Dedicated Incident Management Team Concepts for

The Orange County Fire Department

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Certification Statement

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Abstract

During Orange County Fire Rescues 27 year history the department has experienced its fair share of complex emergency and non-emergency large scale events. The problem is that the Orange County Fire and Rescue Department (OCFRD) does not have a dedicated local Incident Management Team (IMT). The purpose of this research is to demonstrate why the agency needs a dedicated local IMT in lieu of the current ad-hoc approach to incident management. Using descriptive research to demonstrate why a dedicated team would improve complex incident management the following questions were answered: (a) How are IMTs effective at managing complex incidents? (b) Who should be part of an IMT? (c) How will a dedicated local IMT improve incident management? Research for this project included a comprehensive literature review and a survey of the four Florida Division of Forestry Type -2 Incident Management Teams. Results demonstrated that the OCFRD should select and train a dedicated local IMT. The selection of team members should be based on personal attributes such as experience, proven ability to work in a team environment, and effective communications skills. Additional findings included that IMTs are successful because the concept uses a simple structure, chain-of command, and unity of command to manage dynamic and complex incidents. Finally, IMTs are high performance teams acting interdependently and independently to manage fast moving incidents by engaging in collective decisions being made while challenging and questioning those decisions in heedful and respectful manner, norms leading high performance teams to success.
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Introduction

An Incident Management Team (IMT) is made up of command and general staff members as part of the Incident Command System (ICS). Persons who fill these positions for various incidents or events are usually pre-designated to ensure that members have the necessary training and experience to effectively mitigate a situation. A team, when activated must be able to take command of or assist with managing an incident on or before the beginning of the next operational period (Federal Emergency Management Agency [FEMA], 2007). The fire service has embraced ICS as a tool to effectively manage both complex and minor incidents, as well as planned or unplanned events. IMTs were developed to manage complex incidents expanding beyond one operational period (FEMA, 2007).

Frequently, individuals from different jurisdictions or agencies make up IMTs. This may present a problem as team dynamics will influence incident management and teamwork during abnormal operations requires a high degree of anticipation and consistency to achieve maximum efficiency (Bea, 2008). “Teams must be built on a professional level and on a personal level and this is a must to foster trust, loyalty, and respect” (Lubnau II & Okray, 2004, p. 154) A better method could be to establish a local IMT that can be deployed to manage complex emergency incidents or large scale events.

The problem is that the Orange County Fire and Rescue Department does not have its own dedicated IMT. The purpose of this research is to demonstrate the need to have a local dedicated IMT. Descriptive research was used establishing why a dedicated team would improve incident management. To determine if this concept is
beneficial the following questions were answered: (a) How are IMTs effective at managing complex incidents? (b) Who should be part of an IMT? (c) How will a dedicated local IMT improve incident management?

Background and Significance

Orange County Fire Rescue Department is an Internationally Accredited Metro-Class fire and rescue department located in Central Florida. The department provides services to the 786 square miles of unincorporated Orange County. The fixed population of 786,000 is bolstered daily by over 200,000 transient workers and a tourist population that exceeds 45 million annually (Orange County Fire Rescue Self Assessment Document [SORC], 2006). Services include fire suppression, emergency management, emergency medical services (EMS), hazardous materials, technical rescue response, fire inspection services, and public safety education. Service is accomplished through the strategic placement of 42 fire stations, 41 engine companies, 29 Advanced Life Support rescue units, four ladder trucks, two Quints, six tankers, three combination hazardous materials / technical rescue squads, 16 Wildland interface response vehicles, one air ambulance and 1150 operational and support personnel. Daily supervision is provided by one shift assistant chief, six battalion chiefs, and three EMS supervisors (OCFRD Annual Report, 2007). OCFRD’s 42 fire stations are distributed to maintain a response time performance standard of 8:00 minutes 75% of the time countywide (SORC, 2006).

During the agencies 27 year history the department has experienced its fair share of complex incidents as well as planned events. Examples include numerous multiple alarm fires, hazardous materials incidents, wildland urban interface fires,
natural disasters, World Cup Soccer qualifying, Presidential visits, and Presidential candidate rallies (SORC, 2006). In addition, Orange County Florida is home to one of the largest convention centers in the World and biennially hosts the Home Builder’s Show, which is the largest indoor display of built homes in the United States (SORC, 2006).

