A PROGRAM PROPOSAL FOR IMPLEMENTATION OF A MAJOR EMERGENCY OPERATIONS PLAN FOR THE BAKERSFIELD FIRE DEPARTMENT

by

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Executive Summary

The lack of a defined and integrated plan for Fire Department operations during large-scale emergencies or disasters has created significant response weaknesses in the metropolitan Bakersfield disaster mitigation process. The Bakersfield Fire Department cannot effectively mitigate or reduce the impacts of large-scale incidents without a strategic plan that pre-determines and defines its response to major emergencies or disasters.

This study identifies response, command, deployment, and training issues that are currently critical planning weaknesses in the Bakersfield Fire Department's disaster mitigation process. These issues are crucial to pre-incident planning and directly related to the physical operational response the Fire Department is currently capable of deploying. Addressing these identified weaknesses in a large-scale incident planning process will provide the response foundation necessary for successful disaster mitigation.

A wide array of research and various case studies support the argument that the Bakersfield Fire Department must engage in pre-incident planning to effectively overcome these response weaknesses. Analysis of incident scenarios such at the World Trade Center disaster, Katrina Hurricane response, and the Northridge Earthquake response provide examples of failures and successes that support of the large-scale, incident-planning concept.

To address these weaknesses, the Bakersfield Fire Department must not only preplan operationally and strategically for disasters and other large events, but must also formalize that process by creating and implementing a Major Emergency Operations Plan (MEOP) as the official emergency deployment system for the Fire Department during large-scale incidents. The foundation for this plan should include parameters, activation, command and control, resource deployment, communications, and training.

Relative to the Bakersfield Fire Department’s operational budget, the costs associated with this proposal are minimal. However, the benefits of the reduced impacts on large populations due to major emergency planning significantly outweigh these relatively low costs. This is particularly evident when compared against the number of potentially affected stakeholders.

This study reduces the true base alternatives to just two options. Those alternatives are either plan, or do not plan. The current condition this study identifies as being the foundational problem is the lack of a plan. There are really no acceptable or legitimate compromises or hybrids to the argument for implementation of a formal, large-scale incident plan. Any modified version of the proposed major emergency plan process is in fact planning to some degree.

Recommendations for the Bakersfield Fire Department will be to utilize this study as general guidance for continued investigation of the operational environment, local large-scale emergency challenges, and response capabilities of the organization. This study will also recommend that the Department utilize the plan outline guidance to implement a Major Emergency Operations Plan based on those identified local response conditions.
Chapter 1: Introduction

Background

A strategic planning and response void currently exists in the metropolitan Bakersfield disaster mitigation process. This void exists due to the lack of a specifically defined and organizationally integrated Major Emergency Operations Plan (MEOP) for City Fire Department operations. The Bakersfield Fire Department cannot effectively mitigate or reduce the impacts of large-scale incidents without a specific strategic plan that seamlessly graduates from daily emergency response to major emergency or disaster operations.

In the event of a citywide major emergency or disaster, the Bakersfield Fire Department and other local emergency response organizations will face an overwhelming number of requests for emergency service. To meet this acute surge in demand, the Department must address the following issues:

- Enhanced command and control processes
- Reinforced resource deployments
- Mutual aid and assisting agency responses
- Non-traditional and community-based resources
- Patient surge and mass-casualty scenarios
- Advanced life support provision
- Triggering mechanism(s) for emergency plan activation
- Public information and education

A successful Fire Department response in this scenario is dependent upon pre-incident planning, with major response issues outlined and organizationally integrated through a Major Emergency Operations Plan.
The void noted here does not suggest the absence of a Fire Department response plan. On the contrary, the Bakersfield Fire Department relies heavily on response and pre-incident planning to drive its day-to-day operational deployments. The problem is the lack of a specific plan that guides the transition from the daily operating deployment procedures to more complex, large-scale incident operating procedures.

Several recent disaster or major emergency scenarios have focused national attention on the pre-incident preparedness levels and capabilities of local first responder organizations. Moderate failures related to intra-agency issues such as communications, equipment and the lack of basic interagency compatibility during the World Trade Center response indicate planning weakness. Most notable are the major, across-the-board planning system failures at the federal, state, and local levels of mitigation during the Katrina Hurricane response. As noted by the 9/11 Commission in its analysis of the Katrina response processes, "the most important failure was one of imagination" (United States Congress, House, Committee on Government Reform, 2006). The agencies charged with response to these events do not appear to have adequately considered or "imagined" the actual scope of potential threats. The 9/11 Commission also suggested that the failure in the Katrina response was a failure of initiative (United States Congress, House, Committee on Government Reform, 2006), or more specifically, a lack of an offensive position. Essentially, this "failure of initiative" or absence of an offensive position translates into the lack of appropriate pre-incident planning.
The Bakersfield Fire Department currently relies on a daily operational deployment plan, the general citywide City of Bakersfield Emergency Plan, and the collective abilities of its Command Staff and Officers as the foundational response for all levels of emergent events, including worst-case scenarios such as the 9-11 or Katrina incidents. This will simply not be sufficient for a major emergency or large-scale disaster, and a Major Emergency Operations Plan must be adopted, implemented, and integrated within the organization at all levels.

As noted in a Congressional performance review of the FEMA response to Katrina, major emergencies will eventually require multiple levels of response from various governmental agencies and jurisdictions for sufficient mitigation (United States Dept. of Homeland Security, Office of Inspector General, 2006). Assistance in the form of resources deployed through the California State Master Mutual Aid system, California Office of Emergency Services (OES), Federal Emergency Management Agency (FEMA), and others will provide the long-term reinforcements required for significant incidents that influence the local response system. However, local planning is crucial to this larger statewide integration, as noted by California OES via the citywide Bakersfield Emergency Operations Plan:

Section 8568 of the Act states, in part, that "California State Emergency Operations Plan shall be in effect in each political subdivision of the state, and the governing body of each political subdivision shall take such action as may be necessary to carry out the provisions thereof." Local emergency operations are essentially

Non-traditional resources such as community groups, NGOs, NPOs and others are also invaluable during major emergency or disaster mitigation, and again must be included in a local operational deployment plan. The success of the response of all peripheral resources lies in the critical initial deployments of City Fire Department resources outlined in an operational plan that also integrates local, state and federally based reinforcements that will arrive later.

