for emergency management across the nation. ICS uses an organization chart, standardized roles, terminology, and operating procedures (see Appendix 1 to view the organization of ICS). ICS serves as a fundamental form of management for often large and unpredictable emergency environments. The creation of the ICS, as the system is known today, has been ongoing for decades and took extensive research, development, tests, and implementation processes. The event was initiated by the United States Forest Service in the 1970s and 1980s by an organization known as FIREScope (Firefighting Resources of California Organized for Potential Emergencies). FIREScope set out to develop two systems for managing wildland fire, Multiagency Coordination System (MACS) and ICS. To fully understand whether or not ICS is nationally accepted and working, it is important to realize how the system has been developed over time. The history of how ICS was created will be discussed next.

History of the Incident Command System

This section focuses on the timeline history of ICS through a change management and project management perspective. Change management techniques will be evaluated on the development of ICS particularly by comparing the origins of ICS to the change process model presented by Hayes (2014). The key steps in Hayes change process are listed in Figure 1 below (p. 26). These steps are necessary to evaluate what gaps may exist in the implementation of ICS.

CHANGE PROCESS						
1	2	3	4	5	6	7
Recognizing the need for change and starting the change process	Diagnosing what needs to be changed and formulating a vision of referred future state	Planning how to intervene in order to achieve the desired change	Implementing plans and reviewing progress	Sustaining the change	Leading and managing the people issues	Learning

Figure 1. Change Process (Hayes, J., 2014, p. 26).

The next section will outline the origin of ICS using Hayes' (2014) Change Process model. It is important to review how ICS was created and first implemented in order to highlight successes and gaps. The concept of ICS originated out of the critiques of the response to disastrous series of wildfires in California in the 1970's. Later as agencies other than fire departments began adopting the system, it morphed into an all-hazards approach to emergency response. Finally after the events of 9/11, the government made the use of ICS mandatory by enacting HSPD-5.

ICS Origins in California Wildfires

In 1970, California experienced an overwhelming and disastrous wildfire season that resulted in catastrophic loss. Many different agencies were involved during the response to these wildland fires, but there were no coordination efforts made. Most companies set up their command posts and exhausted resource capabilities quickly. The fires resulted in 16 deaths, 700 destroyed structures, and more than a half million acres burned (Rowley, 2005). The first activity in Hayes' (2014) change process model is recognizing the need for change and starting the process. Need for a change in the system of incident management was first confirmed in the 1970's. An After Action Review (AAR) conducted revealed many areas for improvement. An AAR is a tool developed by the U.S. Army to facilitate learning by comparing the commander's

intent with what actually happened during an event (Hayes, 2014). Parry and Darling (2001) also note that the AAR is an approach that has been applied in business settings as well. According to Stambler and Barbera (2011), three major areas requiring improvements based on AARs were:

- (1) At the incident level, confusion occurred between agencies due to differences in terminology, fire suppression organizational structure, and operating procedures;
- (2) Above the event at the company level, coordinating mechanisms were inadequate to handle competing resource demands or to establish consistent resource priorities;
- (3) Improvements were needed in technologies such as radio communications, fire behavior modeling, mapping systems, and meteorological monitoring and forecasting (p. 3).

As it was realized that change was necessary, the second activity in Hayes' (2014) change process, diagnosing what needs to be changed and formulating a vision of the preferred future state, was initiated. The development of ICS, or FIRESCOPE at early stages of creation, was very purposeful and reactionary to the system or lack of the system that was in place. According to Hayes (2014), there are four types of change processes: teleological, dialectical, life cycle, and evolutionary. It can be argued that ICS originated out of a purposeful and teleological process. Hayes defines the teleological theory as a theory that assumes "organizations are purposeful and adaptive, and present change as an unfolding cycle of goal formulation, implementation, evaluation, and learning" (p. 3). Response to large-scale incidents that involved more than one agency or department was causing many issues for which FIRESCOPE, and soon to be ICS, was developed to help correct. Christen, Maniscalco, Vickery, and Winslow (2001) stated that "historically, the agencies had not worked together; as a result,

they competed for turf, supplies, and equipment in a resource-scares environment” (p. 2). The authors state some of the key problems that were experienced in California. They include deficiencies in that were the lack of a clear-cut leader or incident manager, the collaborative organizational structure that established a chain of command, sub-leadership positions or an appropriate span of control, standard terminology, common communications system, or a system for allocating resources (Christen, Maniscalco, Vickery, & Winslow, 2001, p. 2). Thus, the emergency responders involved in this incident learned from these key problems and developed FIREScope as a purposeful and adaptive plan to address the issues.

Initial Development of FIREScope

Successful project management requires the assignment of project responsibility to an individual or group of people, which will enable them to observe that project scope is clearly established and controlled (Kloppenborg, 2015). Project Management includes evaluating changes against business needs, coordination across boundaries, development of milestones and precise delivery dates, enforcement of timelines, and escalation management of issues along with conflicts (Kloppenborg, 2015). In addition to performing essential tasks, the personnel that work in project management should be credible in technical and business knowledge in order to make appropriate decisions.

During the creation of FIREScope, there was a team of personnel selected to lead the implementation, which consisted of qualified staff capable in each of their areas of responsibility. It is difficult to compare the development of FIREScope and ICS to Kloppenborg’s Project Life Cycle due to the span of time and changes of scope. However, this model will be used to discuss particular stages of the program’s development. Kloppenborg

(2015) suggests that all projects go through predictable stages called a project life cycle. Figure 2 below outlines Kloppenborg's stages of a project lifecycle.

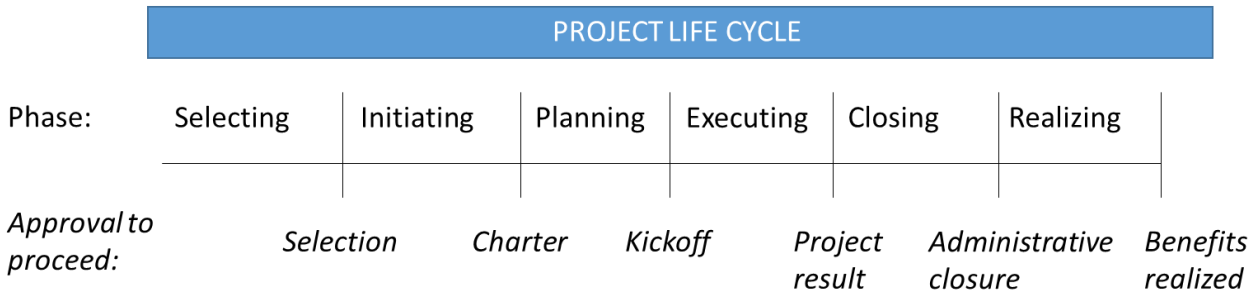


Figure 2. Project Life Cycle (Kloppenborg, 2015)

According to Kloppenborg (2015) the first two phases of the project lifecycle, selecting and initiating, “start when an idea for a project first emerges, and the project is selected and planned at a high level and ends when key participants commit to it in broad terms” (p. 6). After the wildland fires in southern California, it became apparent to the fire agencies as well as the government, were the cause of inefficiency, chaos, and confusion, and required a new standardized system that would improve the process. The aftermath of the 1970's wildland fire season resulted in Congress approving funds to develop a system that would improve the response of wildfire protection agencies to effectively coordinate multi-agency emergency response (Chase, 1980). RD&A became known as FIREScope after a charter was signed in 1973 which consisted of seven partner agencies: 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 Fire Department, and The U.S. Forest Service California Region (Stambler & Barbera, 2011, p. 8). ICS was initially part of the FIREScope System that was developed among these seven partner

agencies and at times was met with resistance and disagreement among the different agency representatives.

