Cascading effects: Addressing and managing the negative cascading effects of an expanding incident

Mark Dooley

Des Moines Fire Department, Des Moines, Iowa
Certification Statement

I hereby certify that this paper constitutes my own product, that where the language of other is set forth, quotation marks indicate, and that appropriate credit is given where I have used the language, ideas, expressions, or writings of another.

Signed: [Signature]

Mark H. Dooley
Abstract

The frequency of events that required more than a department’s typical response is low. Yet when those events did occur, it was the fire officers that made decisions that affected the long term results of an incident. The problem was the Des Moines Fire Department (DMFD) officers did not have the advanced requisite knowledge necessary to manage expanding incidents. The consequences of not having the advanced knowledge to manage expanding incidents resulted in a lack of accountability, safety concerns, and negative cascading effects from those incidents.

The purpose of this research was to create an officer development plan that improved the advanced requisite knowledge of the DMFD officers regarding expanding incidents. An action research methodology was used to complete the research using the following questions: a) What were the current attitudes towards the Incident Command System by DMFD staff? b) How did the DMFD incorporate managing expanding incidents into officer development and officer training in the future? c) What were other jurisdictions utilizing to incorporate expanding incidents training into their officer development and officer training models?

The procedures used to collect information for this ARP included the following: surveys of DMFD officers, a personal interview of a subject matter expert, and questionnaires completed by subject matter experts. The results of the research led to the creation of a lesson plan that improves the advanced requisite knowledge of the DMFD officers necessary to manage expanding incidents. The improved knowledge ensures life safety, improves accountability, and reduces the negative cascading effects of expanding incidents.
# Table of Contents

Certification Statement ........................................................................................................ 2

Abstract ............................................................................................................................... 3

Table of Contents ................................................................................................................ 4

Introduction .......................................................................................................................... 5

Background and Significance .............................................................................................. 6

Literature Review .................................................................................................................. 8

Procedures .......................................................................................................................... 15

Results ................................................................................................................................ 20

Discussion ............................................................................................................................ 26

Recommendations ............................................................................................................... 27

References ............................................................................................................................ 29

Appendix A: DMFD Executive Command Staff Survey ...................................................... 31

Appendix B: DMFD Captains Survey .................................................................................. 38

Appendix C: DMFD Lieutenants Survey ............................................................................. 45

Appendix D: DMFD Engineers, Senior Fire Medics, Fire Medics Survey ......................... 51

Appendix E: DMFD Chief Officer Subject Matter Expert Questionnaire ....................... 58

Appendix F: Incident Management Subject Matter Expert Questionnaire ................. 60

Appendix G: Training Subject Matter Expert Questionnaire ....................................... 62

Appendix H: Sample Officer ICS Training Lesson Plan ............................................... 64
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The frequency of events that require more than a department’s typical response is low. Yet when those events occur, it is the fire officers that make decisions that will affect the long term results of an incident. The problem is the Des Moines Fire Department (DMFD) officers do not have advanced requisite knowledge necessary to manage expanding incidents. The consequences of not having the advanced knowledge to manage expanding incidents can result in lack of accountability, safety concerns, and negative cascading effects from incidents.

The purpose of this research is to create an officer development plan to improve the advanced requisite knowledge of the DMFD officers regarding expanding incidents. Through the review of surveys and best practices from national standards, this research will reveal methods for the DMFD to better prepare for the expanding incident.

An action research methodology will be used to complete this research using the following questions: a) What are the current attitudes towards the Incident Command System by the DMFD staff? b) How does the DMFD incorporate managing expanding incidents into officer development and officer training in the future? c) What are other jurisdictions utilizing to incorporate expanding incidents training into their officer development and officer training models? This action research method will include personal interviews with subject matter experts, members of other departments, and surveys of the DMFD membership. The information gathered and compiled in this research project will help ensure life safety, improve accountability, and produce an officer development plan to reduce the negative cascading effects of an expanding incident.
Background and Significance

The city of Des Moines is situated in central Iowa and the DMFD is made up of 261 career members that provide fire suppression, advance life support transportation, fire prevention and fire investigation, and special operations to include hazardous materials response and mitigation, swift water rescue, high and low angle rescues (Des Moines Fire Department [DMFD], 2014). The DMFD responded to over 22,000 911 calls for service in 2014 (Des Moines Fire Department [DMFD], 2014, p. 491). Of those 22,000 incidents, 197 were identified as building fires in the DMFD database. During those responses, the DMFD is often able to serve the needs of the community with the apparatus that are dispatched through a resource deployment plan. For a first alarm structure fire, the DMFD sends nine apparatus; three engine companies, two truck companies, two medic squads, and two shift commanders to ensure that a minimum of twenty-one people are sent to the fire ground. A second alarm brings two additional engine companies, two additional truck companies, and the Assistant Chief of Operations (ICS SOG, 2015, p. 8).

However, on March 29 2014, the DMFD was dispatched to a structure fire that was one of the largest fires in the history of the DMFD. The first arriving truck company had fire showing on an entire commercial floor of approximately 37,000 square feet with extension to the floor above. The first arriving shift commander recognized that the resources would be quickly depleted and requested a second alarm upon arrival. The incident expanded into a third alarm and all of the on-duty resources for the City of Des Moines were committed to this incident.
There was additional support from neighboring communities that were requested through established mutual aid responses.

This incident created many unique and rarely seen issues for the first arriving officers. There was exposure of smoke into other buildings requiring the assessment of multiple businesses. Access to the fire was limited because the building of origin was a block wide and there was another building adjacent to the fire building. Divisions and groups had to be established with multiple departments, some of those departments had difficulty in communicating because they did not share the same radio frequencies.

The fire was extinguished on March 30, 2014, after many companies responded to the scene, some multiple times. While the fire was the focus of the suppression crews that responded, many other issues developed and needed to be addressed by the fire department. There were multiple businesses that were unable to open because of the risk of building collapse. Power to computer servers in other buildings was provided through an underground labyrinth of tunnels that were difficult to access and there was difficulty in finding utility shut offs for the building that was on fire. The water run-off was damaging adjacent buildings and there was a concern that the water could contain hazardous materials. Additionally, the Bureau of Alcohol, Tobacco and Firearms responded with their National Response Team to assist with the fire investigation.

This specific incident was a motivation for the author to conduct research on managing an expanding incident. This research is significant to the DMFD because the DMFD is required to respond to incidents, these incidents may become an expanding incident and the DMFD officers do not possess the vital advanced knowledge to manage an expanding incident.
This ARP specifically addresses a terminal objective and enabling objective presented during the author’s attendance of the Executive Analysis of Fire Service Operation in Emergency Management (EAFSOEM) course. These objectives can be found in unit one of the student manual. The terminal objective requires the student to “be able to analyze their department’s and community’s level of preparedness” (United States Fire Administration [USFA], 2014, p. 1-1). The enabling objective states that the student “will discuss how the course content will enhance the skills and abilities needed to manage the operational component of a fire department effectively” (USFA Strategic Plan, 2014, p. 1-1). In addition to the related objectives referenced in the EAFSOEM student manual, this research project will support one of the United States Fire Administration operational goals to “promote response, local planning and preparedness for all hazards” (USFA Strategic Plan, 2014, p. 1). By reviewing the importance of preparing for the expanding incident, this project will provide suggestions for the DMFD to be better prepared for an expanding incident.

Literature Review

A vital component to understanding the problem surrounding the expanding incident is to review the applicable literature as it relates to the following: defining a cascade event, the National Incident Management System (NIMS) Directives, the potential liability related to the implementation of NIMS, NIMS compliance versus competence, the national standard for Incident Management System and Command Safety, and NIMS Principles and Practices. This literature review is gathered to make sure an adequate level of background information has been collected in order to completely understand the research problem and topics related with expanding incidents.
There are differing opinions as to what a cascading event entails. Gianluca Pescaroli and David Alexander wrote a paper titled “A definition of cascading disasters and cascading effects: Going beyond the ‘toppling dominos’ metaphor” to assist with a validated definition of cascading disasters and cascading effects. Their paper focused on defining many factors to address risk reduction practices and reduce cascading effects during disasters (Pescaroli & Alexander, 2015). Pescaroli’s and Alexander’s paper reviewed definitions from FEMA, U.S. Department of Homeland Security, and Iowa Homeland Security and Emergency Management Division. They then evaluated complex systems such as energy, food, and communications and how people react to a disruption of those systems. The paper continued and reviewed seven events that ranged from a freight rail crash and fire, floods, power blackouts, earthquakes, volcanic eruptions, and Hurricane Sandy. They concluded that “our case studies confirm that society is entering a new era…and a life in which the real and digital world can no longer be separated” (Pescaroli & Alexander, 2015, p. 10).

The conclusion section of Pescaroli’s and Alexander’s paper was a coherent definition of cascading effects. They stated:

Cascading effects are the dynamics present in disasters, in which the impact of a physical event or the development of an initial technological or human failure generates a sequence of events in human subsystems that result in physical, social or economic disruption. Thus, an initial impact can trigger other phenomena that lead to consequences with significant magnitudes. Cascading effects are complex and multi-dimensional and evolve constantly over time. They are associated more with the magnitude of vulnerability than with that of hazards. Low-level hazards can generate broad chain effects if vulnerabilities are widespread in the system or not addressed properly in subsystems. For these reasons, it is possible to isolate the elements of the chain and see them as individual (subsystem) disasters in their own rights. In particular, cascading effects can interact with the secondary or intangible effects of disasters (Pescaroli & Alexander, 2015, p. 10).

