

CITY OF MENLO PARK

EMERGENCY OPERATION PLAN 2014



Disclaimer

The material presented in this publication has been written in accordance with federal and state guidelines to meet current industry standards. However, this plan cannot anticipate all possible emergency events and situations or emergency responses. Therefore, it should not be used without competent review, verification, and correction (where appropriate) by qualified emergency management professionals. It should be tested by the Emergency Operations Center (EOC) team after they have received appropriate emergency management training. Conditions will develop in operations where standard methods will not suffice and nothing in this manual shall be interpreted as an obstacle to the experience, initiative, and ingenuity of the officers in overcoming the complexities that exist under actual emergency conditions. Users of this plan assume all liability arising from the plan's use.

The Emergency Management Consultant's Emergency Operations Plan ©
Prepared for the use by the City of Menlo Park

By

Emergency Management Consultants
&
City of Menlo Park
Menlo Park Fire Protection District
Menlo Park Police Department



Note:

The original document template has been edited by the staff of the San Mateo County Sheriff's Area Office of Emergency Services and Homeland Security and the staff of the City of Menlo Park. This plan was partly funded through a grant from the US Department of Homeland Security.

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EXECUTIVE SUMMARY

BACKGROUND

The City of Menlo Park Emergency Operations Plan (EOP) describes how the jurisdiction will manage and coordinate resources and personnel responding to emergency situations.

The City of Menlo Park EOP contains two volumes. The City of Menlo Park EOP is designed to be consistent with Homeland Security Presidential Directive (HSPD)-5, National Incident Management System (NIMS) and the California Standardized Emergency Management System (SEMS) requirements. The plan:

- Conforms to the National Incident Management System (NIMS) and the Standardized Emergency Management System (SEMS)
- Provides Emergency Operations Center (EOC) responders with procedures, documentation, and user friendly checklists to effectively manage emergencies
- Provides detailed information of supplemental requirements such as Public Information, Damage Assessment, and Recovery Operations.

The City of Menlo Park Emergency Operations Plan is a document that will be continually evolving. Recommendations for improvement are solicited and will be carefully considered for future revisions.

ORGANIZATION OF THE City of Menlo Park EMERGENCY OPERATIONS PLAN

The City of Menlo Park Emergency Operations Plan is composed of Volume One – EOC Guidebook and Section Checklists and Volume Two - NIMS/SEMS Basic Plan and support Annexes. The City of Menlo Park Emergency Operations Plan provides a comprehensive emergency response document that includes detailed information covering Emergency Operations Center procedures, documentation and reference and support information.

VOLUME ONE - EOC GUIDEBOOK AND SECTION CHECKLISTS

Immediate Action Checklists

This section provides guidelines on City of Menlo Park Crisis Action Team and Emergency Operations Center activation. It also provides lists of key points-of-contact for activation of the EOC and coordination of the initial emergency response.

Executive Summary

This section provides a quick overview of the Emergency Operations Plan (EOP) and how to use the plan.

Chapter One - Emergency Operations Center (EOC) Activation Procedures

This chapter provides general material on *Who, What, When, Where* and *How* to activate the City of Menlo Park Emergency Operations Center. Additional information is provided on the City of Menlo Park Crisis Action Team, the Standardized Emergency Management System (SEMS) and EOC organization and responsibilities.

- ❑ **Chapter Two - Emergency Operations Center (EOC) Section Checklists**

This chapter contains Emergency Operations Center Section specific information including Section overview information and individual EOC position checklists. The City of Menlo Park EOC Section Chiefs are responsible for ensuring each member within their Section reads and follows the checklist for their position.
 - ❑ **Chapter Three - Emergency Operations Center (EOC) Documentation**

This chapter provides Emergency Operations Center support documentation and essential information used in the completion of individual and Section responsibilities. The accurate completion of this documentation is essential for the timely dissemination of information within the City of Menlo Park EOC and to other EOC(s), and to maximize cost recovery after the response is completed. Section Chiefs are responsible for ensuring that their staff understand and use the documentation properly.
- Note: During the initial response, the completion of documentation is not more important than responding to save lives and property. However, as the initial response is completed and additional responders assume their positions in the City of Menlo Park, EOC accurate completion of documentation must commence.**

VOLUME TWO – City of Menlo Park BASIC PLAN

- ❑ **Chapter One – Basic Plan**

This chapter provides supplemental detailed information related to the plan assumptions, goals, training and exercises, maintenance of the plan, preparedness elements, the Standardized Emergency Management System (SEMS), the Incident Command System (ICS), Alerting and Notification procedures, continuity of operations, awareness and education, and hazardous materials response.
- ❑ **Chapter Two – Authorities and References**

This chapter contains federal, state, and city authorities that provide the legal basis for the City of Menlo Park Emergency Operations Plan.
- ❑ **Chapter Three – Threat Summary and Assessments**

This chapter provides threat summaries and hazard analysis for the City of Menlo Park.
- ❑ **Chapter Four - Recovery**

This chapter provides detailed information relating to federal, state, and local jurisdiction recovery categories and procedures.
- ❑ **Appendices**
 - Appendix A – Glossary of Terms
 - Appendix B – Acronyms and Abbreviations
 - Appendix C – Legal Documents
- ❑ **City of Menlo Park TERRORISM ANNEX**

FORWARD

BACKGROUND

This Emergency Operations Plan (EOP) addresses the City of Menlo Park planned response to extraordinary emergency situations associated with natural disasters and technological incidents. The plan does not address normal day-to-day emergencies or the well-established and routine procedures used in coping with such emergencies. Instead, the operational concepts reflected in this plan focus on potential large-scale disasters which can generate unique situations requiring expanded emergency responses. Effective response requires that the City of Menlo Park EOC responders remember to communicate, collaborate, coordinate, and cooperate with each other and with the field responders and other jurisdictions.

This plan is a preparedness document designed to be read, understood, and exercised prior to an emergency. It is designed to include the City of Menlo Park as part of the National Incident Management System (NIMS), the California Standardized Emergency Management System (SEMS) and the Incident Command System (ICS). For area-wide emergencies, such as a major earthquake, it becomes part of the San Mateo County emergency response.

Each element of the emergency management organization is responsible for assuring the preparation and maintenance of appropriate and current standard operating procedures (SOPs), resource lists and checklists that detail how assigned responsibilities are performed to support the EOP implementation and to ensure successful response during a major disaster. These SOPs should include the specific emergency authorities that officials and their successors assume during emergency situations.

ASSUMPTIONS

The City of Menlo Park Emergency Operations Plan and emergency response procedures are based on a set of assumptions which include:

- The City of Menlo Park is primarily responsible for emergency actions within its jurisdiction and will commit all available resources to save lives, minimize injury to city staff and the public, and minimize property damage.
- The City of Menlo Park will utilize NIMS/SEMS/ICS in emergency response operations.
- The City of Menlo Park EOC Director will coordinate the disaster response in conformance with the City of Menlo Park emergency response policy.
- The City of Menlo Park will coordinate emergency response with San Mateo County.
- The resources of the City of Menlo Park will be made available to local jurisdictions and citizens to cope with disasters.
- The City of Menlo Park will commit its resources to a reasonable degree before requesting mutual aid assistance.
- Mutual aid assistance will be requested when disaster relief requirements exceed the City of Menlo Park ability to meet them.
- This EOP does not guarantee a perfect response for all situations. The plan outlines hazards that are treated as hypothesis rather than fact and identifies recommended guidelines to coordinate response activities. Users of this plan assume all liability arising from the plans use.
- The EOP is NOT intended for day-to-day emergencies, but rather for disaster situations where normal resources are exhausted or have reached very low levels.

EMERGENCY MANAGEMENT GOALS

The City of Menlo Park has established a set of Emergency Management Goals for emergency response which includes:

- Provide effective life safety measures and reduce property loss
- Provide for the rapid resumption of the City of Menlo Park basic services
- Provide accurate documentation and records required for cost recovery efforts

ACTIVATION OF THE EMERGENCY OPERATIONS PLAN

The City of Menlo Park Emergency Operations Plan will be activated under the following conditions:

- The EOP can be activated on the order of any member of the City of Menlo Park Crisis Action Team. (Volume Two, Chapter 1, page 4 - Who can Activate).
- When the governor has proclaimed a state of emergency in an area including the City of Menlo Park.

HAZARDOUS MATERIALS

The San Mateo County Hazardous Materials Response Teams is designated as the administering and response agency for Hazardous Materials (HAZMAT) response for the City of Menlo Park.

APPROVAL AND PROMULGATION

This City of Menlo Park EOP will be reviewed by the Emergency Management Coordinator and the City of Menlo Park EOC Staff. Upon completion of review and written concurrence by these individuals, the EOP will be submitted to the City of Menlo Park City Manager for approval.

TRAINING AND EXERCISES

An emergency plan is not an end in itself. Training is necessary to make the planning concepts a natural response, in addition to training on the plan itself. Training should include exercises that test the interaction between the local jurisdictional EOC, field units, Operational Area, and OES Regional Emergency Operations Centers (REOC). Exercises should be documented with after action critiques addressing corrective measures and deadlines for completion.

SEMS requires that emergency responders document training and be consistent with SEMS. The planning process provides an opportunity to identify specific SEMS training needs and to schedule appropriate training. The emergency plan may be used to define which SEMS training is required by departments and agencies that have defined emergency response roles and responsibilities. The EOP is a convenient place to document training conducted and the location of training records.

Training and exercises are essential at all levels of government to make emergency response personnel operationally ready. A goal of the City of Menlo Park is to train and educate city staff and emergency response personnel in emergency preparedness and response. The City of Menlo Park City Manager Office oversees the EOP. The Emergency Services Coordinator or designee is responsible for coordination and scheduling of training for staff and exercising of the City of Menlo Park EOP. The City of Menlo Park EOP training program should include plan orientation and EOC procedures training followed by a realistic EOC exercise program.

The best method for training emergency response personnel to manage emergency operations is through realistic exercises. An exercise is a simulation of a series of emergencies for identified hazards affecting the City of Menlo Park. During these exercises, emergency response personnel are required to respond as though a real emergency had occurred. The exercises should be designed to provide personnel with an opportunity to become thoroughly familiar with procedures that will actually be used in emergency situations.

There are several forms of exercises that should be conducted:

- Tabletop exercises provide a convenient and low-cost method designed to evaluate policy, plans and procedures, and resolve coordination and responsibility issues. Such exercises are a good way to see if policies and procedures exist to handle certain issues.
- Functional exercises are designed to test and evaluate the capability of an individual function such as evacuation, medical, communications or public information or to provide an opportunity for the jurisdiction Emergency Response Team to respond to a realistic scenario in the EOC environment.
- Full-scale exercises simulate an actual emergency. They typically involve the complete emergency management staff and field units and are designed to evaluate the operational capability of the entire emergency management system.

The City of Menlo Park will conduct regular exercises of this plan to train all necessary Emergency Response Team members in the proper response to disaster situations.

MAINTENANCE OF THE EMERGENCY OPERATIONS PLAN

The City of Menlo Park Emergency Operations Plan will be reviewed at least annually to ensure that plan elements are valid and current. Each responsible City of Menlo Park Emergency Response Team member will review and upgrade his/her portion of the EOP and/or modify applicable SOP/EOP(s) as required based on identified deficiencies experienced in drills, exercises or actual occurrences. Changes in local government and the City of Menlo Park emergency response organizations will also be considered in the EOP revisions. The City of Menlo Park Emergency Service Coordinator or designee is responsible for making revisions to the EOP that will enhance the conduct of response and recovery operations. The Emergency Service Coordinator or designee will prepare, coordinate, publish and distribute any necessary changes to the plan to all city departments and other entities as shown on the distribution list on the Records Revision Page of this Emergency Operations Plan. Minor revisions can be approved and implemented without City Councils approval by the Emergency Service Coordinator or at the discretion of the Crisis Action Team.

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Approval Date: _____

LETTER OF PROMULGATION

TO: OFFICIALS AND STAFF OF THE CITY OF Menlo Park

The preservation of life and property is an inherent responsibility of the City of Menlo Park Management Staff. The City of Menlo Park has prepared this Emergency Operations Plan to ensure the most effective and economical allocation of resources for the protection of city staff and the citizens of the City of Menlo Park in any emergency situation.

While no plan can prevent death and destruction during an emergency, good plans carried out by knowledgeable and well-trained personnel can and will minimize losses. This plan establishes the emergency organization, assigns tasks, specifies policies and general procedures, and provides for coordination of planning efforts of the emergency staff and service elements utilizing the Federal National Incident Management System (NIMS), the California Standardized Emergency Management System (SEMS) and the Incident Command System (ICS).

The objective of this plan is to incorporate and coordinate all the resources, facilities, and personnel of the City of Menlo Park into an efficient organization capable of responding to any emergency.

This SEMS Emergency Operations Plan is an extension of county, state and federal emergency plans.

The City of Menlo Park City Manager gives full support to this plan and urges all City of Menlo Park staff, individually and collectively, to do their share in maintaining the total emergency preparedness and response effort of the city.