Kloppenborg (2015) describes the next phase of the project life cycle, planning, as starting “after the initial commitment, includes detailed planning, and ends when all stakeholders accept the entire detailed plan” (p.6). Hayes’ (2014) next step also regards planning how to implement the change. The original design intent of what became ICS was to create a system that would standardize terminology, procedures, and incident organization structure to create efficient coordination when two or more agencies are involved in an incident. According to Stambler and Barbera (2011), establishing the new approaches to managing emergency response involving the vast range of interested organizations came with considerable controversy (p. 9). Therefore, it was carefully designed using a comprehensive research effort and lengthy decision and writing process so that ideas and research-defined concepts could be properly vetted and considered (Stambler & Barbera, 2011).

By 1975, the developers of FIRESCOPE were beginning to come to consensus, and the concept of ICS was relatively well defined. Kloppenborg (2015) describes executing, the next phase in the project lifecycle, as starting “when the plan is accepted and includes authorizing, executing, monitoring, and controlling work until the customer takes the project deliverables” (p. 6). Hayes’ (2014) next step is implementing plans and reviewing progress. The first design went through its first tests by the Los Angeles City Fire Department to work towards validation (Stambler & Barbera, 2011). An exercise was also conducted as a test at the California Specialized Training Institute at Camp Luis Obispo in late 1974 (Mission Research Corporation, 1974, p. 4). In 1976, a formal agreement was made using the decision process (Appendix 1,

Table 1) accepting what had been proposed as the standard terminology and the MACS/ICS procedures (Stambler & Barbera, 2011).

In 1977, FIRESCOPE published its official implementation plan. The plan outlined a four-year, \$16.2 million implementation effort; however, approximately \$7.5 million was what was received. The plan outlined the timeline to reach goals and the milestones to be met over four years. The project to implement the ICS component specifically focused on the training efforts of the seven agencies as well as building upon the development of ICS procedures (Stambler & Barbera, 2011). The process was not an easy task and it took seven different agencies to pour over their experience and sketch out the needed prototypes required for building all the developmental aspects. Confirming the need for training was a crucial for successful implementation.

The consensus from the decision process board of directors dictated the implementation of ICS. The FIRESCOPE agencies began adopting the ICS principles into the agencies' individual departmental procedures and began conducting some field exercises. In 1978, the Pacoima Fire became the first full-scale test of MACS and ICS in a large incident. The system proved to be effective. However, it was not as successful as desired. The reasons given included: "appropriate training on the new system had not been conducted, agencies had not integrated the new system into their daily response operations procedures, and some companies were trying to operate in both the old and new system" (Mills, 2006, p.7). Although additional training was determined to be needed, the goals of the project were achieved. LA City Fire Department adopted ICS service-wide after the incident (Stambler & Barbera, 2011). At this point, the initial project that the RD&A team set out to implement was put into place. Kloppenborg (2015)

describes the closing and executing phase of the project life cycle as including “all activities after customer acceptance to ensure [the] project is completed, lessons are learned, resources are reassigned, contributions are recognized, and benefits are realized” (p. 6). Over the next decades the system would develop to be much larger than originally anticipated. An entire change of scope of ICS would be implemented which would make the project and implementation of ICS an ongoing endeavor.

Adoption of ICS as All-Risk, All-Hazard

While ICS was initially intended be used to manage wildland fires, the system was recognized by other agencies as useful for other emergency response situations as well. In the Oklahoma City Bombing ICS was used as an active response system. However, there were some major lessons learned and areas needing improvement that were noted after the incident. The Oklahoma Department of Civil Emergency Management After Action Review stated that state and local plans need to mirror the Federal and Regional Response Plans, and a need existed for national and regional integrated training between federal, state, and local emergency management, fire and law enforcement services. ICS was slowly implemented by fire services across the U.S. and other non-fire agencies began considering the system as well. In 1984 the San Bernardino County Sheriff’s Department (SBCSD) began taking steps to incorporate ICS into a range of emergencies encountered by law enforcement. FEMA also developed the National Urban Search and Rescue (US&R) System in 1989 to 1991, incorporating of ICS (Downey, 1995). In 1992, the National Fire Protection Association required all fire departments to incorporating ICS procedures (National Wildfire Coordination Group, 1994). In 1997, the United States Coast Guard (USCG) also formally adopted ICS for oil spill response and later

created their ICS manual tailored to their unique needs and in February 2001, the formal USCG Incident Command System Implementation Plan mandated the use of ICS use into response plans at all levels (United States Coast Guard, 2001). Finally, ICS was used during the reaction to the Pentagon attack on September 11, 2001, in which the Arlington County Fire Department served as the chief agency in the unified command and received significant publicity for the response's effectiveness (Titan Systems Corporation, 2002).

After the attacks of 9/11, President Bush delegated the DHS the development of a national incident management system (HSPD-5). The purpose was to provide a standard nationwide system for federal, state, and local governments to work collaboratively in preparation and response to domestic incidents, regardless of size, scope, or severity. The National Incident Management System (NIMS) would “include a core set of concepts, principles, terminology, and technologies covering the incident command system” (HSPD-5, 2003, p.1). In March of 2004, DHS presented the first version of the NIMS which incorporated many existing best practices into a comprehensive national approach including ICS. In 2003, it was decided that NIMS and ICS would be institutionalized across the entire response system. HSPD-5 states that “beginning in Fiscal Year 2005, Federal departments and agencies shall make adoption of the NIMS a requirement, to the extent permitted by law, for providing Federal preparedness assistance through grants, contracts, or other activities” (HSPD-5, 2003, p. 2). Hayes’ (2014) fifth step in the change process model is sustaining the change. Lewin (1951) states that change is often not sustained for the long term. A change initiative should not be considered complete simply when a new state is reached, rather it is important to ensure that the new state is actively sustained for as long as it is beneficial to do so (Hayes, 2014). The act of the U.S. government

mandating the use of ICS through law solidified the use of ICS. In 2006, federal funding for state and local preparedness grants was tied to the mandatory compliance with NIMS (Federal Emergency Management Agency, 2004). For some this meant learning ICS for the first time at all, which would mean training and program support would be needed in order for the system to be successful. This also ties into Hayes' (2014) next step in the change process which is leading and managing the people issues. According to Hayes (2014), the people issues need to be addressed in addition to those technical issues of a change initiative. People issues can include supporting stakeholders, motivation and commitment, and communication (Hayes, 2014). Throughout the next decade, many emergency management programs would slowly begin to implement ICS into their training and doctrine.

Thus far, organizational change theories that apply to the implementation of ICS have been discussed as well as the history and importance of ICS has been illustrated using Hayes' (2014) change process model and Kloppenborg's (2015) project life cycle. Some examples of when ICS has been implemented were given, the change from fire rescue to an all hazards system was explained, and the laws that were enacted mandating ICS were identified. The next section focuses on literature that provides opinions on whether or not ICS is successful or not and what the causes for success or lack thereof may be.