The National Incident Management System was created as a result of Homeland Security Presidential Directive 5. It was created to “…ensure that all levels of government across the
nation have the capability to work efficiently and effectively together, using a national approach to domestic incident management” (Homeland Security, 2003, p. 1). Created to be applicable to all hazards, not just a response to terrorist attacks. There are five components to NIMS: Preparedness, Communications and Information Management, Resource Management, Command and Management, Ongoing Management and Maintenance (U.S. Department of Homeland Security, 2008). For focus of this project only preparedness and command and management are discussed.

The preparedness piece of NIMS establishes measures and capabilities that areas of jurisdictions should develop and incorporate into their overall system. When discussing training and exercises the NIMS doctrine stated:

Training and exercise should be specifically tailored to the responsibilities of the personnel involved in incident management. Mentoring or shadowing opportunities, to allow less experienced personnel to observe those with more experience during an actual incident, should be incorporated to enhance training and exercising. Additionally, exercises should be designed to allow personnel to simulate multiple command, supervisory, or leadership roles whenever possible (U.S. Department of Homeland Security, 2008, p. 20)

Component IV: Command and Management, identified as “the most visible aspects of incident management, typically executed with a sense of urgency” (U.S. Department of Homeland Security, 2008, p. 45). There are three key ideas to command and management; they are Incident Command System, Multiagency Coordination Systems, and Public Information Systems. The Incident Command System is used daily by the DMFD and this is consistent with the intent of NIMS. NIMS states that:

Most incidents are managed locally and are typically handled by local communications/dispatch centers and emergency management/response personnel within a single jurisdiction. The majority of responses need to go no further. In other instances, incidents that begin with a single response within a single jurisdiction rapidly expand to multidisciplinary, multijurisdictional levels requiring significant additional resources and operational support (U.S. Department of Homeland Security, 2008, p. 45).
Multiagency Coordination Systems is defined as “a process that allows all levels of government and all discipline to work together more efficiently and effectively” (U.S. Department of Homeland Security, 2008, p. 64). This is often seen when the DMFD is a part of a planned event and is interacting with the Des Moines Police Department and various agencies from the State of Iowa or the federal government.

Public Information identifies “the processes, procedures, and systems to communicate timely, accurate, and accessible information on the incident’s cause, size, and current situation to the public, responders, and additional stakeholders (U.S. Department of Homeland Security, 2008, p. 70). The DMFD has an identified public information officer available 24-7 to support operational incidents and this position also participates in local training and non-emergency communication to the public in the Des Moines metro area.

Departments must do more than just say that the department follows the directives of Presidential Directive 5. In an article published in Fire Engineering in March 2009, Bradley Pinsky wrote about how a firefighter’s wife was able to successfully sue her deceased husband’s fire department.

New York State’s second highest court ruled that the failure to follow NIMS may serve as a basis for liability, as it “mandates a reasonable define and precedentially developed standard of care, and does not require the fact’s trier to ‘second guess [a firefighter’s] split-second weighing of choices’” (Pinsky, 2009, p. 3).

Pinsky goes on to state that “this surprising ruling means that first responders and their paid or volunteer agencies may be held liable for failing to adhere to those mandatory NIMS requirements. Failing to follow portions of NIMS can lead to the loss of a lawsuit” (Pinsky, 2009, p. 3). He identifies examples of NIMS directives that require to be followed because of the use of the word ‘must’. Accountability for check in, incident action plan, unity of command,
span of control, and resource tracking. Also, a department has to establish and transfer command, participate in exercise, and maintain incident management communications (Pinsky, 2009). The article concludes by challenging the reader to distinguish between policies and procedures. The recommendation is that policies are mandatory and procedures should be ‘best practices’ which allow discretion and judgment to be applied with no punitive consequences.

NIMS and the Incident Command System (ICS) are not just for the fire department but for all agencies and non-government agencies that could respond to an incident. This is discussed in Skip Kirkwood’s February 2008 article in EMWSWORLD titled “NIMS and ICS: From Compliance to Competence”. He stated that “To become ICS-competent, an EMS agency must make a concerted effort to develop and improve its competence in the use of the techniques, tools, practices, and vocabulary of ICS” (Kirkwood, 2008, p. 1). Kirkwood also stated that training is required for an agency to be able to use and function in an ICS incident. He stated “computer based training does not translate well to implementation in the field. An agency needs to devote some training time to ICS” (Kirkwood, 2008, p. 2).

Dedication to training with NIMS was the main purpose of the article “NIMS: Not a Once and Done Proposition” by Steven Grainer published in Domestic Preparedness in June 2009; Grainer talked about the initial rush of agencies to meet the federal mandate of Presidential Directive 5 and after five years, he wondered how agencies were receiving their training. He stated:

In far too many cases, individuals who received their initial training (perhaps ICS-1100, ICS-200 and IS-700) have had no further training or review – which brings up at least two important questions: (1) “How much of their [previous] training can actually be applied effectively?” (2) “If a major incident (or event) were to occur tomorrow, will there be an adequate number of appropriately trained personnel available to implement a functional incident command system – even for a short time (i.e., until more experienced and qualified resources can be deployed to assist)” (Grainer, 2009, p. 23).
Grainer went on to discuss some difficulties that agencies are going to face, changeover in personnel and how that will affect a key component of NIMS, and the interoperability of different agencies at an incident. How these agencies understand each other’s weakness and strengths and how they communicate with common terminology. Grainer stated:

These are, of course, among the most basic tenets spelled out in the NIMS and ICS guidelines. Individuals who completed IS-700, ICS-100 and perhaps ICS-200 several years ago but have had no additional training since then are probable going to be challenged, therefore, to establish basic interoperability. In short, a much greater effort is needed to ensure sustainability of the capabilities developed as a result of the initial training. NIMS was not and is not intended to be a “Once and Done” announcement (Grainer, 2009, p. 24).

The article continues by identifying two primary changes that need to occur for the emergency responder community. The first one is that there should be a revision to “current training programs to reflect the reality that personnel turnovers have occurred and will continue to occur for the foreseeable future” (Grainer, 2009, p. 24). The second primary change is that there should be “a long-term plan for maintenance of the minimum levels of proficiency achieved by personnel who have completed NIMS training. Training for compliance – sometimes called ‘check the box’ training – does not automatically ensure competence” (Grainer, 2009, p. 24).

Grainer summarizes his article by reviewing opportunities for teams to gather and continue their training. Believing that this is the most important step to maintaining proficiency, he concludes his article with the following paragraph:

The time has come to maintain, reinforce, and upgrade the knowledge, skills, and capabilities of all personnel who were trained previously. A failure to foster interoperability and sustainability caused by a failure to continue both training and practice would lead, inescapable, to the failure of the overall NIMS philosophy. The consequences of such a related series of failures are unacceptable (Grainer, 2009, p. 25).
While there are many federal documents that define the parts of NIMS and the ICS system as directed by Presidential Directive 5, the National Fire Protection Association (NFPA) 1561, the *Standard on Emergency Services Incident Management System and Command Safety* has assisted with definitions and system implementation. The origin and development of NFPA 1561 came before Presidential Directive 5. The first edition was issued in 1990 to support Fire Department Occupational Safety and Health Program. “The committee realized that the safety aspects of a functional command structure were as important as the operational coordination and effectiveness of the system” (National Fire Protection Association [NFPA], 2014, p. 1561-1).

NFPA 1561 is broken down into eight chapters and nine annexes. The eight chapters make up the requirements of the NFPA document and the annexes are presented for informational purposes only.

Chapter 4 of NPFA 1561 is titled System Implementation and Chapter 4.1 defines what the incident management system is, “the incident management system shall provide structure and coordination to the management of emergency incident operations to provide for the safety and health of emergency service organization (ESO) responders and other persons involved in those activities” (NFPA, 2014, p. 1561-9). The chapter continues by identifying and defining the training and qualifications.

Chapter 4.8 Training and Qualifications.
4.8.1* All responders who are involved in emergency operations shall be trained in the incident management and personnel accountability systems to the anticipated level of their involvement.
4.8.2 The ESO shall provide refresher training at least annually
4.8.3 Responders who are expected to perform as incident commanders or to be assigned to supervisory levels within the command structure shall be trained in and familiar with the incident management system and the particular levels at which they are expected to perform.
4.8.4 The ESO shall define training and experience requirements. (NFPA, 2014, p. 1561-10)
Appendix A assisted with explanatory information for all the chapters. When implementation is broken out in different parts, the appendix title A.4.4.9 provides information about how the incident management system is meant to provide a standard of approach. The appendix section goes on to state:

The primary objective is always to manage the incident, not to fully implement and utilize the incident management system. The incident commander should be able to apply the incident management system in a manner that supports effective and efficient management of the incident. The use of the system should not create an additional challenge for the incident commander. (NFPA, 2014, p. 1561-21)

The review of literature provided a working definition of cascading effects, valuable insight into the subject of NIMS, including the Presidential Directive that put NIMS into motion, the identification of a potential liability related to the implementation of NIMS, the misunderstanding of NIMS compliance versus competence, and finally, a national standard on Incident Management System and Command Safety that has been in place since before the Presidential Directive. One repeated finding in the literature review was that training on NIMS must be identified and continuous for its success.