The agency utilizes the Incident Command System (ICS) on any incident excluding routine emergency medical calls and auto-accidents (OCFRD-EOP 3.0, 2008). According to the OCFRD Standard of Cover Risk Analysis (SORC, 2006) Orange County is susceptible to a myriad of natural and man-made disasters. This risk profile is based on historical data and establishes the jurisdiction is vulnerable to significant incidents. The agency is National Incident Management System (NIMS) compliant and all command level officers above the rank of captain have been instructed in ICS- 300 and ICS- 400. The use of NIMS terminology and structure is common place and well coordinated during routine emergency operations. However, the agency has limited experience in establishing and utilizing a full IMT. Another challenge exists, during multi-alarm or non-routine operations, senior chief officers’ respond to the scene without pre-designated ICS roles. Pre-designated ICS positions utilizing an IMT concept would improve overall effectiveness and would allow for senior officers experience to be utilized to the fullest extent.

Interest in this research is to determine how a dedicated local IMT would enhance operational effectiveness. It is anticipated that a dedicated local IMT would increase the effective use of resources and improve decision making.
This research examines principles of the Incident Command System being taught at the National Fire Academy (NFA) during the Executive Analysis of Fire Service Operations in Emergency Management in Unit Two of the Student Manual pages SM 2-3 thru SM 2-13 (Federal Emergency Management Agency [FEMA], 2007), “Incident Command Systems.”

This project could prove beneficial to other jurisdictions that aspire to establish a dedicated local IMT. It will allow for objective decisions to be made based on researched evidence on establishing a dedicated local IMT.

Lastly, this research relates to several of the United States Fire Administration’s operational objectives: First, developing and utilizing IMTs is an emerging issue for the fire service and ensuring that a highly trained and dedicated IMT is available in a community the size of Orange County would promote a comprehensive multi-hazard risk reduction plan led by the fire service.

Literature Review

An emergency incident is synonymous with crisis and is defined as by Bieber (1988) as “an unstable period of time during which an impending change may lead to an undesirable outcome.”

Very few empirical studies of crisis management exist. Much of the research on crisis and crisis management is therefore normative or of a prescriptive nature (Sheaffer & Mano-Negrin, 2003). Previous studies have focused on post incident communications and post-crisis management. However, several instances in the successful use of IMTs during recent crisis incidents can be cited: These include the Attack on America on September 11, 2001 and the Space Shuttle Columbia disaster in 2003.
Days after the Attack on America during 2001, a United States Forest Service Type-1 IMT Incident Management Team was sent to New York City to assist the Fire Department of New York to develop an Incident Action Plan for rescue and recovery efforts at the World Trade Center (Federal Emergency Management Agency [FEMA], 2004).

In February 2003, the space shuttle Columbia broke up on re-entry, following a 16-day research mission in space. In the months that followed, 21 Incident Management Teams (IMTs) and members of the United States Forest Service personnel conducted a ground search covering 680,000 acres – extending approximately 250 miles between the vicinity of Dallas, Texas and Fort Polk, Louisiana. The IMTs involved in the Columbia recovery operation not only performed the largest response to a tragedy in U.S. history; they tested the effectiveness and plausibility of using the Incident Command System (ICS) that is widely employed in the management of wildfires (Gardner, 2004).

According to Bieber (1988), crisis situations turn into disasters when parties are unprepared. Most incidents can be predicted and planned for, however before “developing plans and committing them to writing, crisis team members must be selected” (Bieber, 1988, p. 72). There are three approaches to dealing with crisis that Bea (2008) proposes:

First is a proactive approach which attempts to mitigate potential failures and the consequences through design and training. The second type is a reactive methodology that attempts to learn from previous failures. Finally, an interactive approach; this method starts with proactive planning and takes advantage of existing team training, experience, and communications skills. Using the interactive approach requires teambuilding, communications, interaction, and trust. These attributes may only be achieved by previous experiences of working together either while training or during a crisis situation.

Fundamental management principles and team structure play an important role in successful outcomes during crises (Cannon & Cannon, 2003). The first principle is the chain-of-command, “which is an unbroken line of authority that extends from the top
of the organization to the lowest echelon and clarifies who reports to whom” (Robbins, 2003, p. 429). A discussion on the chain of command would be incomplete without two other principles: These include authority and unity-of command, “Authority refers to the rights inherent in a managerial position to give orders and expect the orders to be obeyed” and the unity-of-command principle helps preserve the concept of an unbroken line of authority” (Robbins, 2003, p. 429). The next area that must be examined is that of team structure. Robbins (2003) purports that a simple structure is characterized by a low degree of departmentalization, wide spans of control, authority centralized in a single person, and little formalization. Robbins (2003) also believes that in times of crisis, large corporations become simple structures for short periods of time. One example from corporate America is that of IBM during the 1990’s. New Chief Executive Officer Louis Gerstner put IBM in “survival mode” and reorganized IBM into a simple structure for over a year pulling IBM from the brink of disaster. Sheppard (2003) reports, organizationally, IBM had become a decentralized fiefdom which none of the business units communicated with each other and therefore needed basic structural changes to re-focus the computer giant.