Literature Review

ICS has played a significant role in the U.S.'s domestic response efforts over the last few decades. A version of the model was known by most of the emergency management community before its mandated use in 2004. There exists a significant pool of literature on the subject. ICS has been praised for its potential to benefit the disaster response community (Wenger et al.,

1990; Tierney, Lindell, and Perry, 2001; Buck, Trainor, & Aguirre, 2006; Waugh, 2009).

Although there are many emergency responder personnel who are enthusiastic about the benefits of ICS, many disaster research analysts have criticized ICS's command and control structure (Walker, Harrald, Ducey, & Lacey, 1994; Neal and Phillips, 1995; Schroeder, Wamsley, & Ward, 2001; Tierney, Lindell, & Perry, 2001; Wise & Nader, 2002; Drabek, 2003; Waugh & Strieb, 2006).

ICS was created in response to a wide-range of problems that were commonly noted in disaster response, including failure to recognize the magnitude of incidents, delayed responses, confusion of responsibilities, lack of authority, resource shortages, poor organization and communication, and failures in leadership and vision (National Research Council, 2006, p. 141). There are many advocates of the widespread use of ICS who acknowledge that the system can be used to create better organization during an emergency response. Agencies that use ICS are able to come together and be directed by one command post, with one set of plans, with one standardized set of communication and resource allocation (Rubin, 1997; Mathis, 1998; Klassen, 2009). These potential benefits of ICS have been praised widely in the emergency management community (Wegner, Quarantelli, & Dynes, 1990; Buck, Trainor, & Aguirre, 2006; Tierney, Lindell, & Perry, 2001; Waugh, 2009). DHS has advocated ICS as a consistent, flexible, and adjustable national framework. Many agencies that use of ICS agree that the system can decrease chaos and confusion, create better communication, and ensure proper command and control. Using ICS helps to avoid duplication of efforts and increase the safety of responders (Christen et al., 2001; Perry, 2003; Anderson, Compton, & Mason, 2004; Harrald, 2006).

Although the benefits of ICS are realized by much of the literature, there are still many gaps addressed. Some concerns have been raised. One issue is whether or not the model presented by ICS fits the actual organizational reality associated with emergency management (Wenger, Quarantelli, & Dynes, 1990; Waugh, 2009). Some authors note the importance of training in order to effectively implement the system, while others go as far as to say that the plan looks good on paper, but isn't exercised properly during real exercises or events. Other concerns are whether or not ICS appropriately addresses culture and leadership (Waugh, 2009), or if the system actually creates less flexibility and adaptability (McEntire, 2001; Jensen 2011). These are all concerns that can be found when researching the literature on ICS.

The Importance of Training

Many studies have found that successful organizational change is largely linked to the level of training activity in organizations (Cappelli & Rogovsky, 1994; Osterman, 1995, Hayes, 2014). Organizational change tends to lead to some degree of a need for individual change in order to be successful. Individual change is usually the result of the natural process of learning and development (Hayes, 2014). Goldstein (1993) points out that in order for training to be effective it requires three main steps: analysis of training needs, the design and delivery of training, and the evaluation of training effectiveness. NIMS has a training program that identifies the courses that are critical for personnel that would utilize ICS in the emergency management field (Federal Emergency Management Agency, 2014). The program establishes NIMS core curriculum to ensure it adequately trains emergency and incident response personnel to all concepts and principles of each NIMS component, including ICS (Federal Emergency Management Agency, 2014). Some of these courses are only offered online, while others are

offered locally and in each state as resident courses. Much of the literature on ICS agrees that in order for ICS to be successfully implemented, emergency management agencies must require training.

Training is one of the reasons noted for the favorable response to the Oklahoma City Bombing. The incident management education that was received by the fire chief and other key personnel at the National Fire Academy approximately a year before the event proved to be invaluable (City of Oklahoma City, 1996). For an incident management system to be successful, it assumes the presence of technically trained and adequately equipped response personnel (Perry, 2003). Perry states that “the issue, however, is not so much one of having some incident management system, but of actually understanding and using it” (p.405). Quarantelli (1982) also states that, “one of the greatest impediments to disaster preparedness is the tendency to believe that it can be accomplished merely by the completion of a written plan.” A Disaster Research Center study of 29 mass casualty disasters found that if an agency had an emergency plan, it was usually not followed to any great extent. Quarantelli (1983) described one reason for this was that many key players did not fully understand the plan or know their roles. Further, incident management systems were often talked about, but never actually used by response agencies (Wenger et al., 1989). Reports have shown that while the use of ICS would promote success, most emergency response agencies do not use the system unless it is a large scale incident (Rudman, 2003). Various operational problems are often encountered and resolved during training sessions and drills. Although most local governments have disaster plans, only a little over half use and test these plans (Auf der Heide, 1989). Aside from responders receiving initial ICS training, there is also the challenge of keeping it up to date. Brunacini (2002) states that if

ICS training is not routinely used, it becomes unrehearsed and difficult to execute when needed. Often turnover can also cause a lack of training.

Training is an important part of any change initiative and can help re-establish alignment between the competences of organizational members and other elements of the system (Hayes, 2014). Training should be viewed as an ongoing process that supports every step of the change. Critiques of ICS seem to note that those involved in an incident response do not know how to use the system. Some agencies alleviated this issue by incorporating and encouraging different types of training such as classroom, table-top exercise, or even large scale exercise events. Without proper training a plan is not useful. The next section will focus on the “paper” plan syndrome, and the issues that having a plan but not knowing or using it can create.

The “Paper” Plan Syndrome

Written disaster plans are necessary, but alone they are not enough to assure preparedness. In fact, they can be an illusion of readiness if they are not tied to training programs, acceptable to the intended users, related to the necessary resources, or based on valid assumptions. This illusion is called the “paper” plan syndrome (Auf der Heide, 1989, p. 23). Some of the literature on ICS discusses or alludes to the fact that many emergency response agencies have a plan that includes implementing ICS, but they do not practice it.

Many who have experience working with ICS have often alluded to the “paper” project syndrome idea. ICS created a detailed and in-depth organizational structure for how emergency response agencies should respond to an incident, regardless of the size, scope, or hazard. Renaud (2012) found that emergency response is never as neatly organized as planned. Renaud further illustrates how the structure of ICS does not take into account the uncertainty and chaos of an

actual incident by stating that NIMS instructs first responders to size up an incident and respond as quickly as possible, inferring that the incident responders are always supposed to be calm, cool, and collected. Renaud believes that NIMS has created a social philosophy that avoids the chaos that comes along with disaster response. In this argument, it seems that ICS is missing the human factor and disorganization that occurs in an emergency response initial phases.

One of the reasons disaster plans may become “paper” projects is because they are typically written by civil defense officials or disaster planning officers instead of by the emergency agencies that use the plan. It is proven that people are more likely to adopt or prefer a change initiative or plan when they have actively participated in the development and planning process. Quarantelli (1983) states that in the process of planning, the participants become familiar with the roles of other individuals and organizations involved in the disaster response. Beer (2001) argues that the best implementation strategies incorporate a top-down, results driven change with a slower bottom-up development as well. It is important to include a shared purpose, and strong culture in order to gain the highest amount of buy-in from the greatest amount of stakeholders (Hayes, 2014).