Concurrence of this promulgation letter constitutes the adoption of the Federal National Incident Management System (NIMS), the Standardized Emergency Management System (SEMS) and the Incident Command System (ICS) by the City of Menlo Park. The City of Menlo Park Emergency Operations Plan will become effective on approval by the City Manager.

City Manager, Alex McIntyre

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CHAPTER ONE BASIC PLAN

PURPOSE

The City of Menlo Park NIMS/SEMS Emergency Operations Plan (EOP) addresses the City's planned response to emergencies associated with natural disasters and technological incidents. The Emergency Operations Plan provides an overview of operational concepts, and identifies components of the City of Menlo Park Emergency Response Team established by the Federal National Incident Management System (NIMS), the California Standardized Emergency Management System (SEMS) and the Incident Command System (ICS).

AUTHORITIES AND REFERENCES

Disaster response and recovery operations will be conducted as outlined in Concept of Operations of this Chapter and in accordance with the enabling legislation, plans, and agreements listed in Volume Two, Chapter Two - Authorities and References.

PREPAREDNESS ELEMENTS

In the City of Menlo Park, planning ahead for emergencies is part of normal government operations, and all city staff share responsibility for preparedness. An emergency can strike anytime or anywhere and a disaster will affect the entire community. The City of Menlo Park places emphasis on several aspects of preparedness including:

- Conducting comprehensive emergency operations planning
- Training emergency response team personnel
- Providing awareness training on emergency response
- Assuring the adequacy of resources to respond to emergencies

CONCEPT OF OPERATIONS

Operations during emergencies involve a full spectrum of response levels. Some emergencies will be preceded by a warning period which provides sufficient time to notify the community and implement mitigation measures designed to reduce loss of life and property damage. Other emergencies occur with little or no advance warning, thus requiring immediate activation of the City of Menlo Park Emergency Operations Plan and commitment of city response resources. The City of Menlo Park Emergency Response Team must be prepared to respond promptly and effectively to any foreseeable emergency.

City of Menlo Park EMERGENCY MANAGEMENT SYSTEM

The City of Menlo Park emergency management system consists of four levels:

- "On-scene" (field response)
- Crisis Action Team
- Emergency Operations Center (EOC) Emergency Response Team
- Policy/Advisory Group

The four management levels provide an efficient means of establishing and carrying out the different activities required to:

- Coordinate city-wide support of “On-scene” response personnel and equipment
- Manage and coordinate resources and mutual aid
- Coordinate response efforts with the other local jurisdictions and San Mateo County

“On-Scene” or Field Response Level

The "On-Scene" or field response level is where emergency response personnel and resources, under the command of an appropriate fire or law enforcement authority, carry out tactical decisions and activities in direct response to an incident or threat. The Incident Command System is the “On-Scene” management structure used for emergency response. ICS, like SEMS, provides for five functions: Command (Incident Commander), Operations, Planning, Logistics, and Finance. Note: Tactical “On-Scene” response decisions are made at the field Incident Commander level - NOT in the EOC.

City of Menlo Park Crisis Action Team

Depending on the nature of the emergency, the Crisis Action Team can meet at the City Manager’s office or confer by telephone to make immediate decisions about an emergency response. The precise composition and activities of the Crisis Action Team will depend on the specific emergency circumstances and functions needed. Other assisting jurisdiction/agency representatives may be included in the Crisis Action Team discussions/meetings as needed. Standing members of the Crisis Action Team include the following City of Menlo Park Officials:

- City Manager, City of Menlo Park
- Police Chief, City of Menlo Park
- Public Works Director, City of Menlo Park
- Fire Chief, Menlo Park Fire Protection District

Any member of the City of Menlo Park Crisis Action Team may call a meeting or initiate a conference call. The Crisis Action Team records its decisions. Possible options may include:

- A decision to do nothing
- A decision to proceed with “watchful waiting” while being prepared to either meet again or mobilize the EOC in response to the situation
- A decision to partially activate the EOC
- A decision to fully activate the EOC

City of Menlo Park Emergency Operations Center Response Team

The City of Menlo Park Emergency Operations Center (EOC) Response Team coordinates the overall city emergency response and recovery activities utilizing the SEMS organization. SEMS, like ICS, provides for five functions: Management (EOC Director), Operations, Planning, Logistics, and Finance. Note: Tactical “On-Scene” response decisions are made at the field Incident Commander level - NOT by members of the EOC Response Team. The EOC provides a centralized location for the strategic decisions and planning for the city’s various response and recovery activities, and for support of field operations.

City of Menlo Park Policy/Advisory Group

The Policy/Advisory Group is made up of the members of the City of Menlo Park Mayor and City Council. The City Manager will normally request the Policy/Advisory Group to convene when needed and establish a regular meeting/briefing schedule. The Policy/Advisory Group may convene to develop executive level policies, facilitate multi-jurisdictional coordination and ratify the declaration of the state of emergency or other official documents. The Policy/Advisory Group provides a forum for consideration of extraordinary policy issues that are above the authority of the EOC Director and/or City Manager. The Policy/Advisory Group can assist the EOC Director through advice and policy direction and by creating a conduit to other government officials and the public. The Policy/Advisory Group will meet at the City Council Chambers to avoid the congestion of the EOC and provide a secure quiet location for discussion of sensitive issues.

The City of Menlo Park Policy/Advisory Group may request assistance or advice from any county, state or federal official. Any other city, county department/agency, or assisting organization (e.g, hospital, utility, etc.) may also be solicited for advice.

EMERGENCY RESPONSE PHASES

Emergency management activities are often associated with the four emergency management phases indicated below; however, not every disaster necessarily includes all phases.

Preparedness Phase

The preparedness phase involves activities taken in advance of an emergency. These activities develop operational capabilities and pre-established response procedures to an emergency. These actions might include mitigation activities, emergency/disaster planning, training and exercises, and staff preparedness education. Those city staff identified as members of the Emergency Response Team, having either a primary or support roles relative to emergency response, should review this EOP and prepare appropriate supplemental Standard Operating Procedures (SOPs)/Emergency Operating Procedures (EOPs) and Checklists detailing personnel assignments, policies, notification rosters, and resource lists.

Increased Readiness

Increased readiness actions will be initiated after the receipt of a warning or the observation that an emergency situation is imminent or soon likely to occur. Actions to be accomplished include, but are not necessarily limited to the points listed below:

- Review and update of Emergency Operations Plans, SOPs/EOPs, and resources listings
- Dissemination of accurate and timely emergency public information
- Inspection of critical facilities
- Recruitment of additional staff
- Mobilization of resources
- Testing warning and communications systems

Response Phase

Pre-Emergency

When a disaster is inevitable, actions are precautionary and emphasize protection of life. Typical responses might be:

- Evacuation of threatened populations to safe areas
- Advising threatened populations of the emergency and appraising them of safety measures to be implemented
- Advising San Mateo County and the Mayor and City Council of the emergency
- Identifying the need for mutual aid and requesting such through the San Mateo County Office of Emergency Services
- Requesting a emergency proclamation by government authorities and/or San Mateo County

Emergency Response

During this phase, emphasis is placed on saving lives and property, control of the situation, and minimizing effects of the disaster. Immediate response is accomplished in the City of Menlo Park by timely and effective deployment of local government agencies (fire, law enforcement, EMS etc.). One of the following conditions will apply to the city during this phase:

- The situation can be controlled without mutual aid assistance from outside the City of Menlo Park.
- Evacuation of portions of the City of Menlo Park are required due to uncontrollable immediate and ensuing threats
- Mutual aid from outside the City of Menlo Park is required
- The City of Menlo Park is either minimally impacted or not impacted at all and is requested to provide mutual aid to other jurisdictions

The City of Menlo Park will give priority to the following operations:

- Dissemination of accurate and timely emergency information and warning to the citizens of the City of Menlo Park
- Situation analysis
- Resource allocation and control
- Evacuation and rescue operations
- Care and shelter operations
- Restoration of vital services

When the City of Menlo Park resources are committed to the maximum and additional resources are required, requests for mutual aid will be initiated through the San Mateo County Office of Emergency Services or the San Mateo County EOC. The City of Menlo Park Police, Fire, and Public Works Departments will request or render mutual aid directly through established channels. Any action which involves financial outlay by the city or a request for military assistance must be authorized by appropriate officials. If required, the California Office of Emergency Services (OES) may be requested by San Mateo County to coordinate the establishment of one or more Disaster Support Areas (DSAs) where resources and supplies can be received, stockpiled, allocated, and dispatched to support operations in affected area(s).

Depending on the severity of the emergency, the City of Menlo Park Emergency Operating Center (EOC) may be activated, and the San Mateo County OES will be advised. A state of emergency may be proclaimed at the city and/or county levels. Should a gubernatorial state of emergency be proclaimed, state agencies will, to the extent possible, respond to requests for assistance. These activities will be coordinated with the State OES Director and/or Governor. State OES may also activate the State Operations Center (SOC) in Sacramento to support local jurisdictions and other entities in the affected areas and to ensure the effectiveness of the state's emergency response.

Sustained Emergency

In addition to continuing life and property protection operations, mass care, relocation, registration of displaced persons and damage assessment operations will be initiated.

Recovery Phase

As soon as possible, the State OES will bring together representatives of federal, state, county, and city agencies, as well as representatives of the American Red Cross, to coordinate the implementation of assistance programs and establishment of support priorities. The general public can obtain individual disaster assistance through the FEMA telephone coordination center by dialing 1 800 462-9029 or 1 800 462-7585 (for the hearing impaired).

The recovery period has major objectives that may overlap, including:

- Resumption of City of Menlo Park services
- Restoration of essential utility services
- Permanent restoration of City of Menlo Park property
- Identification of residual hazards
- Plans to mitigate future hazards
- Recovery of costs associated with response and recovery efforts
- Cleanup and waste disposal

Mitigation Phase

Mitigation efforts occur both before and following disaster events. Post-disaster mitigation is part of the recovery process. Eliminating or reducing the impact of hazards that exist within the City of Menlo Park that threaten life and property are part of mitigation efforts. There are various mitigation tools:

- Coordination with local and state officials to change ordinances and statutes (zoning ordinance, building codes and enforcement, etc.)
- Structural measures
- Public information and community relations
- Land use planning
- Professional training

EMERGENCY LEVELS

The magnitude of the emergency will dictate the City of Menlo Park response level. Response levels are used to describe the type of event, extent of coordination or assistance needed, and degree of participation from the city departments.

Readiness and Routine Phase - Normal Operations

At this level, the City of Menlo Park departments respond to daily emergency situations. Stand-by and activation procedures should be issued in advance of an anticipated or planned event.

Minor Emergency - Level One - Decentralized Coordination and Direction

A Level One emergency is a minor to moderate incident wherein the City of Menlo Park resources are adequate and available. The City of Menlo Park EOC is not activated. Off-duty personnel may be recalled. City and/or mutual aid police, fire, public works, or medical responders use on-scene Incident Command System (ICS) procedures. Based on the type of emergency, the appropriate authority monitors the situation and provides assistance. The City of Menlo Park Crisis Action Team may be formed to deal with Level One emergencies.

Moderate Emergency - Level Two - Centralized Coordination and Decentralized Direction

A Level Two emergency is a moderate to severe emergency in which the City of Menlo Park resources are not adequate and mutual aid may be required. Key management personnel from the involved departments will co-locate to provide jurisdiction coordination. The City of Menlo Park EOC may be partially or fully activated based on the severity of the situation. Off-duty personnel may be recalled. A local emergency and a state of emergency may be requested and the San Mateo County OES will be notified. The San Mateo County EOC may be activated.

Major Emergency - Level Three - Centralized Coordination and Direction

A Level Three emergency is a major local or regional disaster wherein resources in or near the impacted area are overwhelmed and extensive county, state and/or federal resources are required. A declaration of emergency is usually issued at the city level and possibly at the county, state and federal levels. The overall response and early recovery activities will be managed from the City of Menlo Park EOC with the San Mateo County EOC being activated based on the situation. Off-duty City of Menlo Park response personnel will be recalled as required.

The City of Menlo Park Emergency Operations Plan is based on the Federal National Incident Management System (NIMS), the Standardized Emergency Management System (SEMS) and the Incident Command System (ICS).

NATIONAL INCIDENT MANAGEMENT SYSTEM (NIMS)

On February 11, 2003, the President of the United States issued Homeland Security Presidential Directive (HSPD)-5, which directed the Secretary of Homeland Security to develop and administer a National Incident Management System (NIMS). State, County and City level jurisdictions are required to comply with NIMS.

STANDARDIZED EMERGENCY MANAGEMENT SYSTEM (SEMS)

SEMS is the system required by Chapter 7 of Division 2 of the Government Code §8607, which became law for all jurisdictions and districts in California in 1996. The standard organizational model is based on an approach called the Incident Command System (ICS) that was developed by fire departments to give them a common language when requesting personnel and equipment from other agencies, and to give them common tactics when responding to emergencies.

The system is designed to minimize the problem common to many emergency response efforts—duplication of effort—by giving each person a structured role in the organization, and each organization its piece of the larger response. SEMS and ICS can be used by any combination of agencies and districts in emergency response. These systems clearly define the chain of command and limit the span of control of any one individual.