“Teamwork involves the integration of efforts and expertise from at least two individuals to achieve a common goal or goals” (Dictionary of Vocational Psychology, n.d.). Examples of effective team work can be found in industries parallel with the fire service such as aviation, military services, and the medical profession. Most teams are assembled to address a crisis situation or deal with complex issues (Bea, 2008). Each profession listed requires the use of teamwork to affect outcomes, “In fact, organizations
that do not rely on teams are scarce” (Baker, Gustafson, Beaubien, Salas, & Barach, 2005, ¶ 1).

At the dawn of our existence men organized themselves into cooperative groups (teams) of families, clans, or tribes. This was based on the well-studied and documented hierarchy of needs, which includes the need for safety, food, and perpetuating our species by nurturing and protecting the young. Throughout history there are several examples of High Performance Teams (HPTs) maximizing the essential elements of shared vision, out of their comfort zone, self-directed, involves everyone on the team. These include the building of one of the Seven Wonders of the World, The Great Pyramid of Giza which required a workforce of over 100,000 lasting a 20 year span. Composed of 2 million, 1.5 ton blocks of limestone, carried 500 miles the pyramid was originally 481 feet high with sides of 760 feet at its base. Begun and completed within the reign of the pharaoh Khufu (approximately 2,589 BC to 2,566 BC), the pyramid was either intended as a monument to Khufu's reign or his burial chamber. (Bodwell, 2002). Another example comes from Greek history where a band of Spartans held a massive Persian army at bay for seven days and inflicted large casualties. Spartans who were seeking to maximize enemy casualties, orchestrated a series of feint retreats, followed by a quick turn back into formation. Coordinating this tactical maneuver, considering the chaos of battle, surely required extraordinary communication and planning (Bodwell, 2002). One final example is the Manhattan project (1942-1945). The United States, at war with Germany and convinced that the German's were developing a nuclear weapon, launched the Manhattan Project in a desperate attempt to develop the weapon first. Clearly the team worked with an almost unimaginable
sense of urgency. The project involved over 130,000 people, sworn to secrecy, in 13 different locations (Bodwell, 2002). Extraordinary coordination and communication were required to make this mammoth project succeed. In sum, high performance teams solve problems using collective brain power. They are motivated by achieving dramatic results in short periods of time. Initially, team development is rocky and may appear to an outsider as chaotic, but this is the norm in team development. Factually, 75 percent of the work of a HPT is accomplished during 25 percent of the allotted time. Several other common themes appear to envelope a HPT including a shortage of resources and HPTs continue to learn from each other (Bodwell, 2002).

Oddly, another craft that deserves mention is that of a musical orchestra. An orchestra is composed of a conductor and many types of instruments that work together to achieve a positive outcome when performing a musical score. Bea (2008) professes that “a symphony orchestra is the very model of hierarchical organization” (Bea, 2008, p. 27). In addition, Baker, Gustafson, Beaubien, Salas, & Barach (2005) summarize that well organized and high-performing team’s exhibit a collective efficacy. Their members recognize a dependence upon each other and share the belief that they can solve complex problems by working together. This caption clearly demonstrates why an orchestra is a good example of a high performance team (HPT). Each person relies on each others expertise, but also works independently and interdependently to master the music. However, successful team based performances must be orchestrated by a team leader. Utilizing basic management principles such as “planning, organizing, leading and controlling a team leader must achieve goals through other people” (Robbins, 2003,
Dedicating Incident p. 4) and must rely on team cohesion, structure, and basic management concepts to succeed (Cannon & Cannon, 2003).

All teams are potentially dysfunctional. “This is because teams are made up of fallible, imperfect human beings” (Lencioni, 2007, p.1). These dysfunctions can be characterized into five categories including inattention to results, avoidance of accountability, lack of commitment, fear of conflict, and absence of trust (Lencioni, 2007). The inattention to results is a result of individual personal goals and status eroding focus on collective success. Avoidance of accountability stems from avoiding interpersonal discomfort caused by team members holding each other accountable. Clarity and buy-in are critical for team members to make decisions they will adhere to. If clarity and buy-in are not achieved there is a clear lack of commitment on a team. A fear of conflict is a contributing factor to dysfunction; the desire to preserve artificial harmony stifles the occurrence of productive, ideological conflict. The absence of trust is nothing more that the fear of being vulnerable with other team members. This lack of trust is listed by Lencioni (2007) as one of the leading causes of team dysfunction.