Although it is important to have a plan for all emergency response agencies, it is equally important to have a plan that is clear, concise, and known by those expected to implement it. This can be achieved by training, but it also requires an evaluation of the current plan. For example, a plan should be sure to take into consideration how it will be received by those implementing it and whether or not it is even attainable. It is also important to continuously revise that plan as needed, as mentioned by the punctuated equilibrium paradigm (Hayes, 2014). Taking steps to ensure there is an effective plan in place, as well as proper training will all help

lead to successful change initiative. Another factor to take into consideration is discussed in the next section is the importance of an organization's culture and the impact that it can have on a successful change process.

A Culture Change

Organizational culture is defined by Schein (1990) as the pattern of basic assumptions that are created by a group as it learns to manage external adaption and internal integration. Because organizations are made up of individuals with different abilities, behaviors, and objectives, each organization develops a unique culture. This culture will sometimes change when the personnel do, but other aspects of the culture remain fixed and long-term. The framework of an organization's culture can strongly influence the organization's potential for success or failure (Karakas, 2007). In addition, an organization's culture can have a huge impact on the ability of an organization and its leaders to initiate and successfully implement change (Karakas, 2007).

A review of the literature involving the cultural shift of ICS in the field shows that there have been issues with how the system has been implemented. Buck, Trainor, and Aguirre (2006) stated early on that, "the present-day efforts in the NIMS to use ICS as a comprehensive principle of disaster management probably will not succeed as intended" (p. 1). They conclude however, that ICS does work well, but only in particular circumstances. These circumstances include when official responders have been trained in ICS and have a strong sense of community, but further state, "we agree with responders that the deficiencies identified are not

inherent in ICS but rather are related to inadequate implementation” (Buck, Trainor, & Aguirre, 2006, p. 21). The suggestion is that ICS is too large of a system to ever correctly fully implement and train emergency responders nationwide without an entire shift in culture. They feel that ICS does work for government agencies and other companies that receive the majority of their funding from the government. It is because government agencies are already set up in a hierarchy fashion and used to operating under this type of structure. Their suggestion to improve ICS is to decrease government control and increase the use of nonprofit and market-based organizations in the mitigation of the effects of the disaster, stating that “despite widespread claims to the contrary and the promise of politicians, governments cannot guarantee protection against disaster and catastrophe. People are responsible for their welfare”(Buck, Trainor, & Aguirre, 2006, p. 21).

According to Hayes (2014), change managers need to be aware of the possibility that planned interventions may be being implemented as intended, but they may not be creating the desired effect. Hayes writes that this could be caused by lack of commitment and motivation by those who are affected by the change or lack of political support from those in leadership positions. Buck, Trainor, and Aguirre’s (2006) perceptions of ICS may be the result of the fact that at the time, not many individuals were sufficiently aware of how the system works and many members in the field lacked training. For example, they reference the critique of Wenger, Quarantelli, and Dynes (1990), one of the best-known critiques of ICS, however, it can be noted that this analysis comes 15 years before ICS was fully implemented by NIMS. The commentary has been cited in almost all the literature that points out flaws with ICS, but it can be argued that

it may cause the reputation of ICS to precede itself which leads to a negative mindset and culture about the system before fully implemented.

Canton (2015) also makes statements regarding ICS working better for organizations with a hierarchy structure. Canton found that ICS works well with agencies with a defined change of command, but not all do. Specifically, he says that in the corporate sector, many companies are more consensus driven and use flattened management structures and that “attempting to use an incident management structure that is contrary to their corporate culture inevitably leads to failure” (para. 3).

Culture plays a great influence on employees’ motivation to perform as well as their willingness to accept or reject organizational change. The structure of an organization can have a large impact on that organization’s structure. The literature on the culture of ICS suggests that because of the top-down implementation as well as the hierarchy structure that is required to implement ICS that it does not fit into many emergency response agencies organizational culture. This leads into the next area of concern of the use of ICS which is regarding how organizations that are used to working under their own structure and management, often times run into conflict when being integrated with other agencies.

Conflicts with Different Agencies Working Under One Unified Command

Just as managers need to understand the culture of their organization they also need to understand the structure if they are to communicate effectively (Kloppenborg, 2015) Contemporary organizations use various methods for establishing their organizational structure. According to Kloppenborg (2015), each method of organizational structure has strengths and weaknesses. ICS utilizes a functional organization, which is “a hierarchical organization where

each employee has one clear superior, staff are grouped by areas of specialization, and managed by a person with expertise in that area” (Kloppenborg, 2015, p.54). This is a traditional method of structure when there are clear lines of authority in accordance with type of work. One advantage that ICS hopes to achieve with this structure is unity of command, which means that “all workers understand clearly what they need to do because only one boss is giving them instructions” (Kloppenborg, 2015, p.54). A disadvantage of a structure like this include slower communications because of the multiple functions that need to provide input. According to Kloppenborg (2015), in a functional structure communication needs to first travel up from worker to manager, then across from on functional manager to another, and then back down from manager to worker which slows communication.

Wenger, Quarantelli, and Dynes (1990) are known for one of the harshest critiques ICS. The critique uses the coordination model and research conducted by the Disaster Research Center (DRC). Wenger et al. (1990) concluded that “ICS does not appear to be a useful model that is readily transferable to broader communitywide planning and response efforts” (Wenger et al., 1990). They point out flaws in the execution of ICS. Such as shifting command from the initial responder to the Incident Commander (IC) leads to loss of control, difficulties integrating multiple agencies under a single command post, differences in implementation, issues integrating private entities and volunteers into the system, and lack of training and experience with ICS. However, this critique has been met with disagreement claiming that Wenger and his colleagues did not have a good understanding of ICS and that better training would solve some of their evaluations. Auf der Heide (1989) wrote that “some of the most critical difficulties in disaster response are due to the lack of inter-organizational coordination. Many organizations plan for

disaster as if they were to function in isolation” (p. 27). It is important for agencies to work with each other and network before a disaster happens. Organizations that have interacted or coordinated with each other before an incident have had fewer problems doing so in a catastrophe (Kilijanek, 1981; Dynes, 1978; Drabek, 1986; Sorensen, Mileti, & Copenhaver, 1985). When organizations interact with each other, they tend to default to their own operating procedures and it is also difficult for them to implement other’s approach, even at a time when it is direly needed. It is why organizations that have worked together in the past turn out to have greater cohesion and operate more efficiently together.

A common critique found in the literature of ICS is that the system is organized in a way that makes it to bureaucratic and thus not flexible. The ICS organization has been described as bureaucratic, and despite the intention of being flexible and efficient, some critics contend the opposite. Waugh (2009) argues, “Such systems, by their very nature, are inflexible, slow, and cumbersome and would be much less adaptable to task environments characterized by uncertainty and rapid change” (p. 172). Neal and Webb (2006) argue, “In the context of an increasingly bureaucratized system of emergency management in the United States, there is intense pressure to do things by the book and according to standard operating procedure” (p. 357). Neal and Webb (2006) suggest that in this type of environment, innovative problem solving is curtailed.