**Statement of the problem**

Numerous contemporary response failures to major emergency and disaster level events such as the World Trade Center disaster and Katrina Hurricane are clear examples of how inadequate preplanning may significantly compound mitigation and relief efforts. This trend is evident locally in the absence of a Fire Department plan outlining major emergency operating procedures.

The Bakersfield Fire Department cannot effectively mitigate or reduce the impacts of large-scale incidents without a specific strategic plan that seamlessly graduates from daily emergency response to major emergency or disaster operations, and addresses the management and integration of the response of peripheral resources.
Purpose of the study

This study will identify the strategic emergency response weaknesses of the Bakersfield Fire Department. The study will provide the outline for a Major Emergency Operations Plan (MEOP) that will address critical operational solutions such as:

- Bakersfield Fire Department Operations Center (DOC)
- Bakersfield City Emergency Operations Center (EOC)
- Multiple agency (Government, NGO, NPO) responses
- Community Emergency Response Team (CERT) responses,
- California Office of Emergency Services (OES) responses
- Federal Emergency Management Agency (FEMA) responses
- Bakersfield Fire Department Type III "Metro" Incident Management Teams
- Bakersfield Fire Department Advanced Life Support (Paramedic) response
- Threat based triggering mechanism(s) for emergency plan activation

While this study will provide recommendations that will improve the response processes and service delivery of the Bakersfield Fire Department during major emergencies, it will also provide strategic and operational guidance for response usable at all levels of acute emergency. The plan will be minimally invasive to and supportive of daily operational deployments, but will also address the following issues typically critical during a major emergency:

- Plan Parameters
- Plan Activation
- Command and Control
- Resource Deployment
- Communication
- Training
Importance of the study

The value of a Major Emergency Operations Plan (MEOP) is multi-dimensional, benefiting many stakeholders. The most obvious benefit is to the community in general because a more formally organized and integrated operational approach to emergency management will result in reduced human suffering.

The Bakersfield Fire Department will benefit from the creation of a formal, clearly defined and identifiable plan. Reduced stress and disorganization minimized by this integrated pre-planning will result in more effective personnel deployments during emergency scenarios.

Federal, state, region, and area based resources, as well as other mutual aid and assisting agencies will benefit from reduced interagency confusion and jurisdictional unfamiliarity due to the clear delineation of operational responsibilities prior to a large-scale event.

Research Question

How should the Bakersfield Fire Department address the numerous strategic and operational problems, command and control difficulties, significant tactical pressures, acute deployment demands, multi-casualty patient surge, and multi-agency responses that will likely overwhelm the organization’s daily operating plan during a large-scale disaster or major emergency incident?
Chapter 2: Literature Review

Definition of the Problem

As previously noted, the Bakersfield Fire Department faces a significant challenge in the event of large-scale incidents without a local strategic operational plan that seamlessly graduates from daily emergency response to major emergency or disaster operations. This plan must also address the command, management, integration, and deployment of peripheral resources.

A report to Congress from the Department of Homeland Security (DHS) in February 2006 indicated that the majority of the seventy-five largest urban areas in the U.S. believe that they have implemented disaster response plans that will not be effective in the mitigation of large-scale incidents (American City & County, 2006). This is evident in the recent response to Katrina, when New Orleans Mayor Ray Nagin failed to follow established evacuation and critical transportation deployments, both outlined in the city's emergency plan (Barone, 2005). Major emergency and disaster response plans must be far more than mere paper exercises – plans should be workable, usable, effective, and must inspire confidence in those responsible for their outcome. Planning beyond the broad conceptual level and planning at the appropriate operational levels is key to those outcomes.

Local government simply does not fund adequately or maintain infrastructure necessary for disaster response – these scenarios are much too expensive to address in the course of carrying out daily and long-term local functions, and federal grant funding falls far short of adequate in terms of dollars and scope (see Figure 1 and Figure 2). Rather, local government traditionally funds only for daily operational
emergency deployments, and conducts planning (largely on paper) for large-scale incident scenarios. In that process, there exists a functional disconnect between municipal paper-based disaster plans and the actual physical deployment capabilities of the Fire Department. To overcome that imbalance, Fire Departments must also plan beyond those daily operational deployments to address large-scale incident responses.

There is a large body of research, practical opinion, and anecdotal evidence suggesting the need for emergency plan implementation at the state, county and major urban levels (Zuckerman, 2005). However, this argument ignores emergency plan development specifically at the local government first-responder level. Broad governmental or municipal-level plans for organization during large-scale incidents typically will not address the strategic and operational issues associated with the physical mitigation efforts carried out specifically by the Fire Department (City of Bakersfield Emergency Plan, 2004).

The most significant factor in the concept of planning for large-scale incidents is identifying critical response mechanisms, as well as developing a plan based on the appropriate methodologies (Kovel, 2000). Methodologies to consider for large-scale incident response are not limited to those key in planning for the general, widespread organization of human and material resources and commerce-related recovery. Emergency planning at only the statewide, countywide, or citywide levels ignores important department level response methodologies, and is most often too broad to address specific operational concerns, where the key physical and logistical mitigation of the process occurs. A more narrowly defined, strategic and operational
plan for the Fire Department is a vital part of the overall emergency planning system necessary for large-scale incident response and mitigation (LAFD Book 98, 1993).

**Planning Weakness**

There is an assumption on the part of local governments that engage in large-scale incident planning that initiating macro-level assignments for various municipal departments (i.e. public works, parks, police, fire, etc.) in some organized manner will suffice, as effective disaster mitigation will simply materialize as part of that formal plan (City of Bakersfield Emergency Plan, 2004). Department-level competency or readiness in terms of large-scale incident mitigation within a municipality is largely an assumption, as noted in the citywide Bakersfield Emergency Operations Plan:

> The EOP is a preparedness document - read, understood, and exercised prior to an emergency. Each city department is responsible for insuring the preparation and maintenance of appropriate and current Standard Operating Procedures (SOPs), Emergency Operating Procedures (EOPs), and resource and alert lists that will support the City of Bakersfield Emergency Operations Plan (City of Bakersfield Emergency Plan, 2004).