The Initial Impressions Report by the (Wildland Fire Lessons Learned Center [WFLLC] n.d.) cites several characteristics of Type 3 IMTs in relation to team members and the effectiveness of local IMTs. These include experience of team members, flexibility, and professionalism. The (WFLLC, n.d.) professes that Type three IMTs succeed, in part, because of the amount and quality of experience on the team. This experience prevents teams from being overrun by the complexity of a dynamic incident. In addition, the report suggests that team members must be experienced in each task of the general staff.
Team dynamics play a large role in team effectiveness and reportedly, team members must be flexible in both skills and attitude. Key personnel are cross-trained and team members work across function and share in tasks beyond their assigned function. For this concept to work requires a high degree of collaboration and cooperation (WFLLC, n.d.). Comparatively, Bea (2008, P.24) suggests that “a successful team transitions seamlessly from highly structured roles into loosely structured roles during emergencies.” These flexible teams challenge and revise decisions based on information as it becomes available; “Heedful and respectful” (Bea, 2008) interactions take place and this has proven to contribute to the overall success of high performance teams.

No amount of team dynamics or training would be effective without the rapid response of an IMT. A local IMT must be rapidly put in place to gain situational awareness (Lubnau II & Okray, 2004) and begin developing operational and logistical plans for the next operational period. The WFLLC (n.d.) reports that team members attribute their success to their ability to respond rapidly and bringing local experience and knowledge to bear. Team members of studied local IMTs strive to be on-site within one to two hours of activation. Rapid response enables the team to positively influence emerging incidents when firefighter and public safety concerns are paramount (WFLLC, n.d.).

Procedures

Research for this project began with a thematic analysis of the words incident, management, and team. The analysis included researching the words in several online
dictionaries and comparing results to develop working definitions. These online dictionaries included American Heritage® Dictionary of the English Language, Fourth Edition, and Webster's® Revised Unabridged Dictionary. This pointed to areas needing further exploration including crisis management and the application of team dynamics in a crisis setting.

The next phase was to conduct a search for articles and previous works on crisis management and teamwork during crisis. Research utilizing the American Public University electronic library system was conducted revealing several articles including “Managing the Unpredictable” by Robert Bea (2008). This article was the essence of this ARP and demonstrated how parallel industries utilize teamwork and an interactive approach to affect outcomes during planned and unplanned events. This parallelism led to further examination of team structure and basic management principles. The principles of management and organizational structures were viewed as organizational behavior theory.

After completing a comprehensive literature review of numerous articles a research methodology began to emerge. The original survey instrument was intended to include a survey of all Type-1 and Type-2 Incident Management Teams from around the nation. After further consideration, it was determined that this would exceed the time necessary to complete this ARP. It was determined by contacting the State of Florida Division of Forestry (DOF) area supervisor that DOF has four dedicated Type-2 IMTs (Gold, Green, Blue, and Red) that could be contacted to conduct a brief online survey (Gallagher, personal communication, 2008). These teams were noted to have extensive all hazards experience handling crisis incidents, therefore were considered by
the author as a valid sample for this survey. A request was made for the four IMTs incident commander’s e-mail addresses. A brief e-mail (Appendix A) was constructed and sent to the teams incident commanders with the survey instrument link. A combination of closed-ended and forced choice questions were administered (Appendix B):

1) Why do you think the IMT concept is successful? (forced choice)

2) Would you consider an IMT a high performance team? (closed-ended)

3) During an incident what is the best attribute a team member can offer? (forced choice)

4) What team attributes contribute to a successful IMT? (forced choice)

5) Please rate the following dimensions of an IMT: (forced choice)

   Question number one was devised to determine why the IMT concept is successful from a team member perspective. This question listed four answers that could be selected including simple structure, span of control, unity of command, and all of the above. The forced choice answers were derived from the literary review of organizational behavior theory. Question number two was devised to determine if an IMT is a high performance team, a team focused on accomplishing its goals. The respondent was only required to simply answer yes or no. Question three was designed to gain more insight into the interactive approach to crisis management. In other words, what personal attributes of team members are important to team performance? Choices included experience, teamwork, flexibility, and effective communications. Question four examined what type of team attributes contribute to team success. Choices included split answers; dedicated/well-trained,
dedicated/experienced, ad-hoc/experienced, and ad-hoc/well trained. Finally, question five asked the respondents to rate overall team dimensions including experience, training, team work, and team dynamics. These dimensions were rated as very important, important, somewhat important, and not important. This question was devised to determine the most important attributes of an effective IMT.