Although the structure of ICS has often been praised for providing unity of command, flexibility and scalability, there are some barriers to overcome. While having a trained staff, a clear and usable plan, knowing an organizations culture and structure are all important pieces in any change initiative, leadership also plays a large role in the outcome of the acceptance of

change and in this case the outcome of an emergency response incident. The next section focuses on critiques of the literature on ICS and leadership.

Leadership Challenges in ICS

A significant challenge for leaders is motivating others to support change. According to Hayes (2014), often efforts will fail because leaders pay insufficient attention to winning the support of those who can affect the success or failure of the change. As mentioned, change is more often than not met with resistance. As noted by Lewin's (1951), the driving forces must outweigh the restraining forces in order to move from the status quo. It is a leader's role to recognize this and take efforts to mitigate resistance and build a strong momentum of support and motivation for the change.

Much has been written about the leadership of the response effort for Katrina. It has been said that the Mayor Nagin and Louisiana Governor Blanco did not agree with each other on many decisions and were too slow to evacuate New Orleans. This lack of agreement and leadership made it impossible for Michael Brown, the Federal Emergency Management Agency (FEMA) director to do his job effectively. Experts state that the response relied too strongly on local and state governments that were "overwhelmed by a storm of historic proportions and generally ill-equipped to respond rapidly" (Bauerlein, 2015, para. 9). This incident's response provides an example of one of the issues with NIMS that is repeatedly observed. Today it can be said, however, that Hurricane Katrina ultimately led to a major change in the way the nation responds to disasters.

Another critique found within the literature is a lack of independence and freedom of agencies to lead and implement their own best practices into ICS. Drabek (2007) for example,

goes as far as to suggest that ICS has limited usefulness of older managerial paradigms. Lester (2007) makes the argument that there would be more collaboration by agencies if there was less centralization under federal government (p. 12). Lester advocates that the system hinders transformational leadership, which he contends are needed for ICS to be used successfully, stating that “transformational leadership offers a way to make the needed change in organizations responding to disasters” (p. 12). Guethner (2011) argues that for ICS to undergo transformation and develop the leaders it needs, it would require more freedom from government controls and regulations. Anderson, Compton, and Mason (2004) acknowledge that to receive funding from DHS, agencies are required to implement NIMS. Guenther thus makes the point that the Federal Government dictates how emergency management is to be run, and therefore does not allow agencies to have transformational leadership within their organizations. It can be argued then, that leadership is not allowed to implement their agency plan the way they see fit if they wish to receive federal funding for their programs. Hayes (2014) states that, “it is not unusual for expert change agents to decide when and where change is required and to define change objectives without taking into account the concerns of stakeholders or recognizing the ways in which they can contribute to or sabotage the change process” (p.161). It is important to recognize the needs of the staff that is actually carrying out the change plan.

Thus far, the literature that has been reviewed has focused on important aspects of change management including the importance of training, having a clear plan, culture, structure and leadership. The next section focuses on the actual validity of the literature that was used. It is important to take this into consideration to understand the accuracy of claims as well as for future researchers to take into consideration.

Disputes to the Literature

Jensen and Thompson (2016) argue that most of the literature on ICS today does not offer empirical evidence to support their claims. They state that “the concerns of academics on command-and-control systems, and the ICS specifically, may be warranted, but the finding of original research on the system must be provided to support any assertions” (p. 162). Much of the research is old, and it has been a decade since there have been any follow-up studies on the system. As previously noted, although the system has been around since the 1970’s it was not mandated until 2004. Many of these articles were written right after the ICS implementation. Many of the negative reports could be because the application was not sufficiently complete, emergency responders were not fully trained, and as with any change it was being met with resistance.

According to Auf der Heide (1989), lessons are not learned about disasters because it is difficult for emergency responders to get accurate information about them. The documents that describe real disasters tend only to recount what happened rather than analyzing the effectiveness of the plan or response (Reynolds & Wright, 1976). Often, post disaster documents tend to justify what was done or ignore the problems altogether. This type of bias can take away from valuable lessons that could be learned (Quarantelli, 1982). The system lacks when it comes to analyzing its solutions that it has devised. There is currently no method of sharing all of the lessons learned in a clear and concise manner across agencies or across jurisdictions.

Thus far, a brief background of the U.S.’s framework for national emergency response, a summary of two of the major incidents that helped shape ICS, and the techniques of organizational change management and why they are important to be used to review the

development and history of ICS were discussed. Throughout the literature review the importance of training, having a clear plan, organizational culture, and organization's structure, and leadership have been highlighted in regards to how they all have an impact on how ICS has been received. A discussion of the findings will be discussed in the next section.

Discussion of the Findings

As noted by the literature, there needs to exist a greater understanding of the ICS model in order to reduce confusion and questions of authority. For ICS to work as intended, the agencies down to the individual level must first know how to use it. In order for any organizational change initiative to be successful it must lead to some degree of individual change. This can be accomplished through training. Hurricane Katrina revealed that responders at all levels lacked knowledge and training of ICS and other crisis response policies. On the other hand having response personnel who were trained was one of the reasons for the favorable response to the Oklahoma City bombing. After ICS was first mandated, there did in fact exist a gap in knowledge and training of the system. As the system has been mandated for over a decade, more agencies and individual emergency responders have now had a chance to receive training on ICS. Training in any stage of the change process should be viewed as an ongoing process.

An additional reason that training is important in the emergency response network is that it gives a chance for different agencies who may work with each other in a real life crisis to get to know each other and build relationships. According to Moynihan (2007) trust can be fostered

in the pre-crisis stages by training with other emergency management agencies. It also provides an opportunity for agencies to learn the capabilities of one another. These experiences can be achieved through joint planning, training, or table-top exercises (Moynihan, 2007). During the Pentagon attack, regular participation in training exercises with different agencies helped produce favorable relationships that were evident during the Pentagon response (Moynihan, 2007).

Another issue that was brought up in the research was that having a plan is important, but not enough to be successful if that plan is too complex to use. Often an organization is required by law and policy to have a detailed emergency response plan. However, because the plan is used for emergencies and crisis situations rather than everyday use, it tends to get shoved in a drawer of a filing cabinet and never looked at for anything other than audits. In order for ICS and emergency plans to work effectively, the plan must be easy to follow and known. As with training, it is important to continuously revise the plan as needed making incremental changes during phases of equilibrium. The plan needs to be clear and concise so that all users, down to the individual level can understand and implement it.

The literature alluded to resistance to ICS because it did not fit some of the agencies' organizational cultures. With any change initiative it is important to gain the buy in of the stakeholders involved. It is also important to assess the current culture and use an appropriate implementation methods that best fit that culture. Because ICS was mandated through law, the resistance to its implementation may have been greater by those in the emergency management field who felt they had no choice or opinion in the matter. A suggested way to assist the implementation of ICS is to reiterate the need for the system and its importance in successful

emergency response. This can be done through training and knowledge sharing. In order for the implementation of a standard nation-wide use of ICS, a culture shift must be made and this can be done through training, leadership, networking, and best practice sharing.