INCIDENT COMMAND SYSTEM (ICS)

The Incident Command System (ICS) is a standard, on-scene, all hazard incident management system used in field operations. The Incident Command System has been utilized for field response operations for over 30 years.

It should be noted that NIMS, SEMS and ICS are all based on the same principals and response functions. Therefore, jurisdictions within California are covered by all three emergency management systems.

NIMS/SEMS/ICS PRINCIPLES

The NIMS/SEMS/ICS systems cover the following kind of operations:

- Single jurisdictional/agency involvement
- Single jurisdictional responsibility with multiple agency involvement
- Multiple jurisdictional responsibility with multiple agency involvement

The Standardized Emergency Management System/Incident Command System is flexible and structured so that:

- The system's organizational structure adapts to any emergency or incident to which emergency response agencies would expect to respond
- The system will be applicable and acceptable to all user agencies
- The system is readily adaptable to new technology
- The system expands in a rapid and logical manner from an initial response to a major incident and contracts just as rapidly as organizational needs or the situation decrease
- The system has basic common components in organization, terminology and procedures

COMPONENTS OF NIMS/SEMS/ICS

The components of NIMS/SEMS/ICS are designed to provide for:

- Common terminology
- Modular organization
- Unified Command structure
- Consolidated action plans
- Manageable span-of-control
- Multi-agency or Inter-agency Coordination
- Multi-agency or inter-agency coordination Group

Common Terminology

Common terminology refers to the establishment of common titles for organizational functions, resources, and facilities within NIMS/SEMS/ICS.

Modular Organization

Modular organization is the method by which the NIMS/SEMS/ICS organizational structure, based upon the type and size of an incident, develops. The NIMS/SEMS/ICS organization staff builds from the top down as the incident grows, with responsibility and performance placed with the Incident Commander.

NIMS/SEMS/ICS is made up of five functions: Management; Operations; Planning; Logistics; and Finance. These functions may, as the incident grows, be organized and staffed into Sections. Initially, the Director of Emergency Services may be performing all five functions. Then, as the incident grows, each function may be established as a Section with several Units under each Section. Only those functional elements that are required to meet current objectives will be activated. Those functions which are needed but not staffed will be the responsibility of the next higher element in the organization.

Unified Command

Unified command structure is a unified team effort which allows all agencies with responsibility for the incident, either geographical or functional, to manage an incident by establishing a common set of incident objectives and strategies. This is accomplished without losing or abdicating agency authority, autonomy, responsibility or accountability. The City of Menlo Park, East Palo Alto, and Atherton will operate under a joint unified command system during the activation of level 3 criteria; subdividing the communication into manageable divisions eliminating duplicated resources from the Operational Area Emergency Operation Center if functioning independently.

Consolidated Action Plans

Consolidated Action Plans identify objectives and strategy determinations made by the Director of Emergency Services for the incident based upon the requirements of the affected jurisdiction. In the case of Unified Command, the incident objectives must adequately reflect the policy and needs of all the jurisdictional agencies. The consolidated Action Plan documents the tactical and support activities that will be implemented during an operational period.

Manageable Span-of-Control

Manageable span-of-control within NIMS/SEMS/ICS is a limitation on the number of emergency response personnel who can effectively be supervised or directed by an individual supervisor. The position title "Section Chief" refers to the lead person of each functional element in the EOC. The type of incident, the nature of the response or task, distance and safety will influence the span-of-control range. Each activated function will have a person in charge of it, but a supervisor may be in charge of

more than one functional element. Every individual will have a supervisor and each supervisor should be responsible for no more than seven employees with the ideal span-of-control being three to five persons.

Multi-Agency or Inter-Agency Coordination

Multi-agency or inter-agency coordination is important for:

- Establishing priorities for response
- Allocating critical resources
- Developing strategies for handling multi-agency response problems
- Sharing information
- Facilitating communications

Multi-Agency or Inter-Agency Coordination Group

- May be established formally
- Should develop consensus on priorities, resource allocation and response strategies
- May function within the EOC, at another location or through conference calls - but should remain in contact with the EOC
- The EOC Action Plan should incorporate group priorities and objectives
- Group objectives should be implemented through the EOC
- The jurisdiction may participate with other local governments and agencies in a multi-agency coordination group organized by another local government(s) or at the State Level.

Coordination with Volunteer and Private Agencies and Businesses

The EOC will be a focal point for coordination of response activities with volunteer and private agencies and businesses. Based on the tactical situation the appropriate Section Chiefs may establish communication with private and volunteer agencies providing services with the jurisdiction. Agencies that have county-wide response roles and cannot respond to the jurisdiction EOC may be represented at the County EOC level. Requests for support should be coordinated through the County EOC.

Why Use NIMS/SEMS?

The Homeland Security Presidential Directive (HSPD)-5, National Incident Management System (NIMS) requires compliance on a national basis by October 2006.

Per CCR, Title 19, §2401, SEMS is intended to standardize responses to emergencies involving multiple jurisdictions or multiple agencies. SEMS is intended to be flexible and adaptable to the needs of all emergency responders in California. SEMS requires emergency response agencies to use basic principles and components of emergency management including ICS, multi-agency or inter-agency coordination, the operational area concept, and established mutual aid systems. Local government (including special districts) must use SEMS by December 1, 1996 in order to be eligible for state reimbursement of response-related personnel costs pursuant to activities identified in CCR, Title 19, §2920, §2935, and §2930.

By standardizing key elements of the emergency management system, SEMS is able to achieve the following goals:

- Facilitate the flow of information and resources within and between levels of the system
- Establish emergency communication system, channels, and contacts in advance
- Facilitate coordination among all responding agencies
- Improve mobilization, use and tracking of resources
- Manage priorities with limited resources

Per California Code of Regulations (CCR), Title 19, §2443(b), compliance with SEMS shall be documented in the areas of planning, training, exercises, and performance.

SEMS Definition of Special Districts

“Local Government” means local agencies as defined in Government Code §8680.2 and special districts as defined in CCR, Title 19, Division 2, Chapter 5, NDAA, §2900(y).

CCR, Title 19, Division 2, Chapter 5, NDAA, §2900(y) defines Special Districts as a “unit of local government in the state (other than a city, county, or city and county) with authority or responsibility to own, operate or maintain a project, including a joint powers authority established under CCR Section 6500 et seq., of the Code.”

For the purposes of SEMS, special districts are political subdivisions of the State of California with limited power. The Emergency Services Act defines a political subdivision as “any city, city and county, county, district or other local governmental agency or public agency authorized by law.” Broadly interpreted, this means virtually all forms of government including special districts come under some or all of the provisions of the Emergency Services Act and the Standardized Emergency Management System.

Elements of NIMS/SEMS

Incident Command System

- Provides the foundation for SEMS
- Originally adopted for field response to multi-agency, multi-jurisdictional wildland fires
- Adopted by other disciplines such as law enforcement, emergency medical services, public works and others
- Utilizes management by objectives

Mutual Aid System

OES has three administrative offices encompassing six mutual aid regions. The Southern Administrative Region consists of mutual aid regions one and six. The Inland Administrative Region has mutual aid regions three, four, and five. The City of Menlo Park is in the Coastal Administrative Region and it consists of mutual aid region two. Key mutual aid concepts include:

- Used by cities, counties, special districts and the state to voluntarily provide services, resources and facilities when needed
- Uses a neighbor helping neighbor concept
- Initially used by fire and law systems, expanded to include public works, medical, hazmat and others

Multi/Inter-Agency Coordination

An integral part of SEMS is the use of multi/inter-agency coordination. Within the context of SEMS, this involves prioritizing and assigning resources, handling competing demands of various agencies, and maximizing resources. To accomplish this task, the EOP should identify how this is to be done among the various departments, agencies, and jurisdictions. The process could include task group meetings, action planning, or other means. However, the key to multi/inter-agency coordination lies in effective communications. Key aspects of multi/inter-agency coordination include:

- Coordinated decision-making among and between agencies
- Facilitate priority setting for resource allocation and response
- Facilitate communications and information sharing

Operational Area

- Government Code §8559(b) states that an “Operational Area” is an intermediate level of the state emergency services organization, consisting of a county and all political subdivisions within the county area.
- Government Code §8605 states that each county is designated as an operational area. The governing bodies of each county and of the political subdivisions in the county may organize and structure their operational area. The Operational Area may be used by the county and the political subdivisions comprising the Operational Area for the coordination of emergency activities and to serve as a link in the communications system during a state of emergency or a local emergency.
- Operational Areas are the link between local government (including special districts) and the OES regions for the purpose of managing resources and information exchange.

City of Menlo Park EMERGENCY MANAGEMENT ORGANIZATION

FUNCTION	RESPONSIBILITY
CRISIS ACTION TEAM	Made up of key City of Menlo Park management personnel who will meet or confer by phone to: <ul style="list-style-type: none"> • Manage emergency themselves • Activate the EOC • Identify appropriate level of EOC activation • Manage emergency while EOC is being set up • Identify beginning and ending time of 1st operational period • Develop 1st operational period Objectives and Priorities
AFTER EOC ACTIVATION TRANSITION TO STANDARDIZED EMERGENCY MANAGEMENT SYSTEM (SEMS)	
POLICY/ADVISORY GROUP	Policy level management members (such as Mayor and members of the City Council) that provide policy guidance to the City of Menlo Park Manager/EOC Director.
MANAGEMENT SECTION	This function provides the overall direction and sets priorities for an emergency.
OPERATIONS SECTION	This function coordinates the employment of the City of Menlo Park resources (law enforcement, fire/rescue, medical, etc.) to mitigate the effects of the emergency.
PLANNING/INTELLIGENCE SECTION *	This function gathers and assesses information and develops an EOC Action Plan. The EOC Action Plan sets the objectives for the operational period. The operational period is set by management.
LOGISTICS SECTION	This function provides facilities, services, personnel, equipment and supplies in support of EOC and field response operations.
FINANCE/ADMINISTRATION SECTION *	This function is responsible for all financial and cost analysis management.

Note: The titles “Planning/Intelligence” and “Finance/Administration” are shortened to “Planning” and “Finance” throughout the EOP for simplicity and to fit in the organization charts.

Organizational Structure

CCR, Title 19, §2403 specifies five levels of the SEMS organization, which are activated as necessary.

Field Response Level

Emergency response personnel with their resources, under the command of an appropriate authority, carry out tactical decisions and activities in direct response to an incident or threat. The use of ICS at this level is the standard (i.e. response to a fire, auto wreck, flood, etc.).

The use of SEMS is intended to standardize the response to emergencies involving multiple jurisdictions or multiple disciplines (i.e. fire services, law enforcement, medical, etc.). The agencies that participate in a unified command do not relinquish their jurisdictional authorities. They develop a single coordinated action plan for the agreed operational period through multi-interagency coordination.

Local Government Level

Local governments include cities, counties, and special districts. Some special districts, such as metropolitan water districts, have county or multi-county scope of authority. Local governments manage and coordinate the overall emergency response and recovery activities within their jurisdiction.

CCR, Title 19, §2407 states that SEMS shall be utilized when the local government Emergency Operation Center (EOC) is activated and when a local emergency is declared or proclaimed. It also states that local government shall use multi-agency or inter-agency coordination to facilitate decisions for overall local government level emergency response activities.

The EOC is a centralized location for decision making relating to the jurisdiction's emergency response. It can be a very elaborate facility or a conference room that is converted when needed. The EOC is where emergency response actions can be managed and resource allocations and responses can be tracked and coordinated with the field, city, operational area, and OES Region.

All local governments are responsible for coordinating field response level with other local governments and the operational area. Local governments are also responsible for providing mutual aid within their capabilities.

Operational Area Level

Operational Area (OA) means an intermediate level of the state's emergency services organization that encompasses the county and all political subdivisions within the county including special districts. SEMS regulations specify that all local governments within a county geographic area be organized into a single OA and that the county board of supervisors is responsible for its establishment. The OA coordinates information, resources, and priorities among local governments within the OA and serves as the coordination and communication link between the local government level and regional level.

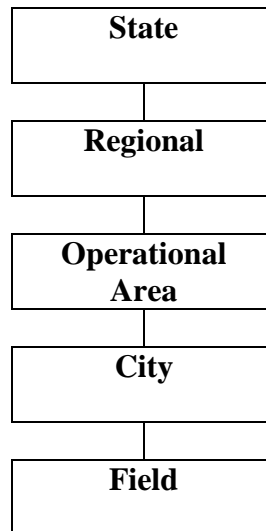
Regional Level

Due to size and geography, the state has been divided into six mutual aid regions to provide for a more effective application and coordination of mutual aid and other emergency related activities.

Information and resources among operational areas within the mutual aid region, and also between the OA and the state level are managed and coordinated at this level. If an Operational Area EOC is activated, the OES Regional Emergency Operations Center (REOC) will be activated to the level necessary to coordinate emergency operations and respond to requests for resources and mutual aid.

State Level

This level manages state resources in response to the emergency needs of the other levels, and coordinates mutual aid among the regions and between the regional level and state level. It serves as the coordination and communication link between the state and federal disaster response system. When an OES Regional Administrator activates a REOC, the State Operations Center (SOC) at OES headquarters will also be activated to support the region with state agency resources.