However, individual departments may or may not have formally planned beyond the point where daily operational deployments must be significantly adjusted (LAFD Book 98, 1993) to deal with the complexities of those demanding, albeit infrequent, scenarios covered in the larger municipal emergency plan.
Typically, large-scale incident assessments that place blame for failure at the local level are minimal compared to the outcry over federal emergency response weaknesses (Burnham, 2006). The lack of confidence in current local plans, or worse, the outright failure of those plans is not the fault of the federal response, but very likely due to a lack of planning in those critical, individual departments within the larger local government agency - critical first response agencies like the Fire Department.

Case Studies

Many emergency response agencies have been assigned massive mitigation responsibilities with only limited resources and support. To complicate matters, the formal disaster response planning process is mostly a limited priority when contrasted against the short-term goals and objectives of a municipality's daily operational mandates (Zuckerman, 2005). However, there are no excuses for those in the emergency response business to be unprepared for emergency response at any level. An American Bar Association Task Force charged with analyzing the legal mandates affecting disaster mitigation noted that the response to Katrina was inadequate due to training and readiness issues, lack of communication and coordination, and breakdowns in leadership (Morrissey, 2006), which to some degree may all be traced back to inadequate planning.

During a post-Katrina Senate session, Democratic Senator Mary Landrieu (LA.) was adamant that the local response was not the problem, stating, "for God's sake, they were trying to make decisions under 10 feet of water" (Stone, p.2, 2005).
This argument is significantly flawed. These were the officials assigned to that emergency response process, so why did they wait to begin making decisions and planning until they were under 10 feet of water? Why were they not making decisions and planning prior to the arrival of the tidal surge? Why did these same officials not anticipate and plan for the possibility of being under 10 feet of water?

House Majority Leader Tom DeLay countered with his own opinion regarding Katrina, stating that the failure was systemic, and included local planning weaknesses. He continued, "while the individual efforts of first responders and volunteers and National Guardsmen have obviously been beyond heroic, it's fair to say the overall response could've and should've been better" (Stone, p.2, 2005).

The Fire Department of New York (FDNY) response to the 2001 World Trade Center disaster is an example of response planning that did not fully take into account the scope of large-scale incident deployments (Scoppetta, 2002). The FDNY is certainly unrivaled in its ability to deploy resources to major emergencies. The question regarding the 9-11 response is why the FDNY plan for a major emergency failed to transition smoothly from initial deployments to more complex operations. The communications problems, accountability weaknesses, and ability to integrate with mutual aid and other assisting agencies suggest that the FDNY plan was not fully developed (Scoppetta, 2002). This example illustrates how a broad, formal City of New York emergency plan may be less effective due to weak planning by those critical individual first-responder departments – in this case, the Fire Department.
The Los Angeles City Fire Department (LAFD) response to the 1994 Northridge Earthquake disaster is an example of response planning that successfully considered large-scale incident issues and resulted in an efficient, effective deployment process. The LAFD has foundational experience with major emergency and disaster response via the California OES State Master Mutual Aid process, as well as a myriad of automatic aid responses to the many surrounding municipalities in the Los Angeles basin.

What is most significant in the LAFD response to Northridge is the fact that the deployments occurred as part of an organized, Fire Department specific plan that immediately graduated to major emergency and disaster operations (LAFD Book 98, 1993) with comparatively few strategic and operational issues. This is not to suggest that there were not deficiencies, but those were considerably minimized by the presence of a strong, visible, organizationally integrated plan at the Fire Department level of the City of Los Angeles emergency response process.

Accepted Benchmarks

In defining the problem in terms of state and local perspective, the potential threat local governments face is clearly significant, reinforcing the idea that Fire Department planning for large-scale incidents demands reassignment on the priority continuum if successful mitigation is to occur. For the sake of this study, and as a basis for establishing a plan focused on response to specific incident scenarios, the following emergency level definitions will apply:
• Major Emergency: a significant emergency event requiring strategic and operational planning and management above that required during a routine emergency event. Command, management, and resource deployments may exceed what is typically necessary during the daily operational deployment plan, although the scenario is still a localized event, with a relatively short-term duration, not beyond the capabilities of a modified local government response (Bakersfield Fire Department Operations Section, 2006).

• Disaster Emergency: the existence of conditions of disaster or of extreme peril to the safety of persons and property within the territorial limits of a county, city and county, or city, caused by such conditions as fire, flood, storm, epidemic, riot, drought, sudden and severe energy shortage, plant or animal infestation or disease, the Governor's warning of an earthquake or volcanic prediction, an earthquake, or other conditions which are or are likely to be beyond the control of the services, personnel, equipment, and facilities of that political subdivision and require the combined forces of other political subdivisions to combat (California Code of Regulations, 2006).

The important association in these definitions is the distinction between "Major Emergency," a proposed local Fire Department benchmark, and "Disaster Emergency," the State of California OES benchmark. The distinction here is that planning must occur for local Fire Department response to both levels of emergency, but local deployments for mitigation and containment apply specifically to that of a
“Major Emergency,” while allowing for a seamless graduation to more complex, multi-agency disaster level operations.

Fire Department planning for a “Disaster Emergency” should include a focus on National Incident Management System (NIMS) and State Emergency Management System (SEMS) incident command (ICS) structures that will integrate with Office of Emergency Services (OES), Federal Emergency Management Agency (FEMA), and other mutual aid responses for disaster-level mitigation (Zuckerman, 2005 & California Code of Regulations, 2006). The definition of a “Disaster Emergency” is a definition based on State of California OES criteria, and local adoption of that definition partially addresses the idea that command, communication, and other operational factors between states and localities are defined in advance (Zuckerman, 2005). However, both of the above noted definitions will apply within this study when referring to “large-scale” incidents.