Procedures

It was the intent of this ARP to create an officer development plan to improve the advanced requisite skill knowledge of the DMFD officers regarding expanding incidents. To accomplish this goal, a number of procedures were used to guarantee a sufficient amount of data was collected to satisfy the intent of this ARP. The first procedure was focused on reducing a broad problem statement into something specific that could be researched in the allotted time to complete the ARP. The second step was to recognize a purpose for the research problem and identify a number of questions to examine the problem. Then a literature review was conducted
to gather and summarize pertinent information on the topic. Additionally, the literature review
ensured that the author had a solid understanding of what others had found when researching this
topic. Several data collection instruments were used during this project. A survey was
developed for the DMFD executive command staff. A separate survey was done for the DMFD
Fire Captains. A third survey was prepared for the DMFD Fire Lieutenants and a fourth survey
was designed for the DMFD Fire Engineers, Senior Fire Medics, and Fire Medics.
Questionnaires were designed and sent to subject matter experts. An action research method was
used to answer the research problem and meet the intent of this ARP. This report is written to
the sixth edition American Psychological Associations (APA) publication manual and is also
formatted according to the requirements of the Executive Fire Officer Program’s (EFOP)
Applied Research Guidelines. In areas where there is conflict between the EFOP and APA
guidelines, the EFOP’s guidelines were followed.

The first two procedures were done while the author attended the EAFSOEM course as a
portion of the EFOP. These actions were conducted at the National Emergency Training Center
(NETC) in Emmitsburg, Maryland. The cases presented during the EAFSOEM class challenged
the author to look at how cascading events would impact the City of Des Moines. This challenge
became the idea of the problem statement for this ARP. This information assisted in developing
a purpose and three research questions to direct the author’s project. The research problem,
purpose, and questions were submitted to the evaluator for comments. After the comments were
received, the author refined the purpose statement and research questions to make the research
more specific.
The literature review was conducted with article reviews, federal documents and national standards that are collected at the DMFD. Statistical information about the DMFD was gathered from FireHouse Software®, the DMFD record management system.

In order to examine research question one: what are the current attitudes towards the Incident Command System by the DMFD staff? a survey was developed for the DMFD members. The first survey was developed for the DMFD executive command staff. The survey was distributed to eleven members of the executive command staff; the fire chief, three assistant fire chiefs, the fire marshal, and six district chiefs. The survey was developed to establish a comfort level with the command staff positions and general staff positions, a qualitative question of number of incidents where ICS was implemented beyond Incident Command (IC), Safety, and Public Information Officer (PIO), a structured question to the role that the respondent filled at the incident, and four non-structured questions that asked about NIMS courses that the respondent had attended, opportunities for improvement, perceived differences in ICS assignments, and anything to benefit the research. Surveys were distributed by email with a link to the survey attached to the email. A copy of this survey can be found in Appendix A of this ARP. A second survey was developed and delivered to the thirty DMFD Captains via an attached link in an email. As with the executive command staff survey, the survey was developed to establish a comfort level with the command staff positions and general staff positions, a qualitative question of number of incidents where ICS was implemented beyond IC, Safety, and PIO, a structured question to the role that the respondent filled at the incident, and four non-structured questions that asked about NIMS courses that the respondent had attended, opportunities for improvement, perceived differences in ICS assignments, and anything to benefit the research. A copy of this survey can be found in Appendix B of this ARP. A third
survey was developed for DMFD Lieutenants and sent via email with an attached link to twenty respondents. As with the previous surveys, the survey was developed to establish a comfort level with the command staff positions and general staff positions, a quantitative question of number of incidents where ICS was implemented beyond IC, Safety, and PIO, a structured question to the role that the respondent filled at the incident, and four non-structured questions that asked about NIMS courses that the respondent had attended, opportunities for improvement, perceived differences in ICS assignments, and anything to benefit the research. A copy of this survey can be found in Appendix C of this ARP. A fourth survey was developed for DMFD Fire Engineers, Senior Fire Medics, and Fire Medics, these positions often act in the position of a Lieutenant or Captain when the position is vacated because of a leave. There are eighty-two members of the DMFD that hold one of these positions. The survey was also developed to establish a comfort level with the command staff positions and general staff positions, a qualitative question of number of incidents where ICS was implemented beyond IC, Safety, and PIO, a structured question to the role that the respondent filled at the incident, and four non-structured questions that asked about NIMS courses that the respondent had attended, opportunities for improvement, perceived differences in ICS assignments, and anything to benefit the research. Surveys were distributed by email with a link to the survey attached to the email. A copy of this survey can be found in Appendix D of this ARP.

For research question two: how does the DMFD incorporate managing expanding incidents into officer development and officer training in the future? this was covered by the surveys listed in research question one. Additionally, questionnaires were developed for three subject matter experts. One questionnaire was for a Chief Officer for the DMFD. The chief officer was given the opportunity to require anonymity and that was their choice. A copy of this
questionnaire can be found in Appendix E of this ARP. Another questionnaire was developed for Chief Greg Chia, Fire Chief for the Indianola Fire Department and member of the Iowa Incident Management Team. A copy of this questionnaire can be found in Appendix F of this ARP. Finally, an interview was conducted with DMFD District Fire Chief Matt Porter and member of the Iowa Incident Management Team.

To address research question three: what are other jurisdictions utilizing to incorporate expanding incidents training into their officer development and officer training models? a questionnaire was written for Lieutenant Dan Schellhase, Training Lieutenant for the Ankeny Fire Department. A copy of this questionnaire can be found in Appendix G of this ARP. Furthermore, the surveys listed for research question one had an opportunity for additional comments and the questionnaires to the subject matter experts for research question two also addressed training. In addition to the surveys and questionnaires, a comprehensive analysis of discovered literature was utilized to attempt to answer this research question.

When the author was writing the question for the surveys regarding the number of incidents that expanded beyond the IC, Safety and PIO, the idea was the number of emergency incidents that the respondents had responded to while serving in their duties with the DMFD. However, the question did not specify that thought and respondents have more large scale incidents than the DMFD has had in their jurisdiction. Additionally, there are planned events outside of the emergency response that often identify some or all of the roles in the NIMS command staff and general staff positions. This was a limitation of the research and as such there were results listed by respondents from their interactions with other means of employment or through planned events.
Results

This project used an action research methodology to produce an officer development plan to improve the requisite knowledge of the DMFD officers regarding expanding incidents. The results of this research have come from a review of applicable literature, responses from surveys, individual responses to questionnaires, and personal communication with a subject matter expert. The results of the procedures section of the ARP are contained in this section.

Reviewing the results from research question one: what are the current attitudes towards the Incident Command System by DMFD staff? the surveys of the DMFD members was intended to be the best device. The total of all surveys resulted in only a thirty-eight percent response rate. The executive command staff produced a sixty-four percent response rate, the fire captains produced a forty-three percent response rate, the fire lieutenants produced a thirty-five percent response rate and the fire engineers, senior fire medics and fire medics produced a thirty-three percent response rate. The first question asked the respondent to rate their comfort level in eleven ICS assignments. The rating system was ‘no confidence’, ‘some confidence’, ‘confident’, ‘confident enough to teach’ and ‘confident enough to mentor’. Question two asked how many incidents the responder participated in where ICS was implemented beyond IC, Safety and PIO. There were choices of none through more than five. Another question asked them to identify their role in the incident where ICS was expanded and included the eleven ICS assignments asked in question one. The last four questions were non-structured and respondents answered in a free response format.

From the seven respondents of the executive command staff, one-hundred percent were ‘confident’ to ‘confident enough to mentor’ in the Incident Commander and Safety Officer ICS positions. However, no respondent answered ‘confident enough to teach’ or ‘confident enough
to mentor” for the Finance/Administration Section Chief. Four of the executive command staff have participated in more than five incidents where ICS was implemented beyond IC, Safety, and PIO, one respondent has participated in four incidents and two respondents have participated in one incident where ICS was implemented beyond IC, Safety, and PIO. For those seven respondents, none have filled the role of PIO, Finance/Administration Section Chief, or Logistics Section Chief. In the executive command staff, six of the seven respondents have completed ICS-300. For the question dealing with differences between chief level officers and company officer with regard to ICS assignment one respondent stated “The way the system is set up there shouldn’t be any, although, I don’t think company officers are comfortable being in a role that could cause them to give orders to a superior.” All results of this survey can be found in Appendix A of this ARP.

The respondents to the captain survey showed that forty-six percent have ‘no confidence’ and forty-six percent stated ‘some confidence’ with the Finance/Administration Section Chief position. Eighty-four percent have either ‘some confidence’ or ‘no confidence’ in the Planning Section Chief position and fifty-seven percent have ‘some confidence’ or ‘no confidence’ in the Logistics Section Chief position. Ninety-two percent responded between ‘confident’ to ‘confident enough to mentor’ for the Team Leader position. Of the thirteen respondents, five responded that they have participated in more than five incidents where ICS was implemented beyond IC, Safety, and PIO. Those who have responded to an incident where ICS was implemented beyond IC, Safety, and PIO, the most frequently filled position, at sixty percent, was the Group Supervisor. Four of the thirteen respondents have completed ICS-400 according to the survey. For the question asking for the differences between chief officers and company officers the respondents mostly stated that chief officers fill the command role and company
officers do the operations portions. All results of this survey can be found in Appendix B of this ARP.

For the respondents to the Lieutenant survey, one-hundred percent responded between ‘confident’ and ‘confident enough to mentor’ for the Division Supervisor, Group Supervisor and Team Leader positions. In contrast, no one responded above ‘confident’ for the positions of Incident Commander, Planning Section Chief, Finance/Administration Section Chief, Logistics Section Chief, and Branch Director. All seven respondents have been to at least two incidents where ICS was implemented beyond IC, Safety, and PIO. The majority of positions that were filled were Division Supervisor, Group Supervisor, and Team Leader. For the differences between the chief level officer and company officers with regard to ICS assignment one respondent stated “Chief level officers should fill the command staff and general staff functions, while company officers should operate at the branch level or lower.” All results of this survey can be found in Appendix C of this ARP.