Involvement and Coordination

One or more “Special Districts” may be located within the City of Menlo Park or San Mateo County. Examples of districts include school districts, colleges and universities, fire control districts, or utility companies. Coordination between jurisdictions and districts are an integral part of emergency management. The City of Menlo Park is classified and acknowledged by San Mateo County as a special district.

Coordination and communications should be established among special districts that are involved in the emergency response, and in other local governments, and the operational area. This may be accomplished in various ways depending on the local situation. Relationships among special districts, cities, county government, and the Operational Area are complicated by overlapping boundaries and by the multiplicity of special districts. Special districts need to work with the local governments in their service areas to determine how best to establish coordination and communications in emergencies.

The following discusses various situations and possible ways to establish coordination. The simplest situation is when a special district is wholly contained within a single city or within a county area. Usually in this case, the special district should have a representative at the EOC of the city or county in which it is located and direct communications should be established between the special district EOC and the city or county EOC. An exception may occur where there are many special districts within a large city or county.

Typically, special district boundaries cross municipal boundary lines. A special district may serve several cities and county unincorporated areas. Some special districts serve more than one county. Ideally, a special district involved in the emergency response will have representatives at all activated city or county EOCs within its service area. However, this may not be practical when many jurisdictions within its service area are affected.

One alternative may be to focus coordination at the operational area level and designate a representative to the operational area EOC to work with other local government representatives at that EOC.

When there are many special districts within one city or within the county, it may not be feasible for the city or county EOC to accommodate representatives from all special districts during area-wide disasters. In such cases, the city or county should work with the special districts to develop alternate ways of establishing coordination and communications. There are several alternatives to consider:

- One representative from each type of special district who would communicate with other special districts of the same type.
- Representatives at the EOC only from designated key special districts-linked via telecommunications with other special districts.
- Establish a special district coordination center for a particular type of special district, such as a water district coordination center, that communicates with the jurisdiction EOC. This arrangement may be established for the Operational Area.

COMMUNICATION

Operational Area Satellite Information System (OASIS)

OASIS is an information and resource tracking system for Operational Areas. It was designed to facilitate the information flow between local governments, OA's, OES regions and the SOC through the use of a satellite information link. Effective coordination of emergency response and mutual aid within an OA will require the exchange of information between local governments and the OA.

Response Information Management System (RIMS)

RIMS is a set of applications designed by the Governor's Office of Emergency Services (OES) in Lotus Notes to assist in the management of disasters in California. The goal of the RIMS project is to connect, via computers, the five levels of government outlined in SEMS. RIMS is in use by all 58 Operational Areas (counties), most cities, and 30 state and federal agencies.

RIMS has established a set of reports available to all levels of government that categorizes disaster related information in a manner that quickly provides an overview of an event or multiple events. Because RIMS allows multiple users to submit and receive information on demand, it has dramatically improved the dissemination of disaster related information statewide.

RIMS has established an electronic link between agencies requesting assistance and agencies that can provide the needed resources. It allows Operational Areas to submit requests for emergency response assistance by computer to one of the State OES' three Regional Emergency Operations Centers (REOCs). These REOCs then review the request and task the appropriate state agency to provide the requested assistance. The database has been modified so that it can be used by city and field level response organizations.

Special districts should report problems, needs, incident/status reports, etc. to the Operational Area (OA) within which they have a problem with their facilities. Special Districts may also report incidents to other locations in addition to the OA; for example, if they are a utility they may report to the Utilities Operations Center located at OES and they may also have reporting requirements to the Public Utilities Commission. If there is a disruption of services to a special district they may also have to report to the OA where the service has been impacted in addition to reporting to the OA where the facility has been impacted. The Operational Area EOC may take care of the communications from the Special District to the cities, and to a State OES REOC.

The special district may have entered into a mutual aid agreement with another special district. In this case, the district may request assistance directly in accordance with their agreement and also notify the OA of facility damage and/or service disruption. If they are a part of a statewide mutual aid system, they must follow the protocols of that particular system; for example, fire districts.

PLANNING

CCR, Title 19, §2445 states that local governments, operational areas, and state agencies shall include the use of SEMS in emergency plans and procedures pursuant to §2403, 2405, 2407, 2409, 2411, 2413 and 2415.

Special districts may be grouped together by the functions they were designed to perform, such as water purveyors, electric providers, schools, etc. An Emergency Operations Plan (EOP) should be developed to identify protocols for emergency coordinators of special districts to facilitate communications during emergency operations.

The following are some of the benefits a special district will have if it has an Emergency Operations Plan and coordinates with the OA:

- OA's need to know what special districts have or need in order to assist them
- Communication/Coordination is needed to expedite response and provide assistance
- Issues can be resolved prior to a disaster (i.e. pipe fittings, fire hydrant fittings)
- Clearinghouse to document damage/costs to prioritize damage assessment
- Compile information on resources to prioritize damage assessment
- Exercise with the EOC to identify needs
- SEMS Compliance

CONTINUITY OF OPERATIONS

A major disaster or national security emergency could result in the death or injury of key City of Menlo Park officials and/or the partial or complete destruction of established facilities, and public and private records essential to continued operations. City staff is responsible for providing continuity of effective leadership, authority and adequate direction of emergency and recovery operations. The City of Menlo Park staff *Lines of Succession* list must be established and maintained. (Volume One, Chapter 3, Tab 9)

Preservation of Vital Records

At the City of Menlo Park, the following offices are responsible for the preservation of vital records:

- The City Clerk

Vital records are defined as those records that are essential to:

- Protect and preserve the rights and interests of individuals, governments, corporations and other entities. Examples include official records, property titles, payroll and other accounting records.
- Conduct emergency response and recovery operations. Records of this type include utility system maps, locations of emergency supplies and equipment, emergency operations plans and procedures, personnel rosters, etc.
- Reestablish normal governmental functions and protect the rights and interests of government. Constitutions and charters, statutes and ordinances, court records, official proceedings and financial records would be included here.

Vital records of the City of Menlo Park are routinely stored in record vaults. The City of Menlo Park department managers are responsible to ensure adequate maintenance of backup “essential records and information” to enable continued operations if the primary documents or information is lost.

Record depositories should be located well away from potential danger zones and/or housed in facilities designed to withstand blast, fire, water, and other destructive forces. Such action will ensure that constitutions and charters, statutes and ordinances, court records, official proceedings, and financial records would be available following any disaster. Each department within the City of Menlo Park should identify, maintain and protect its own essential records.

City of Menlo Park STAFF AWARENESS AND EDUCATION

The City of Menlo Park community's response to any emergency is based on an understanding of the nature of the emergency, the potential hazards, the likely response of emergency services, and knowledge of what individuals and groups should do to increase their chances of survival and recovery.

Awareness and education of the City of Menlo Park staff prior to any emergency are crucial to successful city information and response efforts during and after the emergency. The pre-disaster awareness and education programs must be viewed as equal in importance to all other preparations for emergencies and receive an adequate level of planning. These programs must be coordinated among local officials to ensure their contribution to emergency preparedness and response operations.

ALERTING AND WARNING

Warning is the process of alerting the City of Menlo Park responders and the city staff to the threat of imminent extraordinary danger. Dependent upon the nature of the threat, warning can originate at any level of government. Success in saving lives and property is dependent upon timely dissemination of warning and emergency information to persons in threatened areas.

Local government is responsible for warning the populace of the jurisdiction. Government officials accomplish this using warning devices located within the community or mounted on official vehicles. The warning devices are normally activated from a point staffed 24 hours a day.

There are various mechanical systems in place, described below, whereby an alert or warning may originate or be disseminated. Following the description of the systems is an explanation of the *Emergency Conditions and Warning Actions* through which these systems may be accessed.

FEDERAL ALERTING AND WARNING SYSTEMS

EAS - Emergency Alerting System

The Emergency Alert System (EAS) is designed for the broadcast media to disseminate emergency public information. This system enables the City Manager, federal, state, and local governments to communicate with the general public through commercial broadcast stations. This system uses the facilities and personnel of the broadcast industry on a volunteer basis. EAS is operated by the broadcast industry according to established and approved EAS plans, standard operating procedures, and the rules and regulations of the Federal Communications Commission (FCC). FCC rules and regulations require all participating stations within an EAS operating area to broadcast a common program. Each broadcast station volunteers to participate in EAS and agrees to comply with established rules and regulations of the FCC.

EAS can be accessed at federal, state, and local levels to transmit essential information to the public. Message priorities under Part 73.922(a) of the FCC's rules are as follows:

- Priority One - City Managerial Messages (carried live)
- Priority Two – EAS Operational (Local) Area Programming
- Priority Three – State Programming
- Priority Four – National Programming and News

City Managerial messages, national programming, and news will be routed over established network facilities of the broadcast industry. State programming will originate from the state operations center and will be transmitted throughout the state using the state's CLERS VHF/UHF radio relay stations.

Appropriate authorities at the City of Menlo Park can activate a warning using EAS through the San Mateo County Office of Emergency Services. A representative for the San Mateo County Office of Emergency Services will make contact with the appropriate radio link.

CHAPTER TWO AUTHORITIES AND REFERENCES

PURPOSE

Emergency response, like all governmental action, is based on legal authority. The City of Menlo Park Emergency Operations Plan follows state and federal guidelines for conducting emergency operations planning, training, emergency response, and recovery.

California Emergency Services Act

The California Emergency Services Act (Chapter 7 of Division 1 of Title 2 of the Government Code), hereafter referred to as the Act, provides the basic authorities for conducting emergency operations following a proclamation of *Local Emergency*, *State of Emergency* or *State of War Emergency* by the governor and/or appropriate local authorities, consistent with the provisions of the Act.

The Standardized Emergency Management System (SEMS) Regulations (Chapter 1 of Division 2 of Title 19 of the California Code of Regulations), hereafter referred to as SEMS, establishes the SEMS to provide an effective response to multi-agency and multi-jurisdiction emergencies in California. SEMS is based on the Incident Command System (ICS) adapted from the system originally developed by the Firefighting Resources of California Organized for Potential Emergencies (FIRESCOPE) program.

SEMS incorporates the use of ICS, the Master Mutual Aid Agreement and existing mutual aid systems, the Operational Area concept, multi-agency or inter-agency coordination and OASIS.

The California Emergency Plan, which is promulgated by the governor, is published in accordance with the Act and provides overall state-wide authorities and responsibilities, and describes the functions and operations of government at all levels during extraordinary emergencies, including wartime.

Section 8568 of the Act states, in part, that "the State Emergency 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 plans are, therefore, considered to be extensions of the California Emergency Plan.

The California Civil and Government Codes contain several references to liability release (Good Samaritan Act) for those providing emergency services.

EMERGENCY PROCLAMATIONS

Local Emergency

A local emergency may be proclaimed by the Menlo Park City Manager. San Mateo County should be notified immediately if a Local Emergency is proclaimed in the City of Menlo Park. The Local Emergency must be terminated as soon as conditions warrant. Proclamations are normally made when there is an actual incident or threat of disaster or extreme peril to the safety of persons and property within the jurisdiction, caused by natural or man-made situations.

The proclamation of a local emergency provides the governing body with the legal authority to take the following actions:

- If necessary, request that the governor proclaim a state of emergency.
- Promulgate or suspend orders and regulations necessary to provide for the protection of life and property, including issuing orders or regulations imposing a curfew within designated boundaries.
- Exercise full power to provide mutual aid to any affected area in accordance with local ordinances, resolutions, emergency plans, or agreements.
- Request state agencies and other jurisdictions to provide mutual aid.
- Require the emergency services of any local official or employee.
- Requisition necessary personnel and materials from any local department or agency.
- Obtain vital supplies/equipment and, if required, immediately commandeer the same for public use.
- Impose penalties for violation of lawful orders.
- Conduct emergency operations without incurring legal liability for performance, or failure of performance. (Note: Article 17 of the Emergency Services Act provides for certain privileges and immunities).

State of Emergency

A state of emergency may be proclaimed by the governor in the following situations:

- Conditions of disaster or extreme peril exist which threaten the safety of persons and property within the state caused by natural or man-made incidents.
- He/she is requested to do so by local authorities.
- He/she finds that local authority is inadequate to cope with the emergency.

Whenever the governor proclaims a state of emergency:

- Mutual aid shall be rendered in accordance with approved emergency plans when the need arises in any county, city and county, or city for outside assistance.
- The governor shall, to the extent he deems necessary, have the right to exercise all police power vested in the State by the Constitution and the laws of the State of California within the designated area.
- Jurisdictions may command the aid of citizens as deemed necessary to cope with an emergency.
- The governor may suspend the provisions of orders, rules or regulations of any state agency; and any regulatory statute or statute prescribing the procedure for conducting state business.
- The governor may commandeer or make use of any private property or personnel (other than the media) in carrying out the responsibilities of his office.
- The governor may promulgate issue and enforce orders and regulations deemed necessary.

State of War Emergency

Whenever the governor proclaims a state of war emergency, or if a state of war emergency exists, all provisions associated with a state of emergency apply. Additionally, all state agencies and political subdivisions are required to comply with the lawful orders and regulations of the governor which are made or given within the limits of his authority as provided for in the Emergency Services Act.