Analysis

The common theme present in review of contemporary large-scale incident response scenarios is that planning, or more accurately, planning at the appropriate level, is a critical component in the successful mitigation of major emergency or disaster related events. Conversely, the lack of planning in those scenarios is equally detrimental to the successful outcome of the broader disaster preparedness process.

There are also local weaknesses in the Area level response that reaffirms the necessity for planning specifically within the city itself, at the Bakersfield Fire
Department operational level. The county agency charged with local OES functions will rapidly deplete minimal staffing and equipment in other unincorporated areas and must rely on effective mitigation through planning at the city jurisdictional level. The Bakersfield Fire Department Major Emergency Operations Plan (MEOP) and the City of Bakersfield Emergency Operations Plan (EOP) will provide the focus for the Area OES to function simply as the ordering point for State Master Mutual Aid resource deployments. The local Major Emergency Operations Plan (MEOP) for Fire Department specific deployments is readily apparent as a critical component of the broader regional, area, and countywide municipal emergency planning process.
Chapter 3: Plan Proposal

Clearly, planning is a crucial and key element to the successful response of the Fire Department to large-scale incidents. The evidence, based on analysis of technical deployment issues and capabilities, observation of response system expectations and mandates, and review of contemporary and historic disaster response failures and successes indicate that a physical plan is necessary to rectify the response void in the metropolitan Bakersfield disaster mitigation process noted in Chapter 1 of this study.

Based on this research, the specific parameters of that response void are now more identifiable. As previously noted, there is planning at the local level, and a physical citywide Emergency Operations Plan at the broad, municipal level, but there is inadequate large-scale incident response planning, as it relates to the broader EOP, at the Fire Department and other departmental levels within the City of Bakersfield. Specifically, the Fire Department must implement a formal strategic and operational plan within that relatively narrow window between routine emergencies and major emergencies that will guide the transition to operations under the EOP, as well as address the gap between daily operational deployments and the large-scale incident deployments.

What is also revealing, in terms of responsibility, is that the citywide Emergency Operations Plan is based on, and to a degree consciously relies on individual department preparedness for successful mitigation of a large-scale incident under the plan. Previous review of the plan indicated a lack of specific focus on the importance of department level responses relative to the broader EOP.
However, the language "each city department is responsible for insuring the preparation and maintenance" that "will support the City of Bakersfield Emergency Operations Plan" (City of Bakersfield Emergency Plan, 2004), does place the impetus for department level preparedness, including necessary plan implementation, squarely on those individual departments.

While it is apparent that this reference is simply part of a basic plan template rather than targeted guidance based on detailed analysis of the local response system issues, it is now clear that the responsibility for (and the blame for a lack of) planning is less widely spread than previously assumed. This is interesting from the perspective of determining mandated participation, but is of little value in the end analysis.

The reality is that Fire Department must recognize that the citywide Emergency Operations Plan is too broad, vague, and general in terms of strategic and operational deployment and mitigation considerations, and implementation of a formal Major Emergency Operations Plan (MEOP) will counter those weaknesses.

Simply stated, the research supports the intuitive arguments, industry standards, and anecdotal evidence that the Bakersfield Fire Department must implement a Major Emergency Operations Plan (MEOP) as a means of effectively participating in the large-scale incident mitigation process. The following guidance for plan formulation reflects an interpretive perspective of the available academic and industry data on large-scale incident response, and analysis of the general response weaknesses of the Bakersfield Fire Department relative to the local, state,
and federal emergency processes. The plan formulation guidance will also respond to the following research question noted in Chapter 1 of this study:

How should the Bakersfield Fire Department address the numerous strategic and operational problems, command and control difficulties, significant tactical pressures, acute deployment demands, multi-casualty patient surge, and multi-agency responses that will likely overwhelm the organization's daily operating plan during a large-scale disaster or major emergency incident?

**Plan Outline**

The Bakersfield Fire Department should consider a formal Major Emergency Operations Plan to initiate and manage command and control facilities and processes, reinforced resource deployments, mutual aid and assisting agency responses, non-traditional and citizen-based resources, mass-casualty scenarios, a triggering mechanism for various levels of emergency plan activation, and public information and education dissemination. The recommended basic plan outline includes:

- Plan Parameters
- Plan Activation
- Command and Control
- Resource Deployment
- Communication
- Training

(see Appendix B for expanded outline)
An important consideration in formulation of the Bakersfield Fire Department Major Emergency Operations Plan (MEOP) is concentration on and inclusion of only those critical strategic and operational areas and issues with direct bearing on physical deployment for mitigation of large-scale incidents. There is great deal of pertinent information, justification, and background supporting and defining the parameters of the plan outline noted above. However, the plan itself is not the forum for instruction in the various disciplines of emergency management—already addressed in training, policy, and operational procedure implementation in the course of the daily administration of the Department. A usable plan must be concise and to the point, free from unnecessary distraction, and an exercise in the economy of words.

Plan Parameters

A very brief description of the purpose of the plan and plan background allows for an approach from the appropriate perspective. Again, this is not plan justification, but a synopsis of the basic reasoning behind the plan from an operational perspective—how the plan improves emergency deployments. The need for the plan is already apparent and established, and a rehashing of that process is not necessary here.

Definitions of key terminology that may not be common in the daily deployment plan or that may reinforce a particular concept within the Major Emergency Operations Plan will be included here.
Plan Activation

A critical factor in the Major Emergency Operations Plan (MEOP) process is activation. The answer to the activation question will come from the plan definition of what constitutes a major emergency. The following BFD Operations definition applies:

Major Emergency: a significant emergency event requiring strategic and operational planning and management above that required during a routine emergency event. Command, management, and resource deployments may exceed what is typically necessary during the daily operational deployment plan, although the scenario is a localized event, with a relatively short-term duration, not beyond the capabilities of a modified local government response (Bakersfield Fire Department Operations Section, 2006).

In the event that an incident that meets the above minimum definition occurs (or will likely occur), activation of the Major Emergency Operations Plan should follow. Activation of the plan will be the responsibility of the Bakersfield Fire Department, Deputy Chief of Operations.