The final survey was completed by Fire Engineers, Senior Fire Medics, and Fire Medics. None of the respondents marked ‘confident enough to mentor’ for the Incident Commander, Safety Officer, PIO, Operations Section Chief, Planning Section Chief, Finance/Administration Section Chief, Logistics Section Chief, or Branch Director positions. However, a small percentage responded ‘confident enough to teach’ for all positions except Finance/Administration Section Chief and Group Supervisor. The largest portion of positions that respondents marked ‘some confidence’ or below were PIO, Operations Section Chief, Planning Section Chief, Finance/Administration Section Chief, Logistic Section Chief and Branch Director. Twenty-two percent of the respondents have not participated in an incident where ICS was implemented beyond IC, Safety, and PIO. Yet, another twenty-two percent of
the respondents have also participated in more than five incidents where ICS was implemented beyond IC, Safety, and PIO. The most commonly filled position at an incident chosen by the respondents was Team Leader. For NIMS courses that have been taken, all have completed IS-700, and ICS-100; sixteen percent have competed ICS-400 and two answered that they have completed IS-800 through the free response format. For the free response format to the question: what are the differences in chief officers and company officers? there was a wide range of responses. One stated “None. Company officer can fill any of the roles at any time.” Yet another stated “Chief officers fill the higher up ‘section chief’ positions and company officers fill the division, group or team leader positions”. The final free response question resulted in a respondent stating that they participated in Patriot Guard drill with the military. Another advised “Including lower ranking individuals in training and more mentoring when appropriate will make better use and efficiency of the system”. All results of this survey can be found in Appendix D of this ARP.

Research question two: how does the DMFD incorporate managing expanding incidents into officer development and officer training in the future? was answered through a personal interview with a subject matter expert, through the two subject matter expert questionnaires, and through the free response format in the four surveys. District Chief Matt Porter, Shift Commander DMFD, is a member of the Iowa Incident Management Team (IMT) and has had many opportunities outside of the department to be involved in incidents where more than the IC, Safety, and PIO positions are staffed. He stated that the DMFD needs to develop an annual refresher for the officers at a minimum. He went on to state that ideally, a developing, expanding table-top exercise should be created to go through multiple operational periods similar to his required training for the state IMT. Chief Porter also stated that during every officer
meeting, there should be one or two hours that are spent on reviewing and defining ICS roles and responsibilities allowing the DMFD members to be more exposed to the expectations of the Command and General Staff positions (M. Porter, personal communication, November 22, 2015).

The Chief Officer who responded to the questionnaire stated that “Quite simply, training on incident command system serves to ensure skill proficiency. Classroom training, table top exercises, skill labs, active drills, and participation in after action reviews can assist to improve ICS knowledge of officers at all levels” (Chief Officer, personal communication, November 16, 2015). To the question that asked for anything else to benefit the research the Chief Officer wrote about the success the DMFD officers have with the command by exception model that is allowed at single family dwelling fires and written in the DMFD ICS S.O.G. This model allows for the department to follow pre-determined assignments for each arriving apparatus according to when they arrive on the scene (Chief Officer, personal communication, November 16, 2015).

Fire Chief Greg Chia is a subject matter expert in ICS as a member of the State of Iowa IMT. His response to the questionnaire question for ICS training necessary for a company officer was ICS 100 through ICS 400 at a minimum. (G. Chia, personal communication, November 9, 2015). When asked how his training impacted his ability to manage expanding incidents he responded, “It can be a detriment not understanding your options when expanding or downsizing your ICS structure on a specific incident. The knowledge to realize the changes necessary in an event impact it’s outcome dramatically” (G. Chia, personal communication, November 9, 2015).

The free response format from the four surveys presented the author with many ideas to incorporate expanding incidents into officer training and officer development in the future. Two
comments from the executive command staff were, “A company officer development program that include intensive exposure to ICS and ICS for expanding incidents would be a great addition” and “Whereas firefighters, engineers, and company officers maintain/improve skill proficiency by regular participation in skill practice, so should chief officers participate in incident management skill maintenance/improvement.” A captain responded “Look to bring more advanced classes to the department and integrate ICS into daily activities so that the department is more comfortable with the language.” Two responses from the Engineer, Senior Fire Medic and Fire Medic survey were “Let’s have an in house training instead of the normal get on the website and read it yourself” and “Practical exercises and table tops”.

To address the third research question: what are other jurisdictions utilizing to incorporate expanding incidents training into their officer development and officer training models? a questionnaire was sent to Lieutenant Dan Schellhase from the Ankeny Fire Department. To the direct question of opportunities used by his department to improve ICS knowledge, Lieutenant Schellhase responded:

The Ankeny Fire Department uses a multitude of ways to improve ICS knowledge, skills, and abilities. The first opportunities utilized are local classes for NIMS/ICS 100, 200, 700, and 800, which we require 100% of our membership to obtain. In addition, the department training programs allow for all levels of responders to practice initial responsibilities at scenes. Furthermore, specific company officer training utilizing simulations allows officers to establish the ICS and function in the role of the IC. Lastly, live fire training allows all members on scene to function within the ICS and practice radio discipline (D. Schellhase, personal communication, November 23, 2015).

With a separate answer to another question, Lieutenant Schellhase stated:

I believe the key to the ICS is training and with training comes efficient operations on any scene no matter the complexity. Departments need to establish a firm ICS training program and use it in every training scenario for their members to become comfortable with using it, expanding it, and terminating it (command) (D. Schellhase, personal communication, November 23, 2105).
Additional information regarding other jurisdictions efforts to incorporate expanding incident training came from the subject matter expert surveys. District Chief Porter is the Planning Section Chief for the State of Iowa IMT. For that position he has attended a weeklong training that is specific for the job duties of Planning Section Chief. Also, twice a year, in the spring and fall, the IMT is brought together and the entire team is challenged through a week long table top exercise that covers many different operational periods (M. Porter, personal communication, November 22, 2015).

Discussion

The fire that occurred March 29th, 2014 in downtown Des Moines, Iowa presented many challenges for the DMFD. The fire had grown to a building fire when the DMFD was notified. The first arriving units were quickly committed to initial operations and the incident escalated to a third alarm fire. Multiple agencies outside of the DMFD were needed to assist with the extinguishment of the fire. However, there were many cascading effects that affected the community outside of the fire suppression efforts. Busy arterial downtown streets were closed and traffic needed to be rerouted. There was difficulty in containing all of the runoff water from the suppression efforts which resulted in damage to neighboring buildings and there were concerns that the water and products of combustion were contaminated by asbestos. The smoke spread through the adjoining skywalk system, caused multiple alarms in adjacent businesses, and the heat caused windows on neighboring buildings to fail and fall onto the fireground. As the evening moved into the next day, businesses started to realize that the power for their computer servers was ran through an extensive labyrinth of underground tunnels that was affected by the fire building. These neighboring businesses had to close because utilities for their buildings had
to be shut off during suppression operations. Finally, the Bureau of Alcohol, Tobacco and Firearms was contacted to assist with the fire investigation and they responded with their National Response Team.

The DMFD has nine fire engines and five trucks in-service on a fully staffed shift. Because of the limited staffing, being prepared for and training on how to deal with an expanding incident is paramount. According to the surveys of the DMFD officers, and those positions that fill in the officers’ positions, the desire to improve and prepare through training exists. The company officers are comfortable in the positions of Team Leader, Group Supervisor and Division Supervisor. The chief officers are comfortable with the Incident Commander and Safety Officer positions. However, there is less confidence, as a group, in the other positions that often are needed in an escalating incident such as Planning Section Chief, Logistics Section Chief and Finance/Administration Section Chief. Utilizing training models from other jurisdictions, the DMFD can create a training environment where the ICS system is routinely applied.

Recommendations

After reviewing the applicable literature, the answers from the surveys, the responses to the questionnaires and personal interview; there is convincing evidence that the DMFD has an opportunity for their officers to be better prepared to respond to the cascading events from an expanding incident. Possibly through this recommendation, the DMFD can identify the potential cascading effects of an expanding incident and address the needs of the community before the negative consequences from the cascading effects are realized.
The DMFD will continue to respond and serve the needs of the community. When an incident expands beyond the capacity of the initial alarm, the negative cascading effects begins to affect other entities. Addressing the needs of these other entities affected also becomes the responsibility of the DMFD, in addition to their initial responsibilities. Therefore, the training division of the DMFD should be consulted to confirm that the lesson plan that has been created (Appendix H) as a portion of the action research methodology utilized in this ARP, is appropriately designed for its intended purpose. The end result of this lesson plan is to improve the advanced requisite knowledge of the DMFD officers necessary to manage expanding incidents. Improved advanced requisite knowledge will ensure life safety, improve accountability and reduce the negative cascading effects of expanding incidents.
References

Des Moines Fire Department. (2014). *Incident List by Alarm Date/Time* [Data File]. Des Moines, Iowa: Des Moines Fire Department.

Des Moines Fire Department. (2014). *Staff List By Name with Staff ID* [Total Staff Members]. Des Moines, Iowa: Des Moines Fire Department.