The literature also revealed that often there is confusion about the structure and who is in charge once a response begins. The confusion of authority is dependent on the size and scope of the emergency. There is often a desire to resist escalating an incident response to a higher level of government. During Katrina for example, authority should have been escalated quickly however there was a loss of communication systems and overlapping commands that caused confusion. The literature suggests that the high level of government control and the functional structure leads to issues. This suggestion could be due to a lack of understanding of how ICS is intended to work however. It is true that those experts of each emergency response element must also still have control of their personnel. ICS does not take this away, but rather puts one person in charge of one incident to avoid duplication of efforts and communication issues. However, it was recognized through the literature that a functional organization tends to slow communication, which can hinder critical response efforts.

One of the last areas of critique from the literature was regarding leadership. As noted through change management research, leaders often fail to pay attention to winning the support of their stakeholders and this can lead to unsuccessful efforts. In order for the implementation of ICS to be successful, the ideas, suggestions, and lessons learned from those in the field need to be recorded and the system needs to be continuously updated. Leadership in the field level of an incident is also critical. It is important that there exists a highly trained incident commander and section commanders who also possess the right leadership skills to successfully lead a potentially

crisis emergency response. This is critical to the success in any emergency response. The person in charge must be knowledgeable and be able to direct those who he/she is leading. In the case of Hurricane Katrina, leadership was one of the biggest cited faults of the response. Those in charge were slow to react and did not display the competency to make critical decisions. This reiterates the need for strong and trained leaders to fill this high level positions.

The suggestions for future implementations include focus on training and benchmarking so that the implementation is continuously being developed and maintained. Some key things to keep in mind when implementing ICS include the following:

- Managing stakeholders and frequent networking among emergency response agencies
- Identifying areas of improvement, documenting them, and sharing information and using lessons learned
- Continuing to provide training nationwide
- Training development plans are enforced
- Conducting ability checks to improve training
- Conducting exercises, multi-year training and developing solutions to any gaps
- Planning activity reimplementation to sustain change

Literature reviews and private industry research have revealed many change management critical success factors. These narrowed down to the most reoccurring include: top management sponsorship, user management and training, communication, project management, user involvement, and sustainment. It can be seen that by applying the theories and methods of change management the successes and gaps of ICS can be more clearly defined.

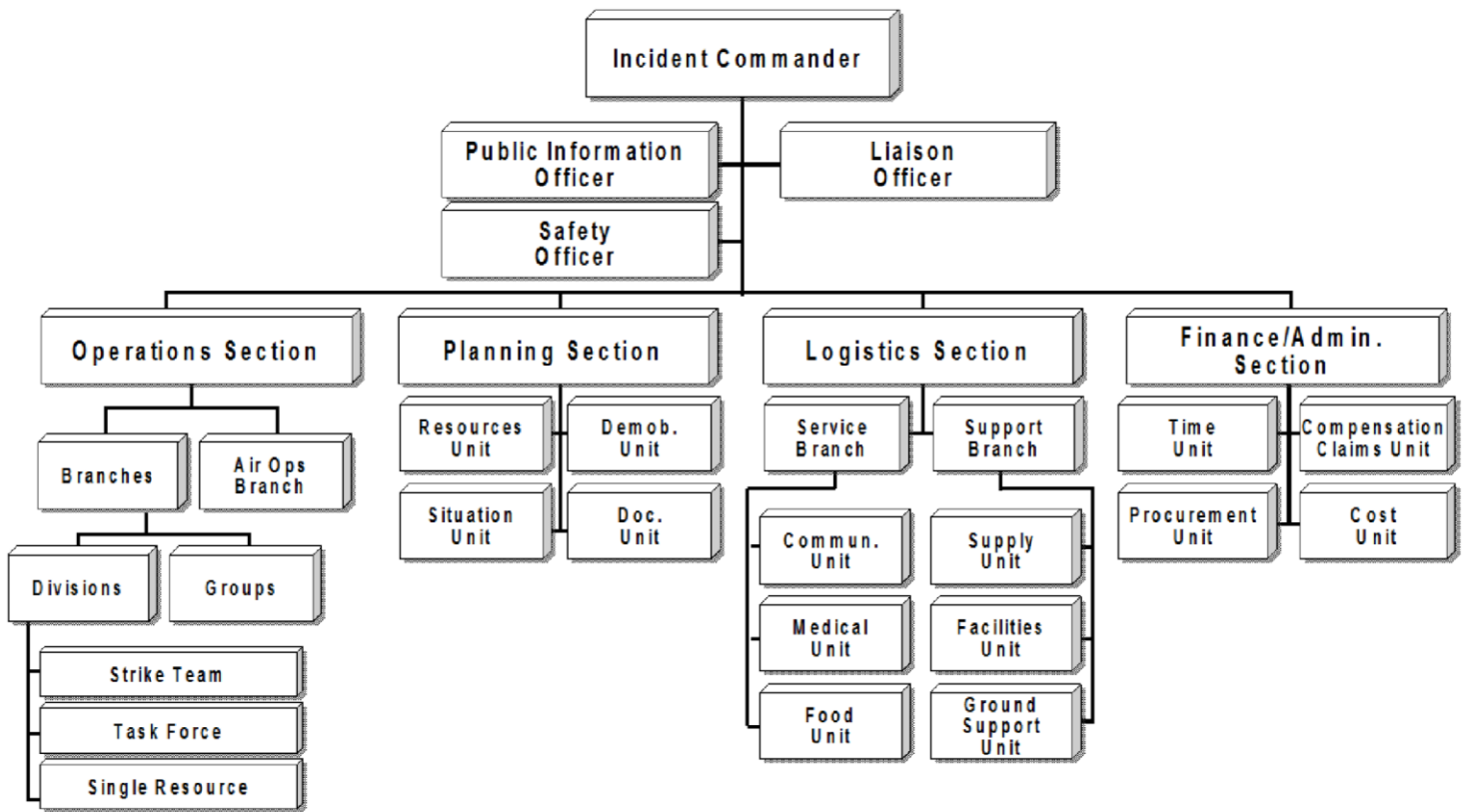
Conclusion

Before the attacks of 9/11, the emergency management field had changed incrementally. From the 1970s to 2001, the ICS model was becoming popular among firefighters and other agencies. ICS was becoming an all-hazards and best practice approach. After the attacks of 9/11 however, ICS was mandated as a national approach for managing all emergency incidents. This created a shift in the external forces to move the status quo of emergency response agencies to accept ICS as the new standard. The implementation methods of ICS have been on-going for the last decade and have been met with some resistance. The gaps of the implementation have been cited by critics and evaluated in this paper. Some argue that ICS will never work as an approach for all types of emergencies, and reference the failures of the response to Hurricane Katrina. Where those in support of ICS argue that the failures of Hurricane Katrina is not a good example of the use of ICS as it was not implemented properly. Hurricane Katrina happened shortly after ICS had been mandated and many did not yet have proper training or knowledge of the system.

This paper has reviewed the history of ICS and its implementation using change management and project management perspectives, as well as reviewed critiques and praises of the system in order to offer thoughts on the future of ICS and emergency response. ICS remains the standard for emergency response efforts today. To be effective and knowledgeable in the field of emergency management it is important to realize how to successfully use ICS and under what circumstances. This paper has offered some insight into potential areas of improvement of the system based on tried and proven change management methods. Although ICS is more

known of and better practiced today than it was in 2005, there is still room for continuous improvement.

Appendix 1 – ICS Organization



Command Staff: The Command Staff consists of the Public Information Officer, Safety Officer, and Liaison Officer. They report directly to the Incident Commander.