Additionally, the Fire Department should consider monitoring a range of operating or threat levels that would reinforce the idea that an acute, major shift in deployment correlates to the current environmental (emergency) conditions. Understanding where the organization is relative to where it would be when the MEOP fully activates may produce a general, heightened awareness on a daily basis, as opposed to an all-or-nothing scenario. The following is an example of a
graduated, threat-based system, directly linked to the broader City of Bakersfield EOP (see Figure 8) through common terminology:

- Minor emergency threat
- Moderate emergency threat
- Major emergency threat
- Disaster emergency threat

The first three threat levels coincide with the City of Bakersfield EOP (see Figure 6) language and definition for severity levels. However, the fourth level “Disaster” emergency threat is necessary as a separate operational mode that coincides with the State of California Office of Emergency Service (OES) benchmark.

**Command and Control**

The Bakersfield Fire Department Operations Center (DOC) is a critical component in the management of the complex expanded response process necessary for mitigation of large-scale incidents. The DOC provides a concentrated, focused command level management team and facilities specifically assigned to provide structure and guidance to what will be a chaotic, and system taxing demand for emergency services. Activation of the DOC should follow the activation of the Major Emergency Operations Plan. Activation of the DOC will be the responsibility of the Bakersfield Fire Department, Deputy Chief of Operations.

The City of Bakersfield Emergency Operations Center (EOC) will benefit from the presence of designated Bakersfield Fire Department Chief Staff Officers in the EOC Operations Section. Other BFD Officers designated and assigned as necessary will insure adequate integration of the Fire DOC with the City EOC.
The Bakersfield Fire Department Operations Center (DOC) and City of Bakersfield Emergency Operations Center (EOC) must integrate with the State OES Area Emergency Operations Center (EOC). This issue is mainly one of pre-planning for communication and logistical integration of State Master Mutual Aid System resource ordering and deployment.

The Bakersfield Fire Department should train a minimum of fifteen administrative and suppression personnel to staff a Type III "Metro" Incident Management Team (IMT) and include in the plan, methods for activating and managing the DOC and supporting EOC functions through the IMT.

The City of Bakersfield, as a geographical concern, is static in terms of the major emergency or disaster planning. The boundaries of the jurisdiction are not fluid and will not change, and should figure significantly in the command and control portion of the plan. Based on the nature and physical size of the emergency, the plan may specify jurisdictional partitioning into a maximum of four predetermined, geographically based ICS Divisions. For example, a citywide event such as an earthquake would require the following command assignments (see Figure 7):

- Division A (north-west)
- Division B (north-east)
- Division C (south-west)
- Division D (south-east)

Each of these Divisions would operate under a Battalion Chief Officer assigned as the Division Commander for that area. Events that are less wide spread and more localized may only require the assignment of the Divisions affected. Single resources, grouped together with common communications and an ICS Leader
(Field Operations Guide, 2004) are the next ICS level assignment made under those Divisions. Task Forces, Strike Teams, or single resources would operate within the Division under the Command of a Chief Officer assigned as a Division Supervisor (see Figure 3). ICS "Branch" assignments may also be appropriate where the incident command structure must expand for the appropriate span of control (see Figure 4):

Branch 1
- Division A (north-west)
- Division B (north-east)
- Medical Group 1
- Medical Group 2

Branch 2
- Division C (south-west)
- Division D (south-east)
- Medical Group 3
- Medical Group 4

Continued expansion of the system logically follows this ICS foundation, with necessary geographical and functional assignments, until enough resources deploy within acceptable spans of control, to stabilize the areas of major concern under respective areas of command (see Figure 5):

Branch 1
- Division A (north-west)
- Medical Group 1
- Rescue Group 5

Branch 2
- Division B (north-east)
- Medical Group 2
- Rescue Group 6
Branch 3
- Division C (south-west)
- Medical Group 3
- Rescue Group 7

Branch 4
- Division D (south-east)
- Medical Group 4
- Rescue Group 8

The previous command outlines and Incident Command System (ICS) organizational charts present several potential options. Other options may include the "Area Command" concept as opposed to the Branch concept (see Figure 6). Specific and in-depth analysis of the entire delivery system is necessary to determine the final command structure(s) that will be appropriate for the MEOP.

The command and control portion of the plan should be based in National Incident Management System (NIMS) and State Emergency Management System (SEMS) compliant incident command (ICS) structures that will integrate with Office of Emergency Services (OES), Federal Emergency Management Agency (FEMA), and other mutual aid responses necessary for true disaster-level mitigation (Zuckerman, 2005 & California Code of Regulations, 2006).

Resource Deployment

A major consideration in resource deployments for a large-scale incident is managing the emergency recall process. The plan must provide guidance for the emergency recall of off-duty personnel, and address issues such as automated or manual call back procedures, a designated check-in location, recall personnel
accountability, and initial assignments for integration into the incident. This process should be coordinated through the Planning Section (Field Operations Guide, 2004), located at the Fire Department Operations Center (DOC).

A correlated factor in emergency call back is family accountability, or a method of insuring that the families of both on-duty and off-duty personnel are secured during a large-scale incident. Addressing this issue will assist in the timely deployment of all Fire Department resources assigned to the event.

Traditional daily resource deployment configurations will initially be reinforced, and then later enhanced for large-scale incident response. The use of ICS assignments and groupings such as Task Forces and Strike Teams will provide added synergy. These groupings consist of up to five single resources, with common communications and a “Leader” (Field Operations Guide, 2004) that may operate under broad objectives with improved effectiveness and synergy compared to single resource responses, which are likely to be overwhelmed (see Figure 9). The deployment of these groupings may be planned for and distributed initially under the Division concept noted in the Command and Control portion of the plan, and deployed dynamically as needed during the event (see Figure 3).

Single resource use may be necessary as well, and the plan should specify their use in the mitigation of acute, but limited problems identified as critical priorities within their assigned Division. Single resource deployments are typically weaker in these scenarios than grouped resources however.