Appendix A: DMFD Executive Command Staff Survey
<table>
<thead>
<tr>
<th>Position</th>
<th>No Confidence</th>
<th>Some Confidence</th>
<th>Confident</th>
<th>Confident enough to touch</th>
<th>Confident enough to mentor</th>
<th>Total</th>
<th>Weighted Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incident Commander (IC)</td>
<td>0.00%</td>
<td>0.00%</td>
<td>25.57%</td>
<td>25.57%</td>
<td>42.00%</td>
<td>7</td>
<td>4.14</td>
</tr>
<tr>
<td>Safety Officer (Safety)</td>
<td>0.00%</td>
<td>0.00%</td>
<td>57.14%</td>
<td>0.00%</td>
<td>42.86%</td>
<td>7</td>
<td>3.65</td>
</tr>
<tr>
<td>Public Information Officer (PIO)</td>
<td>0.00%</td>
<td>42.96%</td>
<td>25.57%</td>
<td>14.29%</td>
<td>14.29%</td>
<td>7</td>
<td>3.00</td>
</tr>
<tr>
<td>Operations Section Chief</td>
<td>0.00%</td>
<td>0.00%</td>
<td>28.57%</td>
<td>28.57%</td>
<td>42.88%</td>
<td>7</td>
<td>4.14</td>
</tr>
<tr>
<td>Planning Section Chief</td>
<td>0.00%</td>
<td>28.57%</td>
<td>42.86%</td>
<td>14.29%</td>
<td>14.29%</td>
<td>7</td>
<td>4.14</td>
</tr>
<tr>
<td>Finance/Administration Section Chief</td>
<td>14.29%</td>
<td>42.96%</td>
<td>42.86%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>7</td>
<td>3.14</td>
</tr>
<tr>
<td>Logistics Section Chief</td>
<td>0.00%</td>
<td>14.29%</td>
<td>71.43%</td>
<td>14.29%</td>
<td>0.00%</td>
<td>7</td>
<td>2.29</td>
</tr>
<tr>
<td>Branch Director</td>
<td>0.00%</td>
<td>0.00%</td>
<td>14.29%</td>
<td>42.86%</td>
<td>42.88%</td>
<td>7</td>
<td>3.03</td>
</tr>
<tr>
<td>Division Supervisor</td>
<td>0.00%</td>
<td>0.00%</td>
<td>28.57%</td>
<td>28.57%</td>
<td>42.88%</td>
<td>7</td>
<td>4.14</td>
</tr>
<tr>
<td>Group Supervisor</td>
<td>0.00%</td>
<td>14.29%</td>
<td>28.57%</td>
<td>57.14%</td>
<td>4</td>
<td>7</td>
<td>4.43</td>
</tr>
<tr>
<td>Team Leader</td>
<td>0.00%</td>
<td>0.00%</td>
<td>25.57%</td>
<td>25.57%</td>
<td>42.86%</td>
<td>7</td>
<td>4.14</td>
</tr>
</tbody>
</table>
How many incidents have you participated in where ICS was implemented beyond IC, Safety and PIO?

Answered: 7   Skipped: 0

- One: 100.00% (2)
- Two: 0.00% (0)
- Three: 0.00% (0)
- Four: 100.00% (1)
- Five: 0.00% (0)
- More than five: 100.00% (4)
- None: 0.00% (0)
What role did you fill at the incident?

Answered: 7  Skipped: 0

<table>
<thead>
<tr>
<th>Role</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incident Commander (IC)</td>
<td>71.43%</td>
</tr>
<tr>
<td>Safety Officer (Safety)</td>
<td>14.29%</td>
</tr>
<tr>
<td>Public Information...</td>
<td>0.00%</td>
</tr>
<tr>
<td>Operations Section Chief</td>
<td>57.14%</td>
</tr>
<tr>
<td>Planning Section Chief</td>
<td>14.29%</td>
</tr>
<tr>
<td>Finance/Administration Section Chief</td>
<td>0.00%</td>
</tr>
<tr>
<td>Logistics Section Chief</td>
<td>0.00%</td>
</tr>
<tr>
<td>Branch Director</td>
<td>14.29%</td>
</tr>
<tr>
<td>Division Supervisor</td>
<td>28.57%</td>
</tr>
<tr>
<td>Group Supervisor</td>
<td>42.86%</td>
</tr>
<tr>
<td>Team Leader</td>
<td>0.00%</td>
</tr>
</tbody>
</table>

Total Respondents: 7
What National Incident Management System Courses have you taken?

Answered: 7  Skipped: 0

<table>
<thead>
<tr>
<th>Course</th>
<th>Total Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS-700: National Incident Management (NIMS) An Introduction</td>
<td>100.00% 7</td>
</tr>
<tr>
<td>ICS-100: Introduction to the Incident Command System</td>
<td>100.00% 7</td>
</tr>
<tr>
<td>ICS-200: ICS for Single Resources and Initial Action Incidents</td>
<td>100.00% 6</td>
</tr>
<tr>
<td>ICS-300: Intermediate ICS for Expanding Incidents</td>
<td>100.00% 6</td>
</tr>
<tr>
<td>ICS-400: Advanced ICS for Command and General Staff</td>
<td>100.00% 3</td>
</tr>
</tbody>
</table>

Comments (3)

Responses (3)  Text Analysis  My Categories

PRO FEATURE: Use text analysis to search and categorize responses; see frequently-used words and phrases. To use Text Analysis, upgrade to a GOLD or PLATINUM plan.

Upgrade  Learn more

Showing 3 responses

ICS-800
11/18/2015 10:27 PM  View respondent's answers

2 week course at NFA - Command and Control of multi alarm incidents.
11/15/2015 7:51 PM  View respondent's answers

NFA resident courses
11/6/2015 7:39 AM  View respondent's answers
Q5

What opportunities are there for improving our ICS knowledge?

Providing company and chief officers the opportunity to participate in ICS 300 and 400 classes, table top exercises, and participation in AAR’s specific to incident management.

A company officer development program that includes intensive exposure to ICS and ICS for expanding incidents would be a great addition. Also, ensuring all new hires have ICS 100, 200 & 700 should be a minimum.

I’m not sure what the opportunities are, however, I don’t feel you can train enough on it.

NFA courses, NIMS

Using table top exercises to train on escalating and cascading events. Making it mandatory that all officers attend advance training in ICS.

Q6

What are the differences between the chief level officers and company officers with regard to ICS assignments

Whereas the company officer is focused initially on establishing first due incident objectives and establishing command, chief level officers build upon the ICS until termination of the incident. Also, district chiefs respond to all regular alarms and therefore have an opportunity to remain proficient managing incidents due to repetition.

No difference, ICS doesn’t care about rank, it focuses on assignment

The way the system is set up there shouldn’t be any, although, I don’t think company officers are comfortable being in a role that could cause them to give orders to a superior.

In the past ICS training hasn’t been a priority and we have seen that lack of experience in some recent incidents. The comfort level with Chief Officer and Company officer are about the same level.
Do you have anything else to add that will benefit my research?

Answered: 2   Skipped: 5

PRO FEATURE
Use text analysis to search and categorize responses; see frequently-used words and phrases. To use Text Analysis, upgrade to a GOLD or PLATINUM plan.

Upgrade  Learn more »

Showing 2 responses

none

11/9/2015 10:27 PM   View respondent's answers

Whereas firefighters, engineers, and company officers maintain/improve skill proficiency by regular participation in skill practice, so should chief officers participate in incident management skill maintenance/improvement.

11/5/2015 7:51 PM   View respondent's answers
Appendix B: DMFD Captains Survey

What is your comfort level with the following Incident Command System (ICS) assignments?

<table>
<thead>
<tr>
<th>Role</th>
<th>No Confidence</th>
<th>Some Confidence</th>
<th>Confident</th>
<th>Confident enough to teach</th>
<th>Confident enough to mentor</th>
<th>Total</th>
<th>Weighted Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incident Commander (IC)</td>
<td>0.00%</td>
<td>38.46%</td>
<td>46.15%</td>
<td>0.00%</td>
<td>15.38%</td>
<td>13</td>
<td>2.92</td>
</tr>
<tr>
<td>Safety Officer (Safety)</td>
<td>0.00%</td>
<td>15.38%</td>
<td>61.54%</td>
<td>15.38%</td>
<td>7.69%</td>
<td>13</td>
<td>3.15</td>
</tr>
<tr>
<td>Public Information Officer (PIO)</td>
<td>15.38%</td>
<td>46.15%</td>
<td>30.77%</td>
<td>0.00%</td>
<td>7.69%</td>
<td>13</td>
<td>2.38</td>
</tr>
<tr>
<td>Operations Section Chief</td>
<td>0.00%</td>
<td>46.15%</td>
<td>46.15%</td>
<td>0.00%</td>
<td>7.69%</td>
<td>13</td>
<td>2.69</td>
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<tr>
<td>Planning Section Chief</td>
<td>23.08%</td>
<td>61.54%</td>
<td>15.38%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>13</td>
<td>1.92</td>
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<td>Finance/Administration Section Chief</td>
<td>48.15%</td>
<td>46.15%</td>
<td>7.69%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>13</td>
<td>1.62</td>
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<tr>
<td>Logistics Section Chief</td>
<td>35.46%</td>
<td>38.46%</td>
<td>23.08%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>13</td>
<td>1.85</td>
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<td>Branch Director</td>
<td>7.69%</td>
<td>38.46%</td>
<td>30.77%</td>
<td>16.38%</td>
<td>7.69%</td>
<td>13</td>
<td>2.77</td>
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<tr>
<td>Division Supervisor</td>
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<td>23.08%</td>
<td>23.08%</td>
<td>38.46%</td>
<td>15.38%</td>
<td>13</td>
<td>3.46</td>
</tr>
<tr>
<td>Group Supervisor</td>
<td>0.00%</td>
<td>15.38%</td>
<td>30.77%</td>
<td>38.46%</td>
<td>15.38%</td>
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<td>3.54</td>
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<tr>
<td>Team Leader</td>
<td>0.00%</td>
<td>7.69%</td>
<td>46.15%</td>
<td>7.69%</td>
<td>38.46%</td>
<td>13</td>
<td>3.77</td>
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<tr>
<td>One</td>
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<td>Two</td>
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<td></td>
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<tr>
<td>Three</td>
<td>100.00%</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Four</td>
<td>100.00%</td>
<td>1</td>
<td></td>
<td></td>
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<tr>
<td>Five</td>
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<td>0</td>
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<td></td>
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<td></td>
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<tr>
<td>More than five</td>
<td>100.00%</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>100.00%</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
What National Incident Management System courses have you taken?