This survey was distributed by the team(s) incident commanders via email with instructions on how to complete the survey. Once the survey was completed an analysis of the survey was conducted. The survey was distributed via e-mail to 169 team members. This is the total of all of the team members for all four teams and 43 (n=43) team members responded to the survey.

Definitions

Accredited Agency- A fire service agency accredited by the Center for Public Service Excellence.

Alarm- initial response of resources to a fire or medical call

Event- a planned happening or occurrence

National Incident Management System (NIMS) - establishes standardized incident management processes, protocols, and procedures that all responders -- Federal, state, tribal, and local -- will use to coordinate and conduct response actions. With responders using the same standardized procedures, they will all share a common focus, and will be able to place full emphasis on incident management when a homeland security incident occurs -- whether terrorism or natural disaster. In addition, national preparedness and readiness in responding to and recovering from an incident is enhanced since all of the Nation's emergency teams and authorities are using a common language and set of procedures.

Incident Command System (ICS) - a standardized, on-scene, all-hazard incident management concept in the United States. It is a management protocol originally designed for emergency management agencies and later federalized. ICS is based
upon a flexible, scalable response organization providing a common framework within which people can work together effectively

**High Performance Team**- technical term referring to teams, organizations, or virtual groups that are highly focused on their goals

**ICS 300**- training required by Homeland Security Presidential Directive number 8 (HSPD-8) for all Federal, state, tribal, and local emergency responders. Requires persons serving as command staff, section chiefs, strike team leaders, task force leaders, unit leaders, division/group supervisors, branch directors, and multi-agency coordination system/emergency operations center staff. This training covers ICS staffing, transfer of command, unified command functions, ICS forms, resource management, interagency planning and procurement

**ICS 400**- training required by Homeland Security Presidential Directive number 8 (HSPD-8) for all Federal, state, tribal, and local emergency responders. Requires persons who serve as command or general staff in an ICS organization, select department heads, with multi-agency coordination system responsibilities, area commanders, emergency managers, and multi-agency coordination system/emergency operations center managers

**Incident**- an unplanned or crisis event

**Local Incident Management Team**- single and/or multi-agency team for expanded incidents typically formed and managed at the city or county level or by a pre-determined regional entity. May include automatic or mutual aid resources. Comprised of a team of 7-10 trained personnel to incidents that are typically contained within one operational period in the control phase, usually within a few hours after resources arrive on scene. May be dispatched to manage or help manage incidents requiring a significant number of local and mutual aid resources, such as a major structure fire, a multi-vehicle crash with multiple patients, an armed robbery, or a hazmat spill. May also be used at public events. May initially manage larger, more complex incidents prior to arrival of a Type 3, Type 2, or Type 1 IMT

**Management**- The act, manner, or practice of managing; handling, supervision, or control

**Metro Class Fire Department**- cities or jurisdictions having a minimum staffed strength of 400 fully paid career fire fighters

**Second alarm response**- additional emergency resources dispatched to an incident
Type 1 Incident Management Team - self-contained, all-hazard team recognized at the National and State level, coordinated through the State, Geographic Area Coordination Center, or National Interagency Fire Center. All personnel meet the NWCG training regimen at the Type 1 level for their specific position. Deployed as a team of 35-50 to manage incidents of national significance and other incidents requiring a large number of local, regional, state, national, and Federal resources. This includes incidents where Operations Section personnel may exceed 500 per operational period and total incident personnel may exceed 1000.

Type 2 Incident Management Team - A self-contained, all-hazard or wildland team recognized at the National and State level, coordinated through the State, Geographic Area Coordination Center, or National Interagency Fire Center. All personnel meet the National Wildfire Coordinating Group (NWCG) training regimen at the Type 2 level for their specific position. Deployed as a team of 20-35 to manage incidents of regional significance and other incidents requiring a large number of local, regional, state, and national resources. This includes incidents where Operations Section personnel approach 200 per operational period and total incident personnel approach 500.

Type 3 Incident Management Team - A multi-agency/multi-jurisdiction team for extended incidents, formed and managed at the State, regional or metropolitan level. Deployed as a team of 10-20 trained personnel to manage major and/or complex incidents requiring a significant number of local, regional, and state resources, and incidents that extend into multiple operational periods and require a written IAP. May be utilized at incidents such as a tornado touchdown, earthquake, flood, or multi-day hostage/standoff situation, or at planned mass-gathering events. May initially manage larger, more complex incidents prior to arrival of and transition to a Type 2 or Type 1 IMT.