Due to the probability that a Multiple Casualty or Mass Casualty Incident (MCI) will be an issue within the larger event (Kern County EMS Medical Operations,
Annex D, 2004) Fire Department Advanced Life Support (ALS) provision will be critical in increasing the survivability potential of injured victims. Currently, ALS provision is a function of private companies operating within the City of Bakersfield. There are simply not enough private company paramedics and ambulances available to address the ALS requirements of a large-scale incident, and the Fire Department must begin the process of integrating ALS into its existing delivery mechanisms. Private ambulance ALS providers should also be included in the resource deployment portion of the plan within Group or Strike Team configurations, assigned under Fire Department Supervisors or Leaders that may operate across Divisional boundaries (Field Operations Guide, 2004).

Mutual aid and assisting agency resources will be checked into the system through the Planning Section (Field Operations Guide, 2004), located at the Fire Department Operations Center (DOC), and assigned to the incident through the Operations Section (Field Operations Guide, 2004), also located at the Fire Department Operations Center (DOC). Tracking and accountability will also occur via this formal ICS process under the Resource Status unit. A specific area, such as the Olive Drive Fire Training Facility (ODFTF) or California State University Bakersfield (CSUB), designated in the MEOP will act as an initial staging area for all in coming mutual aid resources. All mutual aid and assisting agency deployments will be consistent with California State Office of Emergency Services (OES), SEMS and NIMS compliant Field Operations Guide ICS 420-1 deployment guidance. This will provide for mandated common operating mechanisms during a large-scale incident.
The resource deployment portion of the plan will coordinate various non-traditional resource and non-governmental community support groups such as Community Emergency Response Teams (CERT), Voluntary Organizations Active in Disaster (VOAD), the Red Cross, the Salvation Army, and others. These groups may serve vital support functions that are invaluable to the successful mitigation of a large-scale incident (Dynes, 1994). These organizations are inspired to assist during emergent conditions (James 2003) and preplanning their involvement is key to a fluid integration.

Communication

A critical operational component to the MEOP is intra-incident communications. A specific communications plan may be predetermined for implementation by the Logistics Section and the Communications Unit Leader (Field Operations Guide, 2004). The general pre-designation of various operating, command, and tactical frequencies will allow for a smoother operational transition when heavy communications traffic initiates an acute shift in radio protocols. Fire Department and other communications systems are still a major weakness in a large-scale incident, with little post 9-11 improvement made (Larkin, 2006). The Fire Department should begin identifying the number of radio channels, as well as other communication infrastructure needs, necessary for large-scale incident operations and adjust the existing communications system as needed to accommodate additional repeated and non-repeated frequencies.
Public Information is another critical communication component of the MEOP. The dissemination of information to the public via media outlets is a crucial method of communicating the scope and nature of the incident, appropriate evacuation and safety instructions, and the short and long-term mitigation outlook for the event to the public. The MEOP should include the assignment of a Public Information Officer (Field Operations Guide, 2004) as part of the Command Staff and the Joint information Center (JIC) for disseminating accurate reports and instructions that may make a difference in the survivability of victims.

The MEOP should reflect an approach to community collaboration and pre-event communication as a means of reinforcing the Fire Department response to large-scale incidents. Non-traditional resources such as Community Emergency Response Teams (CERT), Voluntary Organizations Active in Disaster (VOAD), the Red Cross, the Salvation Army, and other non-governmental community support groups integrated into the MEOP via the deployment portion of the plan, need their roles defined ahead of the actual event. Open, frank communication between the Fire Department and community is critical in the successful mitigation of large-scale incidents. Delivering the message that there are not enough physical resources to assist everyone in every case and that citizens must help themselves in a disaster situation, will improve the overall participation and resiliency of the community. As noted by Florida Governor Jeb Bush, “providing clear and consistent direction to citizens before, during and following disasters is key to emergency preparedness and an effective response” (EMAP, p4, 2006).
A webpage linked from the Fire Department website is an auxiliary method of keeping the community informed on current emergency operations and incident forecasts. This type of information may be most valuable to those concerned individuals that are located outside of the area, region, or state that are attempting to determine the status of family members located within the emergency area, and the overall scope of the incident.

No plan will be effective without the proper exercise. One author with a critical healthcare background suggested that organizations may very well have a legitimate and workable plan, but those plans are of little value when they are not fully communicated to the responders through training and drills (Shover, 2007).

Training

The outcome of the response plan itself is to a degree based on the sum quality and training of those tasked with implementation. This is particularly evident for Fire Department personnel, who are typically very familiar with and receptive to (even reliant on) the concept of proficiency through regularly scheduled drills and physical training. Identifying and mandating the training frequency is critical in order to insure that the plan receives the appropriate exercise.

Training is also a community-wide issue in terms of plan success. This citizen-based training relates to the physical plan itself only in terms of general preparedness and increased self-sufficiency within the community. There is a direct correlation between disaster response success and the level of an individual preparedness within a community (Armour, 2006). The recommendation then is that
the Fire Department should also train the community on exactly what response they may expect from their local first responders, and what role they play in that response (Talbott, 2006). More importantly, the community must receive the message (training) indicating what they may not expect from the Fire Department during a large-scale incident.

This knowledge may indirectly improve the effectiveness of the Bakersfield Fire Department MEOP by improving self-sufficiency and resiliency within the community, and lessen the overall burden on emergency services during acute demand periods. Again, training will not be included as a physical component of the final MEOP itself, but may simply be included as an area of concern for plan formulation under the recommended outline.
Chapter 4: Summary

Conclusions

This study has identified the strategic planning and response void that currently exists in the metropolitan Bakersfield disaster mitigation process. The research indicates and supports the argument that the Bakersfield Fire Department cannot effectively mitigate or reduce the impacts of large-scale incidents without a local strategic plan that seamlessly graduates from daily emergency response to major emergency or disaster operations.

During a major emergency or disaster, requests for emergency service will overwhelm the Bakersfield Fire Department. To meet this acute surge in demand, the Department must initiate and manage:

- Command and control,
- Reinforced resource deployments,
- Mutual aid and assisting agency responses,
- Non-traditional and citizen-based resources
- Patient surge and mass-casualty scenarios
- Advanced life support provision
- Triggering mechanism for emergency plan activation,
- Public information and education

The Fire Department should formally address these issues as part of pre-incident planning and through organizational integration by adopting a physical and highly visible MEOP document.