- ICS-700: National Incident Management (NIMS) An Intro
  - Answered: 12
  - Skipped: 12
- ICS-100: Introduction to the Incident Command System
  - Answered: 12
  - Skipped: 12
- ICS-200: ICS for Single Resources & Initial Action Incidents
  - Answered: 9
  - Skipped: 9
- ICS-300: Intermediate ICS for Expanding Incidents
  - Answered: 3
  - Skipped: 3
- ICS-400: Advanced ICS for Command and General Staff
  - Answered: 4
  - Skipped: 4
What opportunities are there for improving our ICS knowledge?

Answered: 10  Skipped: 3

officer in service, classes
11/12/2015 11:36 AM     View respondent’s answers
ICS-300 was offered in an officer training environment through the department. Otherwise, any other opportunities are either through employment with volunteer agencies or something where we would step out on our own and actively seek more knowledge.
11/12/2015 4:57 AM     View respondent’s answers

Self study
11/11/2015 11:21 AM     View respondent’s answers

Send the troops to classes so they understand what it is and how it works.....
11/11/2015 6:53 AM     View respondent’s answers

Officer classes? But for the whole dept.
11/9/2015 7:14 AM     View respondent’s answers

Little to none on DMFD
11/7/2015 8:57 AM     View respondent’s answers

Training operations
11/7/2015 7:47 AM     View respondent’s answers

Reading materials and online courses
11/7/2015 8:30 AM     View respondent’s answers

Inside our department- none. NFA online and classes.
11/6/2015 8:12 PM     View respondent’s answers

Look to bring more advanced classes to the department and integrate ICS into daily activities so that the department is more comfortable with the language
11/6/2015 7:53 PM     View respondent’s answers
What are the differences between the chief level officers and company officers with regard to ICS assignments

Answered: 10  Skipped: 3

PRO FEATURE
Use text analysis to search and categorize responses: see frequently-used words and phrases. To use Text Analysis, upgrade to a GOLD or PLATINUM plan.

Upgrade  Learn more »

Categorize as...  Filter by Category  Search responses

Showing 10 responses

running the incident or as group supervisors
11/12/2015 11:36 AM  View respondent's answers

Very rarely do we have those incidents where significant escalation of the ICS is required. When they do occur, chief level officers are called back in to fill higher level ICS assignments.
11/12/2015 4:57 AM  View respondent's answers

Command staff vs General staff
11/11/2015 6:53 AM  View respondent's answers

CHIEF OFFICERS ARE MAINLY IN COMAND MODE WHILE COMPANY OFFICERS ARE PART OF THE OPERATIONS IN THE ICS SYSTEM.
11/10/2015 11:30 PM  View respondent's answers

One talks and the other does the work.
11/9/2015 7:14 AM  View respondent's answers

Company officers rarely are used for anything higher than division supervisors.
11/7/2015 8:57 AM  View respondent's answers

Planned Tactics vs executed tactics
11/7/2015 7:47 AM  View respondent's answers

Having Expanding knowledge in the area of logistics, finances
11/7/2015 6:30 AM  View respondent's answers

Company officers get dirty
11/6/2015 8:12 PM  View respondent's answers

There are no differences with rank and ICS assignments
11/6/2015 7:53 PM  View respondent's answers
Do you have anything else to add that will benefit my research?

There are a lot of parts in the ICS and as a company officer, not much need in some of the areas.
11/12/2015 11:36 AM  View respondent's answers

I do not believe so.
11/12/2015 4:57 AM  View respondent's answers

No
11/9/2015 7:14 AM  View respondent's answers

No
11/7/2015 7:47 AM  View respondent's answers
### Appendix C: DMFD Lieutenants Survey

#### Q1: What is your comfort level with the following Incident Command System (ICS) assignments?

<table>
<thead>
<tr>
<th>Role</th>
<th>No Confidence</th>
<th>Some Confidence</th>
<th>Confident</th>
<th>Confident enough to teach</th>
<th>Confident enough to mentor</th>
<th>Total</th>
<th>Weighted Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incident Commander (IC)</td>
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<td>71.43%</td>
<td>0.00%</td>
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<td>14.29%</td>
<td>57.14%</td>
<td>14.29%</td>
<td>14.29%</td>
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<td>3.29</td>
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<tr>
<td>Public Information Officer (PIO)</td>
<td>57.14%</td>
<td>14.29%</td>
<td>14.29%</td>
<td>14.29%</td>
<td>0.00%</td>
<td>7</td>
<td>1.86</td>
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<tr>
<td>Operations Section Chief</td>
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<td>42.86%</td>
<td>28.57%</td>
<td>14.29%</td>
<td>0.00%</td>
<td>7</td>
<td>2.43</td>
</tr>
<tr>
<td>Planning Section Chief</td>
<td>42.86%</td>
<td>28.57%</td>
<td>28.57%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>7</td>
<td>1.86</td>
</tr>
<tr>
<td>Finance/Administration Section Chief</td>
<td>57.14%</td>
<td>28.57%</td>
<td>14.29%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>7</td>
<td>1.57</td>
</tr>
<tr>
<td>Logistics Section Chief</td>
<td>42.86%</td>
<td>14.29%</td>
<td>42.86%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>7</td>
<td>2.00</td>
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<tr>
<td>Branch Director</td>
<td>14.29%</td>
<td>14.29%</td>
<td>71.43%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>7</td>
<td>2.57</td>
</tr>
<tr>
<td>Division Supervisor</td>
<td>0.00%</td>
<td>0.00%</td>
<td>71.43%</td>
<td>14.29%</td>
<td>14.29%</td>
<td>7</td>
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<tr>
<td>Group Supervisor</td>
<td>0.00%</td>
<td>0.00%</td>
<td>71.43%</td>
<td>14.29%</td>
<td>14.29%</td>
<td>7</td>
<td>3.43</td>
</tr>
<tr>
<td>Team Leader</td>
<td>0.00%</td>
<td>0.00%</td>
<td>71.43%</td>
<td>0.00%</td>
<td>28.57%</td>
<td>7</td>
<td>3.57</td>
</tr>
</tbody>
</table>
How many incidents have you participated in where ICS was implemented beyond IC, Safety and PIO?

Answered: 7  Skipped: 0

<table>
<thead>
<tr>
<th></th>
<th>One</th>
<th>Two</th>
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<td>100.00%</td>
<td>100.00%</td>
<td>0.00%</td>
<td>100.00%</td>
<td>0.00%</td>
</tr>
</tbody>
</table>
What opportunities are there for improving our ICS knowledge?

Answered: 4  Skipped: 3

Responses (4)  Text Analysis  My Categories

PRO FEATURE
Use text analysis to search and categorize responses; see frequently-used words and phrases. To use Text Analysis, upgrade to a GOLD or PLATINUM plan.

Upgrade  Learn more »

Showing 4 responses

training
11/11/2015 7:20 AM  View respondent's answers

QJ
11/9/2015 1:27 PM  View respondent's answers

more training on table top incidents events
11/9/2015 7:34 AM  View respondent's answers

Multiple classes in area are offered
11/8/2015 4:47 PM  View respondent's answers
What role did you fill at the incident?

Answered: 7  Skipped: 0

<table>
<thead>
<tr>
<th>Role</th>
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<tbody>
<tr>
<td>Incident Command (IC)</td>
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</tr>
<tr>
<td>Safety Officer (Safety)</td>
<td>100.00%</td>
<td>4</td>
</tr>
<tr>
<td>Public Information Officer (PIO)</td>
<td>100.00%</td>
<td>1</td>
</tr>
<tr>
<td>Operations Section Chief</td>
<td>0.00%</td>
<td>0</td>
</tr>
<tr>
<td>Planning Section Chief</td>
<td>0.00%</td>
<td>0</td>
</tr>
<tr>
<td>Finance/Administration Section Chief</td>
<td>0.00%</td>
<td>0</td>
</tr>
<tr>
<td>Logistics Section Chief</td>
<td>0.00%</td>
<td>0</td>
</tr>
<tr>
<td>Branch Director</td>
<td>100.00%</td>
<td>1</td>
</tr>
<tr>
<td>Division Supervisor</td>
<td>100.00%</td>
<td>2</td>
</tr>
<tr>
<td>Group Supervisor</td>
<td>100.00%</td>
<td>5</td>
</tr>
<tr>
<td>Team Leader</td>
<td>100.00%</td>
<td>5</td>
</tr>
</tbody>
</table>
Q5

What are the differences between the chief level officers and company officers with regard to ICS assignments

Answered: 6  Skipped: 2

PRO FEATURE
Use text analysis to search and categorize responses; see frequently-used words and phrases. To use Text Analysis, upgrade to a GOLD or PLATINUM plan.