Assumptions

The first assumption was that the respondents were members of a dedicated IMT and that their answers would be reflective of their experience operating in a crisis situation as a team member. Secondly, each respondent understood the questions as written and had command of the English language. Finally, the respondents understood the purpose of the survey and attempted to answer the questions to the best of their ability.
Limitations

First, the survey instrument is not statistically valid. The lack of responses skewed the confidence level of the survey (Krejcie & Morgan, 1970). However, the responses provided a snapshot of the dimensions and attributes of team members as well as team dynamics. These responses were consistent with the literature review and provided very good insight into crisis management. Secondly, very few empirical studies of crisis management exist (Sheaffer & Mano-Negrin, 2003). This complicated the research efforts because most of the research to date has been normative. To gain more statistical validity a longer research period and a more scientific approach needs to be undertaken. Third, the survey consisted only of Florida Type-2 IMTs with mostly fire service backgrounds.

Results

Close to twenty-five percent (n=43) of the team members responded to the survey. This is below the expected response rate mentioned in the (EFOP Applied Research Self-Study Course—Student Guide (National Fire Academy [NFA], 2005. p 37):

1. How are IMTs effective at managing complex incidents?

Questions one (Appendix C) revealed 86% of the respondents selected team structure, span of control, and unity of command as foundational principles for IMT success. Additionally, respondents answered affirmatively to question two 42 out of 43 times, supporting the view IMTs are high-performance teams. Lastly, answers to question three revealed, a dedicated team is a much better strategy to ensure effective
incident management. Responses included (58.5%) in favor of a dedicated/experienced (experienced working together) team over a dedicated and well-trained/dedicated IMT. By a margin of 3:1 those surveyed agreed IMTs should be accustomed to working together. Therefore, IMTs effectively manage emergency and non-emergent events due to simple structure, teamwork, flexibility, and successful communications. Additionally, IMTs are HPTs focused on common objectives, out of their comfort zone, self-directed, and decisions involve everyone on the team.

2. Who should be part of an IMT?

Questions three and four of the survey (Appendix C) demonstrate team members must be effective communicators (26.2%), flexible (35.7%), and team players (35.7%) with flexibility and the ability to work in a team environment equally leading the way as desired attributes of members.

3. How will a dedicated IMT improve incident management?

By combining responses to questions four and five a clearer understanding emerges on how a dedicated team enhances performance, including team work, training, experience, and team dynamics. Attributes needed to effectively manage an incident or event. Question five rates dimensions of successful teams (Appendix C). Teamwork was rated as very important (86%), followed by experience, important (65.1%), training, very important (51.2%), and team dynamics, important (37.2%). Attributes difficult to achieve in the ad-hoc team environment (Bea, 2008). From a team member’s perspective, a dedicated and experienced team (58.5%) is preferred over a well trained ad-hoc team (19.5%).
Discussion

This research has led to several observations concerning incident management during emergency operations; including an interactive approach to emergency incident (crisis) management, selection of team members, and increasing operational effectiveness.

Bea (2008) is a proponent of an interactive approach to crisis management. Team success requires individual and team attributes such as experience, communications skills, and team training to be successful. He cites parallel industries including the fire service and utilizes a symphony as well as advanced patient care teams to make his case for interactive approaches to problem solving. This belief is supported by the survey instrument, which demonstrates team members must be effective communicators, flexible, and most importantly team players. Interestingly, the survey rated experience as important (64.3%) directly in support of Bea’s (2008) inference that experience is important. In addition, the (WFLLC, n.d.) report cites experience as an important characteristic of IMT success and finds experience prevents teams from being overrun by the complexity of a dynamic incident. Lastly, all of the three attributes listed for the interactive approach were supported by the sample. It is inconclusive from this sample if experience would play a larger part in team effectiveness, selection, and efficiency. However, based on a review of available literature, experience plays a larger role than reflected by Florida DOF IMT members during the survey. Most of the responses rated experience only as important (65.1%) as compared to very important (20.9%).
The notion that an experienced team, teamwork, and team dynamics has an affect on outcome is supported by findings of the (WFLLC, n.d.) report. The report explains why an IMT should be both flexible and professional. An IMT should adhere to its simple structure while individuals work independently and interdependently at achieving team based objectives. Therefore, one criterion for selecting team members would be the amount of operational experience working in a team environment an individual may have.