Section: The organization level having functional responsibility for primary segments of incident management (Operations, Planning, Logistics, Finance/Administration). The Section level is organizationally between Branch and Incident Commander.

Branch: That organizational level having functional, geographical, or jurisdictional responsibility for major parts of the incident operations. The Branch level is organizationally between Section and Division/Group in the Operations Section, and between Section and Units in the Logistics Section. Branches are identified by the use of Roman Numerals, by function, or by jurisdictional name.

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

Group: Groups are established to divide the incident into functional areas of operation. Groups are located between Branches (when activated) and Resources in the Operations Section.

Unit: That organization element having functional responsibility for a specific incident planning, logistics, or finance/administration activity.

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

Strike Team: Specified combinations of the same kind and type of resources, with common communications and a leader.

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

Source: Federal Emergency Management Agency. 2014. Incident command system resources.

Fema.gov. Retrieved from <https://www.fema.gov/incident-command-system-resources>

Appendix 2 – The Levels and Functions of the Decision Process

Process Levels	Group Personnel Types	Functions / Responsibility
Board of Directors	Chiefs and Directors of the member agencies	Set goals and objectives Make final decisions Establish policy Adopts policy for their own agency
Operations Team	Deputy / Assistant Chiefs or Division Chiefs of member agencies	Recommended policy Prepares action plans Decides operational issues Sets direction and goals for the Task Force
Task Force ⁶	Battalion Chiefs of member agencies	Develop functions of MACS/ICS Establishes organizational elements Develop procedures Provide non-technical direction to Specialist Groups
Specialist Group	Functional area experts within the member agencies	Specialized assignments based upon the appropriate functional area

Table 1. The Levels and Functions of the Decision Process (Federal Emergency Management Agency, 1987, p. 8)

REFERENCES

- Anderson, A., Compton, D., & Mason, T. (2004). Managing in a dangerous world: The National Incident Management System. *Engineering Management Journal*, 16(4), 3–9.
- Auf der Heide, E. (1989). *Disaster response: Principles of preparation and coordination*. St. Louis: CV Mosby. Retrieved from <http://library.ndmctsggh.edu.tw/milmed/avitation/file-med/DisasterResponse.pdf>
- Bauerlein, V. (2015). Lessons learned from the response to Katrina's havoc. *The Wall Street Journal*. Retrieved from <http://www.wsj.com/articles/lessons-learned-from-failed-response-to-katrina-1440787007>
- Beckhard, R. & Harris, R. (1987). *Organizational transitions: Managing complex change* (2nd ed.). Reading, MA: Addison-Wesley.
- Beer, M. (2001). How to develop an organization capable of sustained high performance: Embrace the drive for results-capability development paradox. *Organizational Dynamics*, 29(4), 233-47.
- Buck, D.A., Trainor, J.E., & Aguirre, B.E. (2006). A critical evaluation of the Incident Command System and NIMS. *Journal of Homeland Security and Emergency Management*, 3(3), 1–27. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.460.2780&rep=rep1&type=pdf>
- Brunacini, A.V. (2002). *Fire command: The essentials of local IMS* (2nd ed.). Phoenix: AZ: Heritage Publishers Inc.
- Canton, L. (2015). Are we too dependent on the Incident Command System? *Emergency Management*. Retrieved from <http://www.emergencymgmt.com/emergency->

blogs/managing-crisis/Are-We-Too-Dependent-on-the-Incident-Command-System.html?flipboard=yes

Cappelli, P. & Rogovsky, N. (1994). New work systems and skill requirements. *International Labour Review*, 133(2), 205-20.

Chase, R.A. (1980). FIRESCOPE: A new concept in multiagency fire suppression coordination. *US Forest Service Pacific Southwest Forest and Range Experimentation Station*.

Berkeley, CA: Pacific Southwest Forest and Range Experiment Station. Retrieved from https://ftp.fs.fed.us/psw/publications/documents/psw_gtr040/psw_gtr040.pdf

Christen, H., Maniscalco, P., Vickery, A., & Winslow, F. (2001). An overview of incident management systems. *Perspectives on Preparedness*, 4, 1–11. Retrieved from http://belfercenter.ksg.harvard.edu/files/an_overview_of_incident_management_systems.pdf

City of Oklahoma City. (1996). Final report: Alfred P. Murrah Federal Building bombing. Stillwater, OK: Fire Protection Publications. Retrieved from http://murderpedia.org/male.M/images/m/mcveigh/docs/okcfr_TOC.pdf

Department of Homeland Security. (2015). *Creation of the Department of Homeland Security*.

Retrieved from <https://www.dhs.gov/creation-department-homeland-security>

Downey, R. (1995). Task force operations: An overview. *Fire Engineering Magazine*, 148.

Drabek, T. (1986). *Human system responses to disaster: An inventory of sociological findings*. New York, NY: Springer-Verlag.

Drabek, T. (2003). *Strategies For Coordinating Disaster Responses*. Institute of Behavioral Science, University of Colorado at Boulder, Boulder, CO.

- Drabek, T. (2007). Emergency management and homeland security curricula: Contexts, cultures, and constraints. *Western Social Science Association*. Calgary, Alberta, Canada, 11–14.
- Dynes, R. (1978). Interorganizational relations in communities under stress. In *Disasters: Theory and research*, Quarantelli (ed.). Beverly Hills, California: Sage.
- Epperson, B. R. (2006). *The brain trust model: A proposed change to modern change Management*. Dissertation, University of Oklahoma.
- Federal Emergency Management Agency. (2004). NIMS and the Incident Command System: NIMS ICS position paper. *NIMS Integration Center*. Retrieved from https://www.fema.gov/txt/nims/nims_ics_position_paper.txt
- Federal Emergency Management Agency. (2014). Incident command system resources. *Fema.gov*. Retrieved from <https://www.fema.gov/incident-command-system-resources>
- Gersick, C.J. (1991). Revolutionary change theories: A multilevel exploration of the punctuated equilibrium paradigm. *Academy of Management Review*, 16(1): 10-36.
- Goldstein, I.L. (1993). *Training in organisations (3rd ed.)*. Monterey, CA: Brooks/Cole.
- Gould, S.J. (1978). *Ever since Darwin: Reflections in natural history*. London: Burnett Books.
- Guethner, D. (2011). The role and future directions of NIMS. *Fire Service Organizational Management, Leadership, and Ethics*. Retrieved from <https://fsomle.wordpress.com/2011/03/15/the-role-and-future-direction-of-nims/>
- Harrald, J. (2006). Agility and discipline: Critical success factors for disaster response. *The Annals of the American Academy of Political and Social Science*, 604(1), 256–272. doi: 10.1177/0002716205285404
- Hayes, J. (2014). *The theory and practice of change management*. (4th ed). New York, NY:

Palgrave Macmillan.

Hiatt, M. J., & Creasey, T. J. (2012). *Change management: The people side of change*.

Loveland, CO: Prosci Inc. Retrieved from <http://www.change-management.com/cmp/xQnRz/PilotPro2014/elearning/ChangeManagement-PDF-download-2nd-edition.pdf>

Homeland Security Presidential Directive (HSPD-5). (2003). *Management of domestic incidents*.