Upgrade  Learn more »

Showing 5 responses

many
11/1/2015 7:20 AM  View respondent's answers

NONE
11/6/2015 1:27 PM  View respondent's answers

Less flexibility and more integration into the ICS model. Less free-lancing
11/6/2015 7:34 AM  View respondent's answers

Chief level officers should fill the command staff and general staff functions, while company officers should operated at the branch level or lower
11/6/2015 4:47 PM  View respondent's answers

Company officers are not utilized once the chief officers arrive
11/6/2015 10:24 PM  View respondents answers

Q6

Do you have anything else to add that will benefit my research?

Answered: 2  Skipped: 5

PRO FEATURE
Use text analysis to search and categorize responses; see frequently-used words and phrases. To use Text Analysis, upgrade to a GOLD or PLATINUM plan.

Upgrade  Learn more »

Showing 2 responses

no
11/1/2015 7:20 AM  View respondent's answers

none
11/8/2015 4:47 PM  View respondent's answers
What National Incident Management System courses have you taken?

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Total Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICS-700: National Incident Management (NIMS) An Introduction</td>
<td>100.00% 6</td>
</tr>
<tr>
<td>ICS-100: Introduction to the Incident Command System</td>
<td>100.00% 6</td>
</tr>
<tr>
<td>ICS-200: ICS for Single Resources and Initial Action Incidents</td>
<td>100.00% 6</td>
</tr>
<tr>
<td>ICS-300: Intermediate ICS for Expanding Incidents</td>
<td>100.00% 1</td>
</tr>
<tr>
<td>ICS-400: Advanced ICS for Command and General Staff</td>
<td>100.00% 2</td>
</tr>
</tbody>
</table>
Appendix D: DMFD Engineers, Senior Fire Medics, Fire Medics Survey

**Question:** What is your comfort level with the following Incident Command System (ICS) assignments?

<table>
<thead>
<tr>
<th>Position</th>
<th>No Confidence</th>
<th>Some Confidence</th>
<th>Confident</th>
<th>Confident enough to teach</th>
<th>Confident enough to mentor</th>
<th>Total</th>
<th>Weighted Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incident Commander (IC)</td>
<td>7.41%</td>
<td>40.74%</td>
<td>45.74%</td>
<td>11.11%</td>
<td>0.00%</td>
<td>27</td>
<td>2.56</td>
</tr>
<tr>
<td>Safety Officer (Safety)</td>
<td>3.70%</td>
<td>37.04%</td>
<td>55.56%</td>
<td>3.70%</td>
<td>0.00%</td>
<td>27</td>
<td>2.59</td>
</tr>
<tr>
<td>Public Information Officer (PIO)</td>
<td>22.22%</td>
<td>44.44%</td>
<td>23.83%</td>
<td>3.70%</td>
<td>0.00%</td>
<td>27</td>
<td>2.15</td>
</tr>
<tr>
<td>Operations Section Chief</td>
<td>14.81%</td>
<td>40.74%</td>
<td>37.04%</td>
<td>7.41%</td>
<td>0.00%</td>
<td>27</td>
<td>2.37</td>
</tr>
<tr>
<td>Planning Section Chief</td>
<td>29.63%</td>
<td>48.15%</td>
<td>18.52%</td>
<td>3.70%</td>
<td>0.00%</td>
<td>27</td>
<td>1.96</td>
</tr>
<tr>
<td>Finance/Administration Section Chief</td>
<td>48.15%</td>
<td>40.74%</td>
<td>11.11%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>27</td>
<td>1.63</td>
</tr>
<tr>
<td>Logistics Section Chief</td>
<td>33.33%</td>
<td>51.85%</td>
<td>11.11%</td>
<td>3.70%</td>
<td>0.00%</td>
<td>27</td>
<td>1.85</td>
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<tr>
<td>Branch Director</td>
<td>25.93%</td>
<td>37.04%</td>
<td>23.83%</td>
<td>7.41%</td>
<td>0.00%</td>
<td>27</td>
<td>2.19</td>
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<tr>
<td>Division Supervisor</td>
<td>14.81%</td>
<td>25.93%</td>
<td>48.16%</td>
<td>7.41%</td>
<td>3.70%</td>
<td>27</td>
<td>2.69</td>
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<tr>
<td>Group Supervisor</td>
<td>3.70%</td>
<td>25.93%</td>
<td>55.56%</td>
<td>0.00%</td>
<td>11.11%</td>
<td>27</td>
<td>2.05</td>
</tr>
<tr>
<td>Team Leader</td>
<td>3.70%</td>
<td>18.52%</td>
<td>58.26%</td>
<td>7.41%</td>
<td>11.11%</td>
<td>27</td>
<td>3.04</td>
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</tbody>
</table>
How many incidents have you participated in where ICS was implemented beyond IC, Safety and PIO?

Answered: 27  Skipped: 0

<table>
<thead>
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<th>Total</th>
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<tr>
<td>Four</td>
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</tr>
<tr>
<td>Five</td>
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</tr>
<tr>
<td>More than five</td>
<td>100.00%</td>
</tr>
<tr>
<td>None</td>
<td>100.00%</td>
</tr>
</tbody>
</table>
What role did you fill at the incident?

Incident Commander (IC): 100.00% (3 respondents)
Safety Officer (Safety): 100.00% (6 respondents)
Public Information Officer (PIO): 100.00% (1 respondent)
Operations Section Chief: 100.00% (1 respondent)
Planning Section Chief: 100.00% (1 respondent)
Finance/Administration Officer: 100.00% (1 respondent)
Logistics Section Officer: 100.00% (1 respondent)
Branch Director: 100.00% (2 respondents)
Division Supervisor: 100.00% (4 respondents)
Group Supervisor: 100.00% (3 respondents)
Team Leader: 100.00% (12 respondents)

Comments (7):
- N/A
- Firefighter
- Firefighter
- Team Member
- Firefighter/Senior Medic in operations
- None
- Firefighter
What National Incident Management System Courses have you taken?

Answered: 25  Skipped: 2

<table>
<thead>
<tr>
<th>Course</th>
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</tr>
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<tbody>
<tr>
<td>ICS-700: National Incident Management (NIMS) An Introduction</td>
<td>100.00% 23</td>
</tr>
<tr>
<td>ICS-100: Introduction to Incident Command System</td>
<td>100.00% 23</td>
</tr>
<tr>
<td>ICS-200: ICS for Single Source Incident Command and Initial Action Incidents</td>
<td>100.00% 18</td>
</tr>
<tr>
<td>ICS-300: Intermediate ICS for Expanding Incidents</td>
<td>100.00% 7</td>
</tr>
<tr>
<td>ICS-400: Advanced ICS for Command and General Staff</td>
<td>100.00% 4</td>
</tr>
</tbody>
</table>

Comments (3)
What opportunities are there for improving our ICS knowledge?

Showing 17 responses

- More hands on utilization
  11/19/2015 4:41 PM  View respondent’s answers
  NFA classes and practice.
  11/16/2015 4:00 PM  View respondent’s answers

- Participation in larger drills, ICS and NIMS classes.
  11/10/2015 7:39 AM  View respondent’s answers

- Lets have an in house training instead of the normal, get on the website and read it yourself.
  11/9/2015 12:50 PM  View respondent’s answers

- Review with officers and training division?
  11/8/2015 12:05 PM  View respondent’s answers

- Hands-on training vs. reading from textbook
  11/8/2015 7:24 AM  View respondent’s answers

- Practical exercises and table tops.
  11/8/2015 6:30 AM  View respondent’s answers

Showing 17 responses

- Training.
  11/8/2015 5:49 AM  View respondent’s answers

- NIMS?
  11/8/2015 1:44 PM  View respondent’s answers

- Monthly station training
  11/8/2015 8:18 AM  View respondent’s answers

- Online
  11/8/2015 7:45 AM  View respondent’s answers

- NFA courses; participation in active drills; self-study
  11/7/2015 7:57 PM  View respondent’s answers

- Shadow commanders day to day. Know what their job is. I have little idea what a DC does everyday. That would help me make their job easier if I know how to be useful.
  11/7/2015 1:12 PM  View respondent’s answers

- Other than classes or military cooperation not many.
  11/7/2015 12:32 PM  View respondent’s answers

- Refresher training, table top exercises, and use of the system.
  11/7/2015 11:17 AM  View respondent’s answers

- College courses, fire schools, NFA
  11/7/2015 8:15 AM  View respondent’s answers

- Many
  11/6/2015 7:53 PM  View respondent’s answers
What are the differences between the chief level officers and company officers with regard to ICS assignments

Answered: 14  Skipped: 13

Categorize as...  Filter by Category  Search responses

Showing 14 responses

Assignments not always made equally by officers
11/19/2015 4:41 PM  View respondent's answers

None. Company officers can fill any of the roles at any time.
11/16/2015 4:00 PM  View respondent's answers

Depending on event, filling different levels of the ICS.
11/10/2015 7:39 AM  View respondent's answers

Chief officers fill the higher up "section chief" positions and company officers fill the division, group or team leader positions.
11/9/2015 12:50 PM  View respondent's answers

Chief officers manage from a distance, company officers manage in the immediate incident area while most likely being engaged in the battle.
11/9/2015 12:05 PM  View respondent's answers

Comparing strategic vs tactical?
11/9/2015 6:58 AM  View respondent's answers

None. We all need to know the ICS.
11/9/2015 5:49 AM  View respondent's answers

Overall knowledge
11/8/2015 5:18 AM  View respondent's answers

Strategy and tactical considerations
11/8/2015 7:45 AM  View respondent's answers

Chief-level officers are probably more well-versed at the financial/logistical aspects, while company-level officers would be well-suited to operations and safety.
11/7/2015 7:57 PM  View respondent's answers

Access to larger resources and personal needs.
11/7/2015 1:12 PM  View respondent's answers

As I understand to be a chief level officer, you do not need to be a company officer. Therefore there are no direct requirements to meet or performance checks other than competency and a willingness to lead.
11/7/2015 12:32 PM  View respondent's answers

In our organization the company level officers typically manage task based operations.
11/7/2015 11:17 AM  View respondent's answers

Chief level officers tend to be more involved in the planning, finance, and logistics where the company officers are more involved with the incident itself and occupying the IC, Safety officer positions, and Operations.
11/7/2015 8:15 AM  View respondent's answers
Do you have anything else to add that will benefit my research?