This proposal for the implementation of a Major Emergency Operations Plan (MEOP) for the Bakersfield Fire Department has its foundation in research and analysis of existing literature, planning processes, and case studies. The basic plan
outline provides guidance to the Fire Department in formulating a plan modifiable to meet local response capabilities, geographical challenges, and specific target hazards or local threats:

- Plan Parameters
- Plan Activation
- Command and Control
- Resource Deployment
- Communication

The plan outline addresses broad operational areas that allow for planning that is minimally invasive, but integrated and present in the background of all day-to-day operations, and expandable as events escalate or incidents warrant. The study also provides operational recommendations usable as the basis for a plan that will not only improve the response processes and service delivery of the Bakersfield Fire Department during major emergencies, but provides an improved strategic and operational foundation for response under all levels of acute emergency.

The value of a Major Emergency Operations Plan (MEOP) lies in the benefits to numerous stakeholders. The most significant beneficiaries are local community residents, with a reduced potential for negative impacts through a formally organized strategic and operational approach to emergency management.

As noted, federal, state, region, and area based resources as well as other mutual aid and assisting agencies will benefit from reduced interagency confusion and jurisdictional unfamiliarity issues through planning of operational responsibilities prior to a large-scale event.
Finally, the Bakersfield Fire Department, by implementing a Major Emergency Operations Plan (MEOP), will experience reduced stress and disorganization as the plan becomes formally adopted as the operational guidance that will assist in driving the local emergency mitigation efforts.

Cost Benefit Analysis

The cost associated with the formulation and implementation of a Major Emergency Operations Plan (MEOP) is relatively minimal. The planning process itself is mostly a practical and comparative analysis of the local emergency problem juxtaposed with available resources.

Physical compilation of a plan is simply part of what current operational efforts within the Fire Department should already focus on. If that focus currently does not exist, then a redirection of operational efforts away from less valuable issues to those more pertinent in large-scale emergency planning must occur. This resource shift does not result in additional costs, but simply shifts them to the more critical and appropriate issue of major emergency planning.

However, there are costs associated with support of the plan, although they are relatively minimal compared to the operating budget for the Bakersfield Fire Department. These costs relate to training issues and capital improvement projects (CIP), some of which the state and federal government supplements with grant monies.

Two main training areas critical to support of the MEOP will require Fire Department funding. First, training personnel to initiate and operate under plan
parameters in simulated emergency conditions will require significant personnel callback for briefing meetings, physical drills and minimum daily deployment coverage. Next, training fifteen Bakersfield Fire Department personnel to the Type III "Metro" Incident Management Team (IMT) level will require a funding outlay for both the initial certification sessions and the ongoing maintenance of a fully trained and staffed team. Grant funding offsets a great deal of the costs associated with this training, but not to perpetuity.

Capital improvement costs relate to Department Operations Center (DOC) infrastructure. This includes preparation of the physical location itself, as well as computer hardware and software, telecommunications hardware and wiring, monitoring equipment and other features necessary for command center functions. Federal grant funding may largely minimize these costs, however.

With low overall funding requirements, the cost-benefit of this planning is obvious. Even with significant underlying funding issues, the benefit of engaging in major emergency operations planning outweighs the "no-planning" alternatives. Those alternatives all involve some degree of increased human suffering, property loss and damage, and organizational stress and chaos that is difficult to equate monetarily. How much are the collective lives within our community worth? How much is even one life worth? The answer is that they are certainly worth more than the relatively minimal costs associated with this type of planning.
Alternatives

Analysis of the alternatives for major emergency or disaster planning occurs on a very slippery slope. It appears that all comparative analysis eventually leads (slips) back to a simple, base foundation of two alternatives:

- Plan
- Do not plan

While numerous variations of a physical plan are possible, simply adjusting the content or layout of any existing or new plan is still in fact planning, and does not qualify as a true alternative. There are no acceptable alternatives to planning in this case, as “not planning” is no longer appropriate here. There are no substitutes for the Fire Department in terms of pre-planning and preparation for large-scale emergency events. In that regard, the two choices noted above constitute the entire list of options for alternatives in this study.

Recommendations

- Implementation

Clearly, the major recommendation, as a product of the research and analysis of this study, is for the Fire Department to implement a Major Emergency Operations Plan as a means of improving the outcomes of large-scale incident mitigation efforts. The plan outline as indicated in earlier chapters is not the plan itself per se, but a general outline or road-map to preparation of a plan specific to the local geography, environmental conditions, target hazards and risks, demographics and populations,
and the capabilities and resources of the Bakersfield Fire Department. In that regard, the Fire Department should follow these implementation steps:

Step 1: The Bakersfield Fire Department Administrative Staff Chiefs should review this proposal for implementation of a Major Emergency Operations Plan. The Staff Chiefs should collectively evaluate the proposal from administrative and operational perspectives and fine-tune the plan outline as guidance for implementation of a MEOP.

Step 2: The Bakersfield Fire Department Administrative Staff Chiefs should formally adopt this proposal as a working guideline, with modifications as necessary.

Step 3: The Bakersfield Fire Department Administrative Staff Chiefs should assign a MEOP Task Force, including both administrative and operational personnel, to investigate the local administrative and operational environments in terms of feasibility and relativity of the plan proposal.

Step 4: The Bakersfield Fire Department Administrative Staff Chiefs should provide their guidance and parameters in the form of the modified MEOP plan outline, and include their expectations of the outcomes. The Staff Chiefs should also monitor the progress of the Task Force process to ensure productivity and focus.

Step 5: The MEOP Task Force should engage in a ninety (90) day investigation of the proposal relative to the local operational environment. This investigation should focus on operational issues related to command and control, resource deployment, communications, and training.
Step 6: The MEOP Task Force should engage in a thirty (30) day investigation of the proposal relative to the local administrative environment. This investigation should focus on administrative issues such as budget, interagency compatibility, and local government support.

Step 7: The MEOP Task Force should then make recommendations to the Bakersfield Fire Department Administrative Staff Chiefs regarding how to proceed with a Major Emergency Operations Plan implementation. These Task Force recommendations should consider the initial guidance from the Staff Chiefs and this proposal, with the necessary modifications made based on the local administrative and operational environments.