Retrieved from

<https://www.dhs.gov/sites/default/files/publications/Homeland%20Security%20Presidential%20Directive%205.pdf>

Jensen, J. (2011). The current NIMS implementation behavior of United States counties. *Journal of Homeland Security and Emergency Management*.

Jensen, J., & Thompson, S. (2016). *The Incident Command System: A literature review*.

Disasters. Maden, MA: John Wiley & Sons Ltd.

Karakas, F. (2007). The twenty-first century leader: Social artist, spiritual visionary, and cultural innovator. *Global business & organizational excellence*, 44-50.

Kilijanek, T. (1981). There she blows: The search and rescue response to the Mount St Helens volcano. Ub Ayf der Geudem E, (1989). In Auf der Heide, E. (1989). *Disaster response: Principles of preparation and coordination*. St. Louis: CH Mosby.

Klassen, K. (2009). ICS for all: The benefits of ICS and why it applies to all departments, big and small. *Fire Rescue Command*. 28(7), 128.

Kloppenborg, T. (2015). *Contemporary project management* (3rd ed.). [MBS Direct]. Retrieved from <https://mbsdirect.vitalsource.com/#/books/9781305177468/>

- Lester, W. (2007). Transformational leadership and NIMS. *Public Manager*, 36(3), 11.
- Lewin, K. (1951). *Field theory in social science*. New York: Harper & Row.
- Mathis, R. (1998). Incident Command System: Unifying chaos in disaster. *Emergency Management Quarterly*, 1, 6–7.
- McEntire, D. (2001). Multi-organizational coordination during the response to the March 28, 2000, Fort Worth Tornado: An assessment of constraining and contributing factors. *Quick Response Research Report No. 143*. Boulder, CO: University of Colorado at Boulder.
- Miles, R.E., & Snow, C.C. (1984). Designing strategic human resource systems. *Organizational Dynamics*, 13(11): 36-52.
- Mills, C. (2006). The history of the incident command system. *The Coast Guard Journal of Safety and Security at Sea*, 63(4), 6-8.
- Mission Research Corporation. (1974). *FIRESCOPE field command operations system conceptual design description: Volume I system concept description*. Riverside, CA: The Pacific Southwest Research Station.
- Moynihan, D. P. (2007). *From forest fires to Hurricane Katrina: Case studies of ICS*. Washington, D.C.: IBM Center for the Business of Government.
- Murthy, C. S. V. (2007). *Change management*. Mumbai, India: Himalaya Publishing House Pvt. Ltd.
- National Commission on Terrorist Attacks Upon the United States. (2004). *The 9/11 commission report*. New York: W.W. Norton & Company.

- National Research Council (2006). *Facing hazards and disasters: Understanding human dimensions*. Washington, D.C.: The National Academies Press.
- National Wildfire Coordination Group. (1994). *Incident Command System national training curriculum: History of ICS*. Retrieved from <http://www.nwcg.gov/pms/forms/compan/history.pdf>
- Neal, D., & Phillips, B. (1995). Effective emergency management: Reconsidering the bureaucratic approach. *Disasters*, 19(4), 327–337.
- Neal, D., & Webb, G. (2006). Structural barriers to using the national incident management system. *Learning from catastrophe: Quick response research in the wake of Hurricane Katrina*, 347-366. Boulder, CO: Natural Hazards Center.
- OSHA. *What is an incident command system?* United States Department of Labor. Retrieved from https://www.osha.gov/SLTC/etools/ics/what_is_ics.html
- Osterman, P. (1995). Skill, training and work organization in American establishments. *Industrial Relations*, 34(2): 125-46.
- Parry, C.S., & Darling, M.J. (2001). Emergent learning in action: The after action review. *The Systems Thinker*, 12(8): 1-5.
- Perry, R.W. (2003). Incident management systems in disaster management. *Disaster Prevention and Management*, 12(5), 405-412.
- Quarentelli, E. (1982). *Human resources and organizational behaviors in community disasters and their relationship to planning*. University of Delaware, Newark.
- Quarentelli, E. (1983). *Delivery of emergency medical care in disasters: Assumptions and realities*. New York, NY: Irvington Publishers, Inc.

- Renaud, C. (2012). The missing piece of NIMS: Teaching incident commanders how to function in the edge of chaos. *Homeland Security Affairs*. Retrieved from <https://www.hsaj.org/articles/221>
- Reynolds, S., & Wright J. (1976). A selective literature review of disaster medical services. In Auf der Heide, E. (1989). *Disaster Response: principles of preparation and coordination*. St. Louis, Missouri: CV Mosby.
- Rowley, D.D. (2005). *The fires that created an incident management system*. Retrieved from <http://www.uninets.net/~dsrowley/The%20Fires%20that%20Created%20an%20IMS.pdf/>
- Rubin, D.L. (1997). The Incident Command System: myths, rumors, and unnatural acts. *Fire Chief*, 41(3), 63–68.
- Rudman, W. (2003). *Emergency responders: Drastically underfunded, dangerously unprepared*. Council on Foreign Relations, Washington, DC.
- Schein, E.H. (1990). Organizational culture. *American psychologist*, 45(2): 109-119.
- Schroeder, A., Wamsley, G., & Ward, R. (2001). The evolution of emergency management in America: From a painful past to an uncertain future. *Handbook of Crisis and Emergency Management*. New York, NY: Marcel Dekker, Inc.
- Sorensen, J., Mileti, D., & Copenhaver, E. (1985). Inter- and intraorganization cohesion in emergencies. *Mass Emergences and Disasters* 3(3).
- Stambler, K., & Barbera, J. (2011). Engineering the incident command and multiagency coordination systems. *Journal of Homeland Security and Emergency Management*, 8(1).

- Tierney, K, Lindell, M., & Perry, R. (2001). *Facing the unexpected: Disaster preparedness and response in the United States*. Washington, D.C.: Joseph Henry Press.
- Titan Systems Corporation. (2002). *Arlington County after-action report on the response to the September 11 terrorist attack on the Pentagon*. Retrieved from http://www.floridadisaster.org/publications/Arl_Co_AAR.pdf
- United States Coast Guard. (2001). Commandant Instruction M312015. *United States Coast Guard/US Department of Transportation*. Retrieved from <http://www.auxpa.org/resources/tools/icscomdinst.pdf/>
- Walker, A., Harrald, J., Ducey, D., & Lacey, S. (1994). *Implementing an effective response management system*. American Petroleum Institute, Washington, DC.
- Waugh, W., & Streib, G. (2006). Collaboration and leadership for effective emergency management. *Public Administration Review*, 66(1), 131–140.
- Waugh, W. (2009). Mechanisms for collaboration in emergency management: ICS, NIMS, and the problem with command and control. *The collaborative public manager: New ideas for the twenty-first century*. Washington, D.C.: Georgetown University Press.
- Wenger, D., Quarantelli, E., & Dynes, R. (1989). *Disaster analysis: Police and fire departments*. Disaster Research Center, University of Delaware, Newark, DE.
- Wenger, D., Quarantelli, E., & Dynes, R. (1990). Is the Incident Command System a plan for all seasons and emergency situations? *Hazard Monthly*, 8–12.
- Wise, C., & Nader, R. (2002). Organizing the federal system for homeland security: Problems, issues, and dilemmas. *Public Administration Review*, 62(1), 44–57.