AUTHORITIES

The following provides emergency authorities for conducting and/or supporting emergency operations:

Federal

- Homeland Security Presidential Directive (HSPD)-5
- Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988 (Public Law 93-288, as amended)
- Federal Response Plan
- Federal Civil Defense Act of 1950 (Public Law 920), as amended
- NRT-1, Hazardous Materials Emergency Planning Guide and NRT-1A Plan Review Guide (Environmental Protection Agency's National Response Team)
- Debris Removal Guidelines for State and Local Officials (FEMA DAP-15)
- A Guide to Federal Aid and Disasters (DAP-19)
- Digest of Federal Assistance (DAP-21)

State

- California Emergency Services Act, Chapter 7 of Division 1 of Title 2 of the Government Code;
- California Code of Regulations Title 19, Chapter 2, Subchapter 3, §2620 et seq.;
- Standardized Emergency Management System (SEMS) Regulations, Chapter 1 of Division 2 of Title 21 of the California Code of Regulations (CCR); and
- California Government Code §8607(a).
- Debris Removal Guidelines for State and Local Officials (FEMA DAP-15);
- A Guide to Federal Aid and Disasters (DAP-19);
- Digest of Federal Disaster Assistance (DAP-21); and others.
- California Constitution;
- State Emergency Plan;
- California Hazardous Materials Incident Contingency Plan;
- California Oil Spill Contingency Plan;
- Standardized Emergency Management System (SEMS) Regulations (CCR §2400 et seq.); and
- Standardized Emergency Management System (SEMS) Guidelines

- SEMS Approved Courses of Instruction - Training courses for emergency response personnel at field and Emergency Operations Center (EOC) levels developed pursuant to SEMS Regulations. The approved courses include an introductory course, field level course (incident command system), EOC course, and executive course.
- Emergency Planning Guidance for local government - Guidance document intended to provide local governments with tools to develop emergency plans.

County

- City of Menlo Park Resolution adopting the city's approved Emergency Operations Plan and portions* of the San Mateo County Emergency Plan.
- City of Menlo Park City Charter and related ordinances, articles and resolutions.
- Worker's Compensation for Disaster Workers 185-85.

Local

- City of Menlo Park Municipal Code

REFERENCES

National Response Plan (FEMA).

CHAPTER THREE THREAT SUMMARY AND ASSESSMENTS

Background

The following threat summaries are the product of a historical, meteorological, geographical, geological and visual assessment of San Mateo County. Natural and technological risks are described in gross terms for the San Francisco Bay Area with specific references to the San Mateo area, when appropriate. No order of importance is meant to be implied by the order of listing and this list is not meant to be all inclusive, but seeks only to identify the most likely risks with potential to impact the area. Threats to public health and safety covered in this document include:

Earthquake

- Exhibit 1 – Fault Map
- Exhibit 2 – Liquefaction Potential
- Exhibit 3 – Modified Mercalli Intensity Scale

Hazardous Materials Incident

- Exhibit 1 - HAZMAT High Risk Areas in San Francisco Bay
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MAJOR EARTHQUAKE

GENERAL SITUATION

The State of California is one of the most active earthquake regions on the surface of the earth and, along with the State of Alaska, by far the most active region of the United States. California's geographic features are dominated by juncture of two of the world's tectonic plates. The long scarp, where the North American plate meets to Pacific plate and either grind alongside each other or subduct one under the other side, is the notorious San Andreas Fault, which runs the entire length of the state, north to south. The San Andreas Fault is not the only fault system capable of causing considerable loss of life, property and environmental damage. The western half of the state, particularly in the southern and northern regions, are honeycombed with smaller fracture faults and small to moderate independent fault systems, each capable of causing significant damage. Over time, the theory of "small faults equals small earthquakes and larger fault systems equals proportionately larger quakes" has succumbed to research which indicates that small, independent fault systems are capable of "linking" together to produce significant earth movement.

Historically, there has been regular activity along these faults. In any given year, California experiences between 2,000 and 6,000 seismic events, however, most of these "shakers" are of low enough magnitude and surface effect as to go unnoticed. There have been significant events over the last couple of centuries, particularly in the southern and south-central section of the state.

CONSIDERATIONS FOR THE SAN MATEO COUNTY

San Mateo County is in the vicinity of several known active and potentially active earthquake faults. These include the San Andreas and the Hayward faults (Exhibit 1, Fault Map). New faults within the region are continuously being discovered. Scientists have indicated that there is a 66% chance of a major earthquake (magnitude 6.0 or greater) in the Bay Area within the next 30 years.

The San Andreas Fault

The San Andreas Fault is the best known earthquake fault system in the United States and a major element of California geology. It trends northwesterly and extends more than 800 miles from the Gulf of California to an area north of San Francisco. It has been the source of many very large earthquakes, the earliest recorded one occurring in October 1800 near San Juan Bautista. The San Andreas was the source of the 1857 Fort Tejon Earthquake, estimated at magnitude 8.2. The 1838 earthquake located on the peninsula south of San Francisco had an estimated magnitude in excess of 7.0. Accounts of the 1838 earthquake describe a large fissure extending from San Francisco to an area near San Jose. The San Francisco Earthquake of April 18, 1906, one of the worlds most famous and significant earthquakes, was the next strong shock along the San Andreas. The earthquake had an estimated magnitude of 8.3 and generated strong vibratory ground motions that caused damage throughout Northern and Central California. On October 17, 1989, a magnitude 7.1 earthquake occurred on the San Andreas fault east of Santa Cruz. Severe damage in the historic central business districts of Los Gatos, Santa Cruz, and Watsonville occurred as a result. This earthquake also produced moderate to severe structural damage throughout the Bay Area, and damaged essential transportation infra-structure (the San Francisco Bay Bridge and several elevated freeways in Oakland and San Francisco). Soft soil areas of San Francisco experienced very intense ground motion and liquefaction, which resulted to the collapse of many buildings. With an estimated economic loss of more than \$6 billion and over 60 killed, this earthquake ranks as the worst natural disaster in the United States.

The Hayward Fault

The Hayward Fault is located on the eastern side of the San Francisco Bay - extending approximately 55 miles from San Jose northwesterly to San Pablo. It was the source of the Hayward Earthquake of 1836, which had an estimated magnitude of 6.8 - one of the largest ever recorded in Northern California. Recent studies indicate that fissures opened along the fault from San Pablo to Mission San Jose, and that ground shaking caused damage in settlements at San Jose and Monterey. In 1868 another earthquake (with an estimated magnitude of 6.8) ruptured for 20 miles and severely damaged every building in the village of Hayward. More recent damaging earthquakes occurred in 1915, 1933, and 1937. The Hayward Fault is believed capable of producing earthquakes as large as magnitude 7.5 earthquake.

The Calaveras Fault

The Calaveras Fault is a major branch of the San Andreas Fault System. It splits from the San Andreas a few miles south of Hollister and extends approximately 80 miles to an area just north of Danville. From there, several branches continue northward. The Hayward and the Calaveras Faults intersect just south of Fremont. A number of earthquakes have occurred along the Calaveras, but none of these have approximated the magnitudes and intensities of earthquakes generated by the Hayward Fault. The strongest recorded tremor on the Calaveras was the 1861 Amador Valley Earthquake. It occurred near Dublin and produced a shaking intensity on Modified Mercalli scale of VIII. The April 24, 1994, Morgan Hill Earthquake had a magnitude of 6.2 and caused damage in Morgan Hill, Gillroy, and San Jose. The Calaveras Fault is estimated to be capable of producing a magnitude 7.2 earthquake

SPECIFIC SITUATION

An 8.3 magnitude earthquake on the northern San Andreas Fault (Exhibit 2) would result in serious damage in San Mateo County. The Modified Mercalli Intensity Scale (Exhibit 3) generally describes damage resulting from the shaking.

The information presented below provides detailed estimates of potential earthquake losses in San Mateo County from an 8.3 magnitude earthquake on the northern San Andreas Fault. The data is extracted from the following studies:

- A Study of Earthquake Losses in the San Francisco Bay Area, National Oceanic and Atmospheric Administration, 1972
- Open File Report 81_113, 1981, U.S. Geological Survey, Metropolitan San Francisco and Los Angeles Earthquake Loss Studies, 1980 Assessment
- Special Publication 61, 1982, California Division of Mines and Geology, Earthquake Planning Scenario for a Magnitude 8.3 Earthquake on the San Andreas Fault in the San Francisco Bay Area.

The potential hazards that San Mateo County may face in an earthquake are significant. Factors that will determine the loss of life and extent of damage include the following:

Casualties

Since studies only predict the total number of deaths and hospitalized injuries (exclusive of dam failures) for the entire San Francisco Bay Area, it is assumed that a proportionate number of casualties will be generated in San Mateo County. The total number of casualties projected in the event an 8.3 magnitude earthquake occurs at 4:30 p.m. (the time when the Bay Area rush hour traffic starts and many people are on the roads) follow:

Deaths				Injuries			
SCHOOLS	HOSPITALS	OTHER SOURCES	DEATH TOTAL	SCHOOLS	HOSPITALS	OTHER SOURCES	INJURY TOTALS
200	1,450	9,720	11,370	600	4,400	39,340	44,340

(Note: The ratio of non-hospitalized injuries to deaths is 30:1.)

Long-term homeless

There could be approximately 9,600 long-term homeless persons.

Dam Failure

Of the twenty dams in the county, thirteen are considered capable of causing injury and life loss in case of failure. The most serious potential failure would involve the Lower Crystal Springs Dam.

Ground Shaking

The most significant earthquake action in terms of potential structural damage and loss of life is ground shaking. Ground shaking is the movement of the earth's surface in response to a seismic event. The intensity of the ground shaking and the resultant damages are determined by the magnitude of the earthquake, distance from the epicenter, and characteristics of surface geology. This hazard is the primary cause of the collapse of buildings and other structures.

It is generally understood that an earthquake does not in itself present a seismic hazard, but that it becomes a hazard when it occurs in a highly urbanized area. Therefore, the significance of an earthquake's ground shaking action is directly related to the density and type of buildings and number of people exposed to its effect.

Liquefaction

Many areas may have buildings destroyed or unusable due to the phenomenon of liquefaction (Exhibit 2). Liquefaction is a phenomenon involving the loss of shear strength of a soil. The shear strength loss results from the increase of pore water pressure caused by the rearrangement of soil particles induced by shaking or vibration. Liquefaction has been observed in many earthquakes, usually in soft, poorly graded granular materials (i.e., loose sands), with high water tables. Liquefaction usually occurs in the soil during or shortly after a large earthquake. In effect, the liquefaction soil strata behave as a heavy fluid. Buried tanks may float to the surface and objects above the liquefaction strata may sink. Pipelines passing through liquefaction materials typically sustain a relatively large number of breaks in an earthquake.

Damage to Vital Public Services, Systems And Facilities

Bed Loss in Hospitals

San Mateo County has nine major hospitals (99 beds or more) with a total capacity of 2,416 beds. Approximately 1,360 (56%) of the total number of beds could be lost during a major earthquake.

Several of the acute care hospitals in San Mateo County are expected to be lost due to structural damage. This will impair the number of beds available and create the need for several field hospitals. Most of the subscribing hospitals to the San Mateo County Department of Health will be controlled by the Department as to the availability of beds and transfer of patients.

Although a percentage of the remaining beds could be made available by discharging or transferring non-emergency patients, it will probably be necessary to receive an immediate influx of emergency medical aid and/or export some of the seriously injured to out-of-county facilities.

Damage to Highways

U.S. 101

U.S. 101 would be closed for a major portion of the distance from Menlo Park to Candlestick Park and would not be opened within 72 hours. South of Candlestick Park to San Bruno, major land slips or movements would be distinctly possible in heavy ground motion. Major stretches of this portion of the freeway could be under water or badly damaged due to soil movements. Access to the San Francisco International Airport would be shut off and could be reestablished in about 48 hours using Route 82.

Route 1

The Devil's Slide area on the San Andreas Fault crossing near the intersection with Skyline Boulevard would be closed - even with moderate ground shaking. Landslides along the coast to the south would close the remainder of the route for at least 72 hours.

Route 82 (El Camino Real)

El Camino Real would be open but with many major detours and delays to avoid collapsed buildings and bridges. Most of the post-earthquake traffic would be on El Camino Real, although damaged and/or destroyed culverts crossing underneath the roadbed may necessitate local traffic diversions.

Route 92

Highway 92 would likely be closed from Half Moon Bay to Route 280 due to slides and faulting, and would not be opened within 72 hours.

Route 35

Route 35 would probably be closed and would not be opened within 72 hours. The northerly portion crosses the San Andreas Fault near King Drive (Daly City). There is significant landslide potential south of Route 84. Extensive damage would probably occur throughout the northern portion of this route due to fault ruptures.

Interstate 280

Interstate 280 would most likely be closed for less than 36 hours., closed at Route 92 by a bridge collapse. A detour can be made around this area in 8 hours. Significant landslide hazard exists. Although this route will be unaffected by fault rupture, its proximity to the fault may subject it to other effects that are not predictable.