A dedicated IMT would increase operational effectiveness in two ways: First, a dedicated team selection based on flexibility, professionalism, teamwork, and communications skills would be the foundation for effective operations. Secondly, a dedicated local IMT would bring to bear area familiarity, policy, and resource knowledge (WFLLC, n.d.). Individual attributes combined with “heedful and respectful” (Bea, 2008) interactions increase operational effectiveness. Rapid deployment and good team dynamics at an incident would maximize incident management effectiveness.

IMTs are high performance teams relying on a shared vision (objectives), being out of their comfort zone, self-directed, and involving everyone (Bodwell, 2002) leading to success. In sum, HPTs use collective brain power to overcome obstacles and challenges.

Unmistakably, the IMT concept is a system proven effective during complex incidents. This can be demonstrated by the rescue and recovery efforts during the World Trade Center attacks of 2001 and the crash of the space shuttle Columbia in 2003 (FEMA & Gardner, 2004). In both instances, IMTs from the United States Forest Service were brought to assist with incident management.
Conceptually, a simple structure is characterized by a low degree of departmentalization, wide spans of control, authority centralized in a single person, and little formalization (Robbins, 2003). This structure allows the interactive approach Bea (2008) proposes to be used effectively. This impression is verified by the survey by an overwhelmingly large number of respondents, which selected chain-of-command, unity-of-command, and simple structure as reasons why the IMT concept has proven successful.

Finally, a dedicated local IMT concept would require undying organizational commitment to select the team members based on personal attributes rather than rank or standing within the agency. Clearly, the selection must include a selection process which identifies desirable qualities. These include experience and a demonstrated ability to adapt during dynamic crisis situations. After selection of a team, members must train together, develop plans together, and work together during emergency incidents and non-emergency events to capitalize on teambuilding. This approach succinctly fits with Bea’s (2008) assertion, interactive approaches to crisis management require teambuilding, communications, interaction, and trust; attributes that may only be achieved by previous experiences of working together either while training, during a crisis situation, or planned event.

Recommendations

1. The Orange County Fire Rescue Department should develop at least two dedicated local All-Hazards Incident Management Teams. These teams would be responsible to enhance the current ICS structure on incidents greater than a second alarm, disaster operations, and large scale planned events. This concept would require
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an organizational commitment to implement and utilize. These teams could be implemented with a relatively small investment. Initially, team selection should take place from the roles of salaried employees. This would decrease the need to pay overtime costs for both training and deployment during incidents. In addition, both command staff and selected members of the agencies management team have assigned vehicles. This would allow for rapid deployment thus allowing members to rapidly gain situational awareness (Lubnau II & Okray, 2004), have first hand knowledge of procedures, and availability of resources (WFLLC, n.d.).

In addition, this concept would improve county wide coverage. During multiple alarm responses, additional on-duty command officers are dispatched to the scene. This impacts command and control of simultaneous alarms throughout the county. Deploying an IMT to support of extended incident operations allows on-duty command staff to maintain optimal coverage.

2. Select team members based on demonstrated experience, flexibility, and adaptability. Once selection has taken place conduct training for the following positions: (command/general staff positions): incident commander, deputy incident commander, operations section chief, logistics section chief, planning section chief, administration/finance section chief, safety officer, public information officer, and liaison officer.

3. Require team members to complete position specific training together to ensure cohesiveness and cross functionality. This can be accomplished with assistance of the United States Fire Administration Technical Assistance Program (FEMA 2007).
4. Once initial training is accomplished have team members deploy with experienced Type 1 and Type 2 IMTs. This will allow team members to observe their counterparts during Type 1 and Type 2 operations. It will allow for members to monitor their functions, tasks, and responsibilities while gaining hands on experience. It also will allow members to learn first hand how IMTs interact and manage major incidents by seeing these operations in real time (FEMA, 2007). According to the All Hazards IMT Technical Assistance Program Manual, this can be coordinated through the United States Fire Administration and the United States Forest Service.

5. Conduct additional research to determine if team member selection influences team performance. Keeping in mind this research is inconclusive based on the survey that was conducted. A survey of Type-1 and Type 2- IMTS could result in improved responses and possibly would deliver a more statistically valid sample.
References


Wildland Fire Lessons Learned Center (n.d.). *Initial Impressions Report, Type 3 Incident Management Organizations* (Wildland Fire Lessons Learned Center). Tucson, Arizona
Dear Colleagues:

My name is William Sturgeon and I am an Assistant Chief with Orange County Fire Rescue. I am conducting research as part of my Executive Fire Officer Program on selecting team members and implementation of an IMT for the Orange County Fire Rescue Department.