Answered: 9    Skipped: 18

**PRO FEATURE**

Use text analysis to search and categorize responses; see frequently-used words and phrases. To use Text Analysis, upgrade to a GOLD or PLATINUM plan.

**Up****R***

Learn more »

Showing 9 responses

Mark, I had the chance to participate in Patriot Guard drill in Wisconsin last year. Not real sure what you could get out of it or if it will benefit your research or not? Just FYI
11/10/2015 7:39 AM    View respondent’s answers

No. Good luck!
11/9/2015 12:50 PM    View respondent’s answers

We need at least one class day a year of officers training for this and other things for those actively pursuing promotional consideration as an officer.
11/9/2015 12:05 PM    View respondent’s answers

The IC needs tools available to better track multiple items on location.
11/9/2015 6:58 AM    View respondent’s answers

Good luck
11/8/2015 8:18 AM    View respondent’s answers

There needs to be an Officer Development Program for aspiring officers offered before they become officers not after.
11/8/2015 7:45 AM    View respondent’s answers

Are you going to look at civilian implementation as compared to military as the structure may be different and offer other solutions.
11/7/2015 12:32 PM    View respondent’s answers

Including lower ranking individuals in training and more mentoring when appropriate will make better use and efficiency of the system.
11/7/2015 11:17 AM    View respondent’s answers

Nope
11/7/2015 8:15 AM    View respondent’s answers
Dear Chief Officer,

Many fire departments train countless hours for low frequency events that can pose high risks to the responders. As I am sure that you are aware, events that cascade and require an expansion of the Incident Command System are a very low frequency event. It is critical that departments remain prepared for expanding incidents.

I am currently working on my third applied research project for the National Fire Academy’s Executive Fire Officer Program. I have chosen to examine managing expanding incidents and your knowledge as a Chief Officer would be a great asset to my research. I am aware that time is valuable and that you have a busy schedule. However, your completion of the enclosed questionnaire will provide me with unique insight and knowledge into managing expanding incidents. I am certain that the importance of the research being conducted will support the time required to complete the questionnaire.

I hope that you find the enclosed questionnaire interesting to answer and that you complete the questionnaire in a timely manner. If you have any questions about the questionnaire please contact me directly at 515-979-5653. Completed questionnaire should be returned via email to mhdooley@dmgov.org.

If required, anonymity is possible. Please show whether or not you require anonymity by answering question #9 of the questionnaire. If possible, I would prefer to include your name in my research project.

Respectfully,

Mark Dooley
Captain
Des Moines Fire Department
SUBJECT MATTER EXPERT INCIDENT COMMAND SYSTEM QUESTIONNAIRE

Questionnaire completed by (name/title)

Phone:

Email:

Incident Command System Questions:
1. As Chief Officer what are your expectations of Fire Lieutenants for implementing the Incident Command System (ICS) at incidents?
2. As Chief Officer what are your expectations of Fire Captains for implementing the ICS at incidents?
3. As a Chief Officer what are your expectations of District Fire Chiefs for implementing the ICS at incidents?
4. What opportunities are there for improving our ICS knowledge?
5. What are the strengths of the Des Moines Fire Department Company Officers?
6. What are the weaknesses of the Des Moines Fire Department Company Officers?
7. What are the differences between the chief level officers and the company officers with ICS assignments?
8. Do you have anything else to add that will benefit my research?
9. Do you require anonymity for the purposes of this questionnaire?
Appendix F: Incident Management Subject Matter Expert Questionnaire

November 4, 2015
Gregory Chia
Fire Chief, City of Indianola
110 N 1st Street
Indianola, Iowa 50125

Dear Chief Chia,

Many fire departments train countless hours for low frequency events that can pose high risks to the responders. As I am sure that you are aware, events that cascade and require an expansion of the Incident Command System are a very low frequency event. It is critical that departments remain prepared for expanding incidents.

I am currently working on my third applied research project for the National Fire Academy’s Executive Fire Officer Program. I have chosen to examine managing expanding incidents and your knowledge as a member of the Iowa Incident Management Team would be a great asset to my research. I am aware that time is valuable and that you have a busy schedule. However, your completion of the enclosed questionnaire will provide me with unique insight and knowledge into managing expanding incidents. I am certain that the importance of the research being conducted will support the time required to complete the questionnaire.

I hope that you find the enclosed questionnaire interesting to answer and that you complete the questionnaire in a timely manner. If you have any questions about the questionnaire please contact me directly at 515-979-5653. Completed questionnaire should be returned via email to mhdooley@dmgov.org.

If required, anonymity is possible. Please show whether or not you require anonymity by answering question #4 of the questionnaire. If possible, I would prefer to include your name in my research project.

Respectfully,

Mark Dooley
Captain
Des Moines Fire Department
SUBJECT MATTER EXPERT INCIDENT COMMAND SYSTEM QUESTIONNAIRE

Questionnaire completed by (name/title)

Phone:

Email:

Incident Command System Questions:
1. What training have you receive regarding Incident Command System (ICS)?
2. What training in ICS do you think is necessary for a company officer?
3. How has that training or lack of training impacted your ability to manage expanding incidents?
4. Do you require anonymity for the purposes of this questionnaire?
Appendix G: Training Subject Matter Expert Questionnaire

November 22, 2015
Dan Schellhase
Training Lieutenant
Ankeny Fire Department
120 NW Ash
Ankeny, Iowa 50023

Dear Lieutenant Schellhase,

Many fire departments train countless hours for low frequency events that can pose high risks to the responders. As I am sure that you are aware, events that cascade and require an expansion of the Incident Command System are a very low frequency event. It is critical that departments remain prepared for expanding incidents.

I am currently working on my third applied research project for the National Fire Academy’s Executive Fire Officer Program. I have chosen to examine managing expanding incidents and your knowledge as the Training Lieutenant for the Ankeny Fire Department would be a great asset to my research. I am aware that time is valuable and that you have a busy schedule. However, your completion of the enclosed questionnaire will provide me with unique insight and knowledge into managing expanding incidents. I am certain that the importance of the research being conducted will support the time required to complete the questionnaire.

I hope that you find the enclosed questionnaire interesting to answer and that you complete the questionnaire in a timely manner. If you have any questions about the questionnaire please contact me directly at 515-979-5653. Completed questionnaire should be returned via email to mhdooley@dmgov.org.

If required, anonymity is possible. Please show whether or not you require anonymity by answering question #7 of the questionnaire. If possible, I would prefer to include your name in my research project.

Respectfully,

Mark Dooley
Captain
Des Moines Fire Department
SUBJECT MATTER EXPERT INCIDENT COMMAND SYSTEM QUESTIONNAIRE

Questionnaire completed by (name/title)

Phone:

Email:

Incident Command System Questions:
1. As the Training Lieutenant what are your expectations of Fire Lieutenants for implementing the Incident Command System (ICS) at incidents?
2. As the Training Lieutenant what are your expectations of Fire Captains for implementing the ICS at incidents?
3. As the Training Lieutenant what are your expectations of Chief Officers for implementing the ICS at incidents?
4. What opportunities have you used to improve your departments ICS knowledge?
5. What are the differences between the chief level officers and the company officers with ICS assignments?
6. Do you have anything else to add that will benefit my research?
7. Do you require anonymity for the purposes of this questionnaire?
Appendix H: Sample Officer Training ICS Lesson Plan

Incident Command System  
Subject: Expanding Incidents  
Audience: Des Moines Fire Department Officers  
Topic: Identifying Cascading Effects

<table>
<thead>
<tr>
<th>Goals:</th>
<th>Students will be able to:</th>
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<tr>
<td></td>
<td>1. Identify roles and responsibilities within IMS Command Staff positions</td>
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<td>2. Identify roles and responsibilities within IMS General Staff positions</td>
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<td>3. Identify how decisions made early in an incident prepare the responder for a potentially expanding event.</td>
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<td>4. Identify potential cascading effects of an expanding event</td>
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<td>5. Identify how the ICS can prepare the officer to respond to the cascading effects</td>
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| Objectives: | After completing the lesson, students will be able to identify the established command and general staff positions. Students will understand the impact of their initial decisions. Students will understand how results of their decisions may affect other entities impacted by the incident and how to respond to those other entities. |

| Materials: | Classroom, easels, ICS forms, maps, paper, pens, markers and training radios and phones. |

| Introduction: | Review IMS Command and General Staff positions. Show case studies how cascading events affected the community. |

| Development: | Instructor will inform students of benefits of the ICS system. Explain and show how initial decisions affect the outcome of an incident. Show how to identify potential cascading effects at an expanding incident. Explain and show how cascading effects affect other entities. Demonstrate how to respond to the needs of the other entities. |

| Practice: | Students will show mastery of the objectives by participating in a table-top exercise that covers multiple operational periods. The student will identify their roles and responsibilities for an assigned Command or General Staff position, demonstrate the impact of their initial decisions and respond correctly to other entities affected by cascading effects of the expanding incident. |

| Evaluation: | Students will be evaluated by instructors throughout the table-top exercise. |