Interstate 380

Interstate 380 would be closed at U.S. 101, but open from Route 280 to Route 82. Low liquefaction potential exists. Detours can be made available around the affected interchanges.

Interstate 380/U.S. 101 Interchange

The 380/101 interchange would likely be heavily damaged and would remain closed for a period of 72 hours.

Airports

San Francisco International Airport (SFO) is expected to be closed for over 72 hours to several weeks. Practical land access will not exist due to freeway and highway damage, which will effectively isolate the airport and nearby facilities.

Railroads

The Southern Pacific Railroad extends from San Jose to San Francisco. The line is expected to be closed until inspections can be completed, which could take a few days.

Marine Facilities

Marine facilities at Redwood Creek will be closed.

Communications

Telephone systems will be affected by system failure, overloads, loss of electrical power and possible failure of some alternate power systems. Immediately after the event, numerous failures will occur coupled with saturation overloads. This will disable up to 80% of the telephone system for one day. In light of the expected situation, emergency planners should plan for alternate communications for the first few days after the event.

Key communications system facilities are located near the San Andreas Fault in areas projected to experience intense ground shaking. It is likely that the telephone systems south of San Francisco will have systemic failures not readily bypassed by alternative traffic routing. It is also probable that the recovery effort will be delayed because many telephone company employees will have difficulty getting access to damaged areas to complete repairs.

Radio systems are expected to be 40 to 75% effective; microwave systems, 30% effective or less. Radio systems will generally operate at 40% effectiveness for the first 12 hours after the earthquake; increase to 50% for the second 12 hours; then begin a slow decline to approximately 40% within 36 hours. The decline in radio systems is primarily due to fuel limitations for emergency generator.

Commercial Broadcasters

Many radio and TV facilities are expected to be out of operation in San Mateo County for 24 hours due to in-house problems, power supply problems, and/or transmission line problems. Elsewhere in the Bay Area, 33% of the facilities are also expected to be out of service for 24 hours. After 24 hours, 50% of the entire Bay Area facilities are expected to be in operation.

Water Supply And Waste Disposal

Several of the major aqueducts will sustain damage, causing temporary interruptions in water supply. The major reservoirs in the area should provide ample storage to meet demands during the time required for repairs. However, damage to water transmission lines, local storage reservoirs, and pumping plants, (as well as local distribution systems, will affect water availability and pressure). The absence of electrical power for extended periods may preclude water deliveries where pumping is necessary. Many areas could be dependent on tanker trucks to provide their basic needs.

Sewage collection systems will sustain widespread damage, particularly in the low-lying areas near the San Francisco Bay. Many sewage treatment facilities located on structurally poor ground adjacent to the Bay will be damaged and experience electrical power losses resulting in discharge of raw sewage into the Bay.

Broadmoor Water Pipelines

This system will probably be out of operation for more than 72 hours. The two principal pipe lines supplying water to San Francisco are located on overpasses over Interstate 280 in the Broadmoor area, which are susceptible to damage from an earthquake.

San Andreas Water Treatment Plant

This plant may be inoperable for more than 72 hours. This plant is vulnerable because of its proximity to potential surface rupture and its dependence on commercial electric power. The plant, however, can be bypassed without significant impact to the water supply system.

Electrical Power

Damage to power plants and their ancillary facilities in affected areas can be expected to reduce generating capacity by 50%. The potential impact to San Mateo County of this reduction is lessened by the availability of power from other sources outside the affected area. Significant reduction in consumer demand is expected as well. Immediate concerns will focus on repairs to restore power to areas of greatest need. Major restoration problems include repairs to route power through the major substations; restoration of damaged and collapsed transmission line towers; reactivation of equipment at local substations; and replacement of fallen poles, burned transformers, etc.

It is reasonable to assume that during some portion of the first 72-hour period following the earthquake, virtually all areas would experience some temporary loss of power. All critical facilities will require standby generating equipment and emergency fuel supplies. It is assumed that all substations in San Mateo County will be heavily damaged, including the important Martin Substation. This substation is located in an area of predicted intense ground shaking and possible ground failure - major damage to some equipment at this station is a reasonable expectation. The ability to route power through this critical station constitutes a major consideration in the restoration of power to the City of San Francisco.

Natural Gas

Damage to natural gas facilities will consist primarily of some isolated breaks in the major transmission lines and innumerable breaks in mains and individual service connections within the distribution systems. Many leaks in the distribution system will affect a major portion of the urban areas on the San Francisco Peninsula resulting in a loss of service for extended periods. Random fires should be expected at the sites of a small percentage of ruptures. Transmission pipelines serving the San Francisco Peninsula are the ones most vulnerable to damage.

SFO Pipeline

Rupture of old pipeline sections will occur due to ground failure caused by liquefaction.

San Andreas Fault

Rupture of pipelines will occur due to ground failure along the San Andreas Fault zone between San Andreas Lake and Route 1. Pipeline rupture due to landslides will also occur near Upper Crystal Springs Reservoir (between San Mateo Creek and 4 kilometers southeast of the junction of Interstate 280 and Route 92).

Emergency Response Actions

Emergency response actions associated with the above situations are presented in Volume One, Operations Section Event Specific Checklist.

Exhibits

Exhibit 1 - Fault Map

Exhibit 2 - Liquefaction Potential

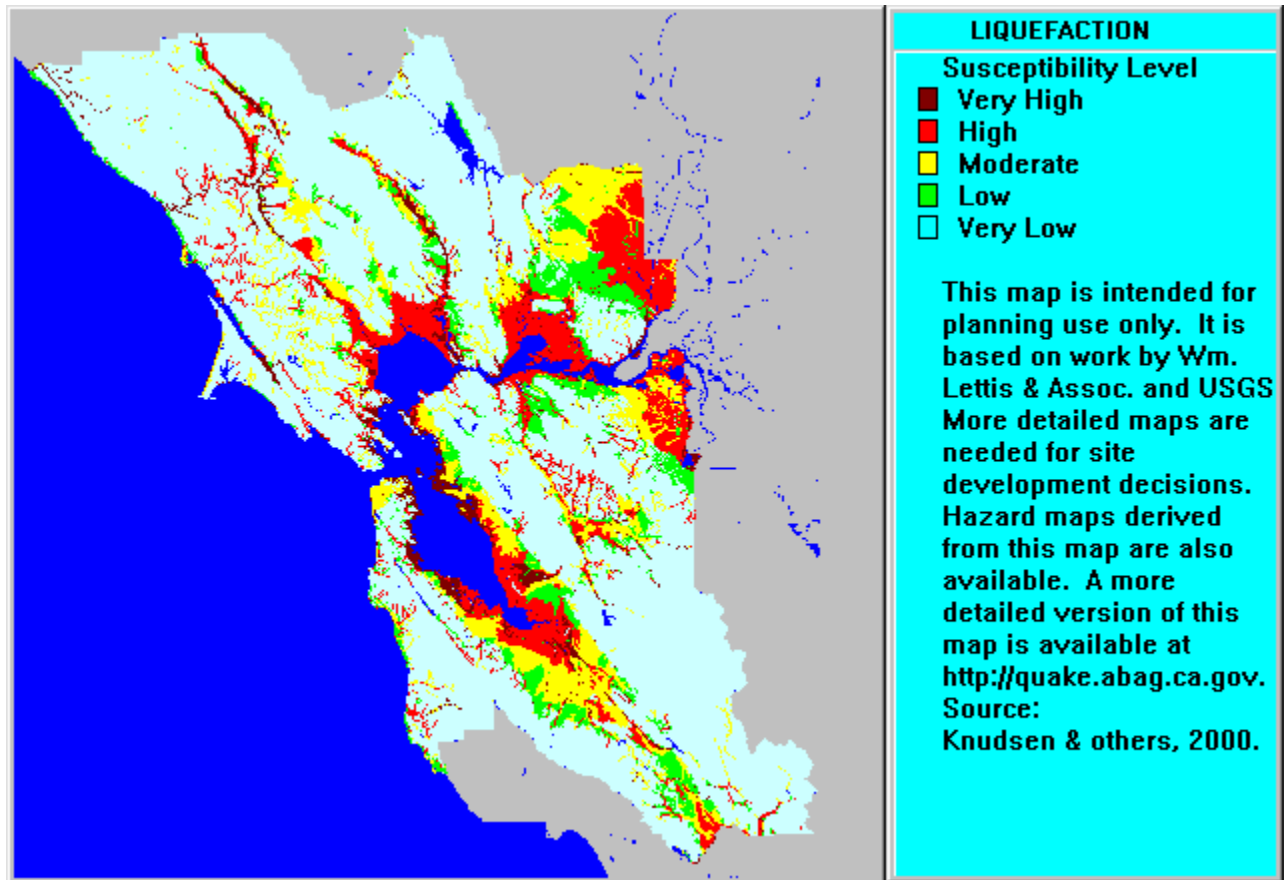
Exhibit 3 - Modified Mercalli Intensity Scale

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Exhibit 1 Fault Map



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Exhibit 2 – Liquefaction Potential

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Exhibit 3 Modified Mercalli Intensity Scale

- I** Not felt. Marginal and long-period effects of large earthquakes.
- II** Felt by persons at rest, on upper floors, or favorably placed.
- III** Felt indoors. Hanging objects swing. Vibration like passing of light trucks. Duration estimated. May not be recognized as an earthquake.
- IV** Hanging objects swing. Vibration like passing of heavy trucks; or sensation of a jolt like a heavy ball striking the walls. Standing motor cars rock. Windows, dishes, doors rattle. Glasses clink. Crockery clashes. In the upper range of IV, wooden walls and frames creak.
- V** Felt outdoors; direction estimated. Sleepers wakened. Liquids disturbed, some spilled. Small unstable objects displaced or upset. Doors swing, close, open. Shutters, pictures move. Pendulum clocks stop, start, change rate.
- VI** Felt by all. Many frightened and run outdoors. Persons walk unsteadily. Windows, dishes, glassware broken. Knickknacks, books, etc., off shelves. Pictures off walls. Furniture moved or overturned. Weak plaster and masonry cracked. Small bells ring (church, school). Trees, bushes shaken (visibly, or heard to rustle).
- VII** Difficult to stand. Noticed by drivers of motor cars. Hanging objects quiver. Furniture broken. Damage to masonry including cracks. Weak chimneys broken at roof line. Fall of plaster, loose bricks, stones, tiles, cornices (also unbraced parapets and architectural ornaments). Some cracks in masonry. Waves on ponds; water turbid with mud. Small slides and caving in along sand or gravel banks. Large bells ring. Concrete irrigation ditches damaged.
- VIII** Steering of motor cars affected. Damage to masonry partial collapse. Some damage to masonry. None to masonry. Fall of stucco and some masonry walls. Twisting, fall of chimneys, factory stacks, monuments, towers, elevated tanks. Frame houses moved on foundations if not bolted down; loose panel walls thrown out. Decayed piling broken off. Branches broken from trees. Changes in flow or temperature of springs and wells. Cracks in wet ground and on steep slopes.
- IX** General panic. Masonry D destroyed; masonry C heavily damaged, sometimes with complete collapse; masonry B seriously damaged. (General damage to foundations.) Frame structures, if not bolted, shifted off foundations. Frames cracked. Serious damage to reservoirs. Underground pipes broken. Conspicuous cracks in ground. In alluvial areas, sand and mud ejected, earthquake fountains, sand craters.
- X** Most masonry and frame structures destroyed with their foundations. Some well-built wooden structures and bridges destroyed. Serious damage to dams, dikes, embankments. Large landslides. Water thrown on banks of canals, rivers, lakes, etc. Sand and mud shifted horizontally on beaches and flat land. Rails bent slightly.
- XI** Rails bent greatly. Underground pipelines completely out of service.
- XII** Damage nearly total. Large rock masses displaced. Lines of sight and level distorted. Objects thrown into the air.

Definition of Masonry A, B, C, D:

Masonry A: Good workmanship, mortar, and design; reinforced, especially laterally, and bound together by using steel, concrete, etc.; designed to resist lateral forces.

Masonry B: Good workmanship and mortar; reinforced, but not designed in detail to resist lateral forces.

Masonry C: Ordinary workmanship and mortar; no extreme weaknesses like failing to tie in at corners, but neither reinforced nor designed against horizontal forces.

Masonry D: Weak materials, such as adobe; poor mortar; low standards of workmanship; weak horizontally.

HAZARDOUS MATERIAL INCIDENT

GENERAL SITUATION

The release of a hazardous material to the environment could cause a multitude of problems that can be discussed in a general manner. The significance of the problems to the environment, property, or human health is dependent on the type, location, and quantity of the material released. Although hazardous material incidents can happen almost anywhere, certain areas of the state are at higher risk. Jurisdictions near roadways, waterways, airways, and pipelines that are used for transporting hazardous materials are at risk. Also, jurisdictions with industrial facilities that use, store, or dispose of such materials all have increased potential for major mishaps.

With the increased dependence on chemicals in our society, releases of explosive and highly flammable materials have caused: fatalities and injuries, necessitated large scale evacuations, and destroyed millions of dollars worth of property. Releases of hazardous chemicals have been especially damaging when they have occurred in highly populated areas or along heavily traveled transportation routes. Toxic chemicals in gaseous form have caused injuries and fatalities among emergency response teams and passers-by. When toxic materials have entered either surface or ground water supplies, serious health effects have resulted.