I am requesting your assistance to forward this brief survey to your Incident Management Team members. This survey will assist me in gaining valuable insight into your teams operations during incidents.

The Survey is brief and only takes approximately two minutes to complete:

Here is the link for the survey:


In closing, I understand that several of your teams are deployed and that some will not be readily available to complete this survey for several weeks.

Thank you in Advance!

Professionally Yours,

William Sturgeon
Appendix B - IMT Survey

1. Default Section

* 1. Why do you think that the IMT concept is successful?
   - Simple Structure
   - Span of control
   - Unity of Command
   - All of the above
   - Other (please specify)

* 2. Would you consider an IMT a high performance team? (A team highly focused on its goals)
   - Yes
   - No

3. During an incident what is the best attribute a team member can offer?
   - Experience
   - Teamwork
   - Flexibility
   - Effective communicator

4. What team attributes contribute to a successful IMT?
   - Dedicated (same team members)/Well trained
   - Dedicated/Experienced
   - Ad-hoc (when needed)/Experienced
   - Ad-hoc/Well trained

* 5. Please rate the following dimensions of an Incident Management Team:

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Very important</th>
<th>Important</th>
<th>Somewhat important</th>
<th>Not important</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experience</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Team Dynamics (familiarity with other members)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teamwork</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix C - Results

## Incident Management Teams

### 1. Why do you think that the IMT concept is successful?

<table>
<thead>
<tr>
<th>Response</th>
<th>Percent</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simple Structure</td>
<td>4.7%</td>
<td>2</td>
</tr>
<tr>
<td>Span of control</td>
<td>2.3%</td>
<td>1</td>
</tr>
<tr>
<td>Unity of Command</td>
<td>7.0%</td>
<td>3</td>
</tr>
<tr>
<td>All of the above</td>
<td>86.0%</td>
<td>37</td>
</tr>
<tr>
<td>Other (please specify)</td>
<td></td>
<td>8</td>
</tr>
</tbody>
</table>

*answered question: 43, skipped question: 0*

### 2. Would you consider an IMT a high performance team? (A team highly focused on its goals) Yes or No

<table>
<thead>
<tr>
<th>Response</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>43</td>
</tr>
</tbody>
</table>

*answered question: 43, skipped question: 0*

### 3. During an incident what is the best attribute a team member can offer?

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Percent</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experience</td>
<td>2.4%</td>
<td>1</td>
</tr>
<tr>
<td>Teamwork</td>
<td>35.7%</td>
<td>15</td>
</tr>
<tr>
<td>Flexibility</td>
<td>35.7%</td>
<td>15</td>
</tr>
<tr>
<td>Effective communicator</td>
<td>26.2%</td>
<td>11</td>
</tr>
</tbody>
</table>

*answered question: 42, skipped question: 1*
## 4. What team attributes contribute to a successful IMT?

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dedicated (same team members) / Well trained</td>
<td>19.5%</td>
<td>8</td>
</tr>
<tr>
<td>Dedicated / Experienced</td>
<td>58.5%</td>
<td>24</td>
</tr>
<tr>
<td>Ad-hoc (when needed) / Experienced</td>
<td>7.3%</td>
<td>3</td>
</tr>
<tr>
<td>Ad-hoc / Well trained</td>
<td>14.6%</td>
<td>6</td>
</tr>
</tbody>
</table>

**Answered question**: 41  
**Skipped question**: 2

## 5. Please rate the following dimensions of an Incident Management Team:

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Very important</th>
<th>Important</th>
<th>Somewhat important</th>
<th>Not important</th>
<th>Rating Average</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experience</td>
<td>20.9% (9)</td>
<td>65.1% (28)</td>
<td>14.0% (5)</td>
<td>0.0% (0)</td>
<td>1.93</td>
<td>43</td>
</tr>
<tr>
<td>Training</td>
<td>51.2% (22)</td>
<td>41.9% (19)</td>
<td>7.0% (3)</td>
<td>0.0% (0)</td>
<td>1.56</td>
<td>43</td>
</tr>
<tr>
<td>Teamwork</td>
<td>96.0% (37)</td>
<td>14.0% (6)</td>
<td>0.0% (0)</td>
<td>0.0% (0)</td>
<td>1.14</td>
<td>43</td>
</tr>
<tr>
<td>Team Dynamics (familiarity with other members)</td>
<td>23.3% (10)</td>
<td>37.2% (16)</td>
<td>32.6% (14)</td>
<td>7.0% (3)</td>
<td>2.23</td>
<td>43</td>
</tr>
</tbody>
</table>

**Answered question**: 43  
**Skipped question**: 0