Step 8: The Bakersfield Fire Department Administrative Staff Chiefs, based on the MEOP Task Force recommendations, should formally commit to (or decline) the Major Emergency Operations Plan implementation process.

- Research

The data indicates that there are likely more response failures to large-scale events than successes. Again, Fire Departments typically respond quite adequately to daily deployment pressures. However, when it comes to those major emergency or disaster level incidents considered high-risk but low-frequency, the track record is not necessarily confidence inspiring.

Case studies such as the World Trade Center and Katrina Hurricane disasters indicate that once emergency events reach a particular broadness of
scope or complexity, the traditional systems fail. There are not many examples of shining success in these infrequent scenarios, and when events such as the La Conchita mudslide, Kobe Earthquake, or California wildfires are considered, the list of ineffective response grows. Natural disasters largely relegate Fire Department responses to a “pick-up-the-pieces” approach as opposed to active mitigation that significantly changes the outcome of the event.

Additional study into the overall effectiveness of Fire Department responses to disasters from a cost-benefit perspective or taxpayer's expectation versus actual performance might shed more light on these issues. Not only in terms of planning weaknesses, but the reality of what is really feasible and what the true disaster response capabilities are in the U.S., in spite of whether active planning exists or not.
Appendix A
Most DHS funding focuses on terrorism related response

- Assistance To Firefighters Grant: 21%
- Other Grants: 2%
- Emergency Management Performance Grant: 5%
- Terrorism Grants: 72%

Source: DHS Efforts to Enhance First Responders all Hazard Capabilities Continue to Evolve. GAO - 05 - 652 July 2005
DHS Grant funding for terrorism and all-hazards

Figure 2

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<th>Terrorism</th>
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<td>FY 2002</td>
<td>$538</td>
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<td>FY 2006</td>
<td>$720</td>
<td>$2,640</td>
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</table>
Figure 3
Figure 5

EMERGENCY OPERATIONS CENTER

DEPARTMENT OPERATIONS CENTER

COMMAND STAFF

PLANS
OPERATIONS
LOGISTICS
FINANCE

BRANCH 1

DIVISION A (north-west)
- TASK FORCE
- TASK FORCE
- TASK FORCE
- STRIKE TEAM
- STRIKE TEAM

MEDICAL GROUP
- ENGINE
- AMB.
- AMB.
- AMB.

BRANCH 2

DIVISION B (north-east)
- TASK FORCE
- TASK FORCE
- TASK FORCE
- STRIKE TEAM
- STRIKE TEAM

MEDICAL GROUP
- ENGINE
- AMB.
- AMB.
- AMB.

BRANCH 3

DIVISION C (south-west)
- TASK FORCE
- TASK FORCE
- TASK FORCE
- STRIKE TEAM
- STRIKE TEAM

MEDICAL GROUP
- ENGINE
- AMB.
- AMB.
- AMB.

BRANCH 4

DIVISION D (south-east)
- TASK FORCE
- TASK FORCE
- TASK FORCE
- STRIKE TEAM
- STRIKE TEAM

MEDICAL GROUP
- ENGINE
- AMB.
- AMB.
- AMB.
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<th>Response Level</th>
<th>Incident Complexity</th>
<th>Bakersfield City EOC</th>
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<td>Normal Operations</td>
<td>Routine Activity</td>
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<td>Localized Emergency Response</td>
<td>Crisis Action Team Notified</td>
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<td>Moderate Emergency</td>
<td>Multiple Emergency Event</td>
<td>Crisis Action Team Deployed</td>
</tr>
<tr>
<td>Major Emergency</td>
<td>Citywide Emergency Event</td>
<td>Full EOC Activation</td>
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</table>
RESOURCE DEPLOYMENT OPTIONS

SINGLE RESOURCE
Single unit with its assigned personnel and an identified "work supervisor" (Field Operations Guide, 2004)

STRIKE TEAM
May consist of up to five like single resources, with common communications and a "Leader" (Field Operations Guide, 2004).

TASK FORCE
May consist of up to five different single resources, with common communications and a "Leader" (Field Operations Guide, 2004).
Appendix B
MAJOR EMERGENCY OPERATIONS PLAN (Outline)

- I. Plan Parameters
- II. Plan Activation
- III. Command and Control
- IV. Resource Deployment
- V. Communication
- VI. Training

I. Plan Parameters

- Purpose
- Background
- Definitions

II. Plan Activation

- Triggering Mechanisms

III. Command and Control

- Bakersfield Fire Department Operations Center (DOC)
  - Configuration
  - Activation
- City of Bakersfield Emergency Operations Center (EOC)
  - Integration
  - Support
- State OES Area Emergency Operations Center (EOC)
  - Integration
- Type III "Metro" Incident Management Team
  - Activation
• Incident Command System (ICS)
  o Division Command
  o Branch Command
  o Area Command
  o Multiple Agency Command (MAC)
  o National Incident Management System (NIMS)
  o State Emergency management System (SEMS)

IV. Resource Deployment

• Emergency Recall Process
  o Deployment
  o Accountability
  o Family Support

• Enhanced Resource Deployment
  o Reinforced Alarms
  o Task Force
  o Strike Team
  o Single Resource
  o Fire Department Advanced Life Support (ALS)
  o Ambulance Advanced Life Support (ALS)
  o Mutual Aid / Assisting Agencies

• Non-traditional Resource Deployment
  o Community Emergency Response Teams (CERT)
  o Voluntary Organizations Active in Disaster (VOAD)
V. Communication

- Communications Plan
  - Communications Unit Leader
  - Radio Frequency Assignments
- Public Information
  - Public Information Officer (PIO)
  - Joint Information Center (JIC)
- Major Emergency / Disaster Website

VI. Training

- Plan activation drills
- Community preparedness
References


Room for improvement in disaster plans. (2006) *American City & County,* 121 (3), 22.


Title 2, CFR. (2006) *California Code of Regulations,* 7 (1), Section 8558(c).