CONSIDERATIONS FOR THE SAN MATEO COUNTY

San Mateo County has a population of over 675,000 in an area of 448 square miles. The bayside portions of the county from Brisbane to Menlo Park contain a number of facilities that use hazardous materials. These industries include semi-conductor and related devices; paints, varnishes, lacquers, enamels, and allied products; chemicals; and biological research activities. The coastside sections of the county are primarily rural - most of this area is forested or agricultural. There are concentrations of pesticides and related substances in the agricultural areas. San Francisco Airport is located in the northeast corner of the county. The Port of Redwood City is located in the eastern portion of the county. Major shipping lanes pass close by the San Mateo coast.

Air, Road, Rail, and Pipeline Spill Potential

There are four major highways in the county that carry large quantities of hazardous materials: State Route 1, which runs north to south along the western edge; Interstate 280, which runs north to south through the center of the county along the San Andreas Fault; US 101, which runs north to south along the eastern edge of the county; and State Route 92 which bisects the other three roads as it runs east to west at mid-county.

US 101 is the most heavily traveled in terms of truck traffic and is the most frequent location of those hazardous materials spills, which occur on major roads. The Southern Pacific/Santa Fe railroad right of way parallels 101 through the heavily populated eastern side of the county. Natural gas pipelines also run south to north along this eastern Bayshore. Truck, rail, and pipeline transfer facilities are concentrated in this region, and are involved in considerable handling of hazardous materials.

Hazardous Waste Generation

San Mateo County ranks sixth out of the nine bay area counties in hazardous waste tonnage generated for off-site disposal and third in the amount for on-site disposal. Approximately 7% (16,500 tons) of the hazardous waste generated in the county is transported off-site to approved treatment and disposal sites throughout the state. The balance is disposed of on-site through methods including evaporation ponds, incineration, pre-treatment of sewage discharge, and recycling.

Pre-treatment and sewage disposal is the predominant form of authorized hazardous waste disposal within the county. Approximately 184,000 - 188,000 tons (83-84%) of county-generated hazardous waste is diluted to sewer agency standards: 3,100- 3,750 tons (1-2%) evaporated; and 15,000-18,000 tons (7-8%) recycled. There are presently two commercial firms which recycle locally: Romic Chemical Company in East Palo Alto, which recovers industrial solvents; and Ekotek Lube in San Carlos, which re-refines oil.

Spill history in the county shows most problems occurring in the Brisbane/South San Francisco/San Francisco Airport area in the northeast and in the Belmont to Menlo Park area in the southeast. These bayside areas have substantial suburban development with a significant population at risk should a serious spill occur. These sections also overlie a large groundwater basin.

Illegal Disposal

Illegal disposal of hazardous waste into sewer systems, at landfill sites, and directly into streams, or dumping along roadways is a growing problem. Illegal dumping account for a substantial fraction of emergency responses by the county Hazardous Materials Response Team. Unfortunately, this type of incident is expected to increase as operating costs (and use fees) for authorized disposal sites rise.

Industry generally is aware of hazardous materials regulations and appropriate disposal procedures and acts responsibly. Small generators (small business and households) are largely unaware of the hazardous waste problem and tend to view current regulations as not pertaining to them. Small generators are also less able to incur the costs of proper disposal and may attempt to cut operating costs by illegal dumping. There is a lack of incentives (both positive and negative) to encourage proper disposal, recycling, or reduction in waste generation.

Contaminated Waste Sites

State and regional agencies have identified eight contaminated waste sites in San Mateo County which potentially pose a threat to public health. The majority involve disposal prior to the enactment of regulatory controls. Four of the sites have been designated as eligible for state clean-up funds:

Zoecon Corporation/Chipman Chemical East Palo Alto	A former sludge pond with arsenic, heavy metals, and pesticides (58th worst site statewide)
Sun Chemical Corp/Rental City Trucks South San Francisco	Soil contaminated with lead, zinc, and cyanide from former printing operations (70th worst)
Heally Tibbitts/Wildberg Brothers Smelting and Refining Company South San Francisco	Heavy metals (84th worst)

Pacific Gas and Electric Martin Service Center Daly City	Soil contaminated with naphthalene, anthracene, naphthalene, anthracene, benzene (87th worst)
Homart Development Company South San Francisco	Heavy metals, acid waste sumps, solvents, storage tanks from former steel operation
Cal Mac Transportation Company East Palo Alto	Surface solvent and resin contamination removed; subsurface investigation continuing
Bayshore Executive Park San Mateo	Abandoned site contaminated by lead and heavy metals
Marsh Road Landfill Menlo Park	Site has been used to dispose of waste - no cleanup is planned

Emergency Response Actions

Emergency response actions associated with the above situations are presented in Volume One, Operations Section Event Specific Checklist.

Exhibits

Exhibit 1 - HAZMAT High Risk Areas in San Francisco Bay

Exhibit 2 - San Mateo County HAZMAT High Risk Areas (Fixed Sites)

Exhibit 3 - San Mateo County HAZMAT High Risk Areas (Pipeline, Transportation Corridors)

Reference

AREA OES SOP 1.2

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FLOODING

General Situation

Floods are generally classed as either slow-rise or flash floods. Slow-rise floods may be preceded by a warning time lasting from hours, to days, or possibly weeks. Evacuation and sandbagging for a slow-rise flood may lessen flood-related damage. Conversely, flash floods are the most difficult to prepare for, due to the extremely short warning time, if any is given at all. Flash flood warnings usually require immediate evacuation within the hour.

Once flooding begins, personnel will be needed to assist in rescuing persons trapped by flood water, securing utilities, and cordoning off flooded areas and controlling traffic. These actions may overtax local agencies and additional personnel and resources may be required. It is anticipated that existing mutual aid resources would be used as necessary to augment local resources.

Special Situation

Watersheds in San Mateo County are relatively small and the run to the Pacific Ocean or to the San Francisco Bay. The typical long, slow-rising floods experienced in the Central Valley and along the great rivers of northern California do not occur here.

Major floods in the county have occurred in 1940, 1955, 1958, 1973, 1982, 1983, and 1986. The December 1955 flood was the most severe in recent history until the 1982 event. Major flooding also occurred in Dec 96 - Jan 97. The 1982 flood had its most severe impacts in Pacifica, where heavy rains induced mud flows which destroyed several homes and killed 3 children. The flood also impacted the community of Pescadero - the one part of the rural area where a significant amount of development has occurred in a natural flood plain. The storm almost completely flooded the rural service center, blocked all access roads to the town, and severed telephone and electric power services. Most of the residents of Pescadero had to evacuate.

Rural Flooding

The risk of flooding in the rural area is dependent on several variables: the amount and intensity of rainfall that is annually received in each watershed; the width and topographic setting of the flood plains of the major streams; the degree to which flood control improvements have been made; and, most importantly, the amount of development that is located within known flood plains.

The unincorporated rural areas of San Mateo County contain 21 major watersheds. All but two of these watersheds drain to the Pacific Ocean. Only the Crystal Springs and San Francisquito Watersheds drain to the San Francisco Bay.

In the rural area, the major streams remain almost completely in undisturbed natural conditions. Very few flood control improvements (outside of installation of culverts and occasional clearance of debris from creek channels) have taken place. Major flood control projects (such as channelization or channel diversion) have been undertaken in more densely populated urban areas on the bayside.

Compared to neighboring bay area counties, the rural portion of San Mateo County receives abundant annual rainfall. In effect, the rural mountainous areas act as a "rain trap." Average rainfall in the rural area ranges from more than 45 inches per year in the Skyline Ridge area to over 30 inches per year in most of the South Coast watersheds west of Skyline. By comparison, Redwood City, located on the east side of the Skyline Ridge, averages only 19 inches per year.

During years of average rainfall and relatively mild storm systems, the natural stream channels of the rural watersheds are adequate to drain runoff. However, in years of abnormally high rainfall or unusually severe storms, disastrous flooding can occur. Runoff during such conditions cascades rapidly down the narrow stream channels of the mountainous areas. The strong velocity of flood waters during these times can carry debris for long distances, block stream channels and create areas of severe localized flooding.

The table in Exhibit 1 summarizes the annual measured stream flow of San Gregorio and Pescadero Creeks between 1970-1981. This table indicates the wide variation in runoff that can occur in the rural area. In the San Gregorio watershed, an area that drains over 39,000 acres, runoff has ranged from over 61,000 acre-feet in 1972-3 to only 840 acre-feet in the severe drought year of 1976-77.

Urban Flooding

In more densely populated urban areas, the risks to life and property from flood hazards are increased. In the past, development patterns in urban areas have generally ignored the threat of flooding. As more and more development occurs within flood plain areas, it often became necessary to finance expensive engineering solutions to the flooding problems.

In the urban portion of the county, the problem of directing storm runoff from the mountains to the Bay has been addressed through various flood control and drainage districts (Exhibit 2). Improvements have included installation of culverts and bridges, construction of levees, various methods of channel alteration or installation of underground storm drains. In spite of these improvements, many of the creek channels could be overtopped during the 100-year flood.

The "solution" to the flood hazard problem in the urban area can itself create certain hazardous situations. When natural stream channels are altered and vegetation is removed, the velocity of the storm runoff increases because it can more efficiently flow toward the bay. This can create hazards to those who might accidentally fall into the creek, particularly young children.

Urban areas can also be victimized by the problem of debris blockage of creek channels. In many areas, residential neighborhoods border directly on creek channels. These areas could easily be spot flooded if the channels are not clear. Additionally, decaying flood-deposited garbage or other organic material could create health hazards in the aftermath of a flood.

Tidal Flooding

The hazards of tidal flooding in areas proximate to San Francisco Bay have been mitigated to some degree by the series of levees constructed for salt evaporation ponds in the southeast of the county and for flood protection in the north and central parts of the county. Generally, however, these levees would not withstand the flood intensities of the 100-year base flood.

Emergency Response Actions

Emergency response actions associated with the above situations are presented in Volume One, Operations Section Event Specific Checklist.

Exhibits

Exhibit 1 - Pescadero and San Gregorio Creeks Stream flow

Exhibit 2 - Flood Control District Zones

Exhibit 3 - Coastside Creeks

Exhibit 4 - Bayside Creeks

References

AREA OES SOP 1.3

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Exhibit 1 Stream Flow Gauges

PESCADERO AND SAN GREGORIO CREEKS STREAM FLOW ANNUAL MEASURED STREAM FLOW FOR PESCADERO AND SAN GREGORIO CREEKS WATER YEARS 1970-1981

(in acre-feet^a)

WATER YEAR ^b	PESCADERO CREEK ^c	SAN GREGORIO CREEK ^d
1970	30,420	28,790
1971	18,540	22,840
1972	4,660	5,630
1973	51,830	61,220
1974	47,290	57,820
1975	25,780	19,020
1976	2,990	2,220
1977	1,250	840
1978	45,620	34,110
1979	16,600	18,210
1980	41,520	34,630
1981	9,640	9,250
12 Year Mean	24,680	24,550
12 Year High	(1973) 51,830	(1973) 61,220
12 Year Low	(1977) 1,250	(1977) 840

SOURCE: US Geological Survey, Water Resources Data for California, Reports for Water Years 1970-1981.

Exhibit-2 San Mateo County Control District

TOTAL ASSESSED

<u>DISTRICT</u>	<u>AREA SERVED</u>	<u>VALUE 1982-1983</u> <u>(\$ MILLIONS)</u>
Colma Creek Flood	Portions of Daly City, South San Francisco, Colma,	

An "acre-foot" is defined as the volume of water that would cover one acre to a depth of one foot. Each acre-foot is equivalent to 325,851 gallons.

^{b.} A "water year" is the official term of measurement used by the US Geological Survey to monitor seasonal stream flow. It corresponds to the beginning of each rain season (October) and measures through to the end of September.

^{c.} The Pescadero Creek measuring station is located 5.3 miles upstream from the mouth of the creek (about 3.0 miles east of the town of Pescadero).

^{d.} The San Gregorio Creek measuring station is located just south of the town of San Gregorio, approximately 1.4 miles upstream of the mouth of the creek.

Exhibit-2 San Mateo County Control District

<u>DISTRICT</u>	<u>AREA SERVED</u>	TOTAL ASSESSED VALUE 1982-1983 (\$ MILLIONS)
Colma Creek Flood Control Zone	Portions of Daly City, South San Francisco, Colma, Pacifica and other unincorporated areas	2,430
Colma Creek Flood Central Subzone 1	Central portion of South San Francisco, west of Highway 101	69
Colma Creek Flood Control Subzone 2	Parts of southern and eastern South San Francisco, completely surrounding Subzone 1	517
Colma Creek Flood Control Subzone 3	Portions of Daly City, South San Francisco and other unincorporated areas	1,844
Ravenswood Slough Flood Control Zone	Portions of East Palo Alto and Menlo Park	347
San Bruno Creek Control Zone 1	Lands owned by the San Francisco International Airport west of 101	5
San Bruno Creek Control Zone 2	The drainage basin area within the City of San Bruno	686
San Francisquito Creek Flood Control Zone 1	Southern East Palo Alto area, along the border between Santa Clara and San Mateo Counties	46
San Francisquito Creek	Portions of Woodside, Menlo Park, East Palo Alto and Portola Valley, bounded by the Santa Clara, San Mateo borderline and Skyline Blvd	1,330

Exhibit-3 Coastside Creeks

Calara Creek	Pacifica
San Pedro Creek	Pacifica
Martini Creek	Montara
San Vicente Creek	Moss Beach
Denniston Creek	El Granada
Arroyo de en Medio	Granada
Frenchman's Creek	Half Moon Bay
Pilarcitos Creek	Half Moon Bay
Arroyo Leon Creek	Half Moon Bay
Aroyo Canada Verde	Half Moon Bay
Purisima Creek	San Mateo County
Lobitos Creek	San Mateo County
Tunitas Creek	San Mateo County
San Gregorio Creek	San Gregorio
Pomponio Creek	San Mateo County
Pescadero Creek	Pescadero
Butano Creek	Pescadero
Arroyo de los Frijoles	San Mateo County
Gazos Creek	San Mateo County
Whitehouse Creek	San Mateo County
Cascade Creek	San Mateo County
Green Oaks Creek	San Mateo County
Ano Nuevo Creek	San Mateo County
Finney Creek	San Mateo County
Elliot Creek	San Mateo County

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Exhibit-4 Bayside Creeks

Colma Creek	Daly City, Colma, South San Francisco
San Bruno Creek	San Bruno
Easton Creek	Burlingame
Sanchez Creek	Hillsborough
San Mateo Creek	San Mateo
Laurel Creek	San Mateo
Belmont Creek	Belmont
Pulgas Creek	San Carlos
Cordilleras Creek	San Carlos, Redwood City
Redwood Creek	Redwood City
Atherton Creek	Atherton
San Francisquito Creek	Menlo Park
Bear Gulch Creek	Woodside, Atherton
Corte Madera Creek	Portola Valley
Los Trancos Creek	Portola Valley, Los Trancos Woods

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DAM FAILURE

General Situation

Dam failures can result from a number of natural or man-made causes such as earthquakes (ground rupture or severe ground shaking), erosion of the face or foundation, landsliding which displaces a large volume of water, rapidly rising flood waters, and structural/design flaws.

There are three general types of dams: earth and rock fill; concrete arch or hydraulic fill; and concrete gravity. Each of these types of dams has different failure characteristics. The earth rock fill dam will fail gradually due to erosion of the breach. A flood wave will build gradually to a peak and then decline until the reservoir is empty. A concrete arch or hydraulic fill dam will fail almost instantaneously, thus a very rapid build up to a peak and then a gradual decline. A concrete gravity dam will fail somewhere in between instantaneous and gradual with a corresponding build up of flood wave.

In addition to the above mentioned characteristics, warning ability is generally determined by the frequency of inspections for structural integrity, the flood wave arrival time (the time it takes for the flood wave to reach its maximum distance of inundation), or the ability to notify persons downstream and their ability to evacuate.

A dam failure will cause loss of life, damage to property, and other ensuing hazards, as well as the displacement of persons residing in the inundation path. Damage to electric generating facilities and transmission lines could also impact life support systems in communities outside the immediate hazard areas.

A catastrophic dam failure (depending on size of dam and population downstream) could exceed the response capability of local communities. Damage control and disaster relief support would be required from other local governmental and private organizations, and from the state and federal governments.

If warning time should permit, mass evacuation of the inundation areas would be essential to save lives. Extensive search and rescue operations may be required to assist trapped or injured persons. Emergency medical care, food, and temporary shelter would be required for injured or displaced persons. Identification and burial of many dead persons would pose difficult problems and public health would be a major concern. Many families would be separated, particularly if the failure should occur during working hours, and a personal inquiry or locator system would be essential. These and other emergency operations could be seriously hampered by the loss of communications, damage to transportation routes, and the disruption of public utilities and other essential services.

Governmental assistance could be required and may continue for an extended period. These efforts would be required to remove debris and clear roadways; demolish unsafe structures; assist in reestablishing public services and utilities; and provide continuing care and welfare for the affected population, including temporary housing for displaced persons.

Special Situation

There are thirteen dams in San Mateo County that are large enough to endanger lives and property in the event of a failure. Eleven of these dams are large enough and in locations such that a failure would endanger a sizeable population. The flood plain that would result from catastrophic failure of each of these eleven dams has been mapped by the owner of each dam; the maps are on file with the Office of Emergency Services.

Dam	Owner	Height		Capacity Population Affected
		(Feet)	(Acre-Feet)	
Bear Gulch	Cal Water Svc	61	672	1,000
Burlingame	Hillsborough	87	91	2,800
Crocker	Hillsborough	45	34	2,800
Crystal Spr	SF Water Dpt	140	54,000	70,000
Emerald Lake	Emerald Lake CC	57	87	7,500
Felt Lake	Stanford U	67	900	8,000
Johnston	HMB Properties	27	30	100
Laurel	San Mateo	40	55	750
Notre Dame	Coll of Notre Dame	51	120	500
Pilarcitos	SF Water Dpt	103	3,100	300
Rickey/West	Allen & Co	64	47	100
San Andreas	SF Water Dpt	107	18,500	70,000
Searsville	Stanford U	68	952	14,000

Crystal Springs Dam failure

Of prime concern is the failure of Crystal Springs Dam, owned by the San Francisco Water Department. The flood waters from this dam would affect San Mateo, Foster City, Hillsborough, Burlingame, and Belmont. Based on a "worst case" scenario, which assumes an 8.3 magnitude earthquake on the San Andreas Fault and simultaneous failure of both the San Andreas and Lower Crystal Springs Dams (both are located directly on the fault), it has been estimated that inundation could cause 20-25,000 deaths. However, neither dam was damaged during the 1906 earthquake. The remaining dams could inundate portions of populated cities, towns, and communities, as well as forest and agricultural lands, roads, and highways. Failure of that dam could result in the following:

Potential Exposures/Deaths	Day	Night
Persons Exposed	67,000	63,000
Maximum Potential Deaths	33,000	34,000
Probable Potential Deaths	22,000	28,000

Six smaller dams in San Mateo County have been exempted from the inundation mapping and dam failure planning requirements of the state Dam Safety Act.

Dam	Owner	Height (Feet)	Capacity (Acre Feet)
Bean Hollow 2-3	Emma Denardo Muzzi	40	1,361
Canada Road	CalTrans	52	78
Coastways	Mary DeFremery Atkins	46	100
Green Oak No. 1	Capitola Berry Farms	39	287
Lake Lucerne	Emma Denardo Muzzi	21	455
Pomponio Ranch	Carver Ranch	63	256

Exhibits 1 through 11 summarize general information and evacuation procedures for each dam.

Emergency Response Actions

Emergency response actions associated with the above situations are presented in Volume #1 Checklist & Guidebook /Annex #1B of the Menlo Park Emergency Operation Plan

Exhibit

Exhibit 1 - Dam Information

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Exhibit-1 Dam Information

LEGEND

Name of Dam as assigned by owner on application.

Dam Number as assigned by Department of Water Resources.

Name of Owner as it appears on application.

Natid National Inventory of Dams Identification Number.

Parapet Code/Height as measured above the dam crest in feet. If a parapet exists it is either (1) a structural wall adequate to impound water, or (2) a wall not capable of storing water. If parapet code is 1, the dam crest is the top of the parapet wall. If there is no parapet wall, the code is (3).

County in which dam is located.

Stream on which dam is located as named by the owner on original application or as revised to conform with USGS topographic maps.

Location is section, township, range, and base line and meridian, as used in "The System of Rectangular Surveys". Also included are latitude and longitude of the center point of the dam and the Thomas Guide map page and grid.

Type of main dam only.

Unit for dimensions of each item, first in the English system, then in the equivalent unit in SI (metric).

Storage Capacity in acre-feet and decameters, including dead storage.

Drainage Area in square miles and in square kilometers.

Reservoir Area in acres and hectares at spillway crest elevation or, at a higher maximum water storage elevation if head works controls are continuously used.

Crest Elevation in feet and meters (USGS datum when available; otherwise, in approximate USGS datum or local datum).

Crest Length of the main dam (excluding auxiliary dams) in feet and meters.

Height in feet and meters from dam crest elevation to the lowest elevation of the outside limit of the dam.

Total Freeboard is the vertical distance in feet and meters from the dam crest to the lowest point of the spillway control section (excluding flash boards and gates).

Operating Freeboard, where spillway crest controls are used, the vertical distance in feet and meters from the dam crest to the certified water storage elevation.

Crest Width in feet and meters to the normal axis at the narrowest point.

Dam Volume in cubic yards and cubic meters of the principal material used for both main and auxiliary dams.

Year Completed is date the original construction was completed.

DSOD Inspections/Year is number of times per year that each dam is inspected by the Division of Safety of Dams.

SOURCE: Dams Within Jurisdiction of the State of California, Bulletin 17-84, Department of Water Resources, August 1984.

	Bean Hollow 2	Bean Hollow 3	Bear Gulch
Dam Number	602-002	602-003	581-006
Owner	Emma Muzzi	Emma Muzzi	Cal Water
Parapet Code/Height	---	---	---
County	San Mateo	San Mateo	San Mateo
Stream	Arroyo de los Frijoles	Arroyo d los Frijoles	SF Bay
Section	26	26	6
Township	8S	8S	6S
Range	5W MD	5W MD	3W MD
Latitude	37 12.7	37 12.3	37 26.0
Longitude	122 22.2	122 22.0	122 13.6
Thomas Guide	Pg 56A, F1	Pg 56, E6	Pg 42, F3
Type	Earth	Earth	Earth
Storage Capacity	900 acre ft	461 acre ft	672 acre ft
Storage Capacity	1110 decamtrs	568 decamtrs	828 decamtrs
Drainage Area	1.38 mi ²	1.23 mi ²	0.2 mi ²
Drainage Area	3.57 km ²	3.19 km ²	0.52 km ²
Reservoir Area	43 acres	36 acres	25 acres
Reservoir Area	17 hectares	15 hectares	10 hectcs
Crest Elevation	172 ft	196.4 ft	245.1 ft
Crest Elevation	52.4 mtrs	59.9 mtrs	74.7 mtrs
Crest Length	325 ft	405 ft	730 ft
Crest Length	99 mtrs	123 mtrs	223 mtrs
Height	31 ft	40 ft	61 ft
Height	9 mtrs	12 mtrs	19 mtrs
Total Freeboard	5.0 ft	5.0 ft	5.1 ft
Total Freeboard	1.5 mtrs	1.5 mtrs	1.6 mtrs
Operating Freeboard	---	---	---
Operating Freeboard	---	---	---
Crest Width	10 ft	10 ft	11 ft
Crest Width	3 mtrs	3 mtrs	3 mtrs
Dam Volume	17,328 yds ³	25,900 yds ³	156,000 yds ³
Dam Volume	13,248 mtrs ³	19,801 mtrs ³	119,269 mtrs ³
Year Completed	1938	1939	1896
DSOD Inspections/Yr	1	1	2
INUNDATION AREA	Portions of Atherton corner of Las Lomitas School property		

	Spencer Lake	Canada Road	Coastways
Dam Number	2014-002	1-069	1600-
Owner	Hillsborough	CalTrans	Coastways Ranch
Parapet Code/Height	---	---	---
County	San Mateo	San Mateo	San Mateo
Stream	Trib/SF Bay	San Mateo Crk	Ano Nuevo Crk
Section	23	17	28
Township	4S	5S	9S
Range	5W MD	4W MD	4W MD
Latitude	37 34.2	37 29.9	37 7.0
Longitude	122 22.7	122 19.7	122 18.1
Thomas Guide			
Type	Earth	Earth	Earth
Storage Capacity	73 acre ft	74 acre ft	100 acre ft
Storage Capacity	90 decamtrs	91 decamtrs	123 decamtrs
Drainage Area 0.20 mi ²		0.05 mi ²	0.12 mi ²
Drainage Area 0.52 km ²		0.130 km ²	0.31 km ²
Reservoir Area	4 acres	6 acres	9 acres
Reservoir Area	2 hectares	2 hectares	4 hectares
Crest Elevation	311 ft	337.0 ft	117.7 ft
Crest Elevation	94.80 mtrs	102.7 mtrs	35.9 mtrs
Crest Length	400 ft	1300 ft	1000 ft
Crest Length	122.0 mtrs	396 mtrs	305 mtrs
Height	87 ft	52 ft	46 ft
Height	27 mtrs	16 mtrs	14 mtrs
Total Freeboard	5.3 ft	6.0 ft	5.3 ft
Total Freeboard	1.6 mtrs	1.8 mtrs	1.6 mtrs
Operating Freeboard	---	---	2.4
Operating Freeboard	---	---	0.7
Crest Width	12 ft	20 ft	25 ft
Crest Width	4 mtrs	6 mtrs	7.8 mtrs
Dam Volume	46,960 yds ³	155,000 yds ³	20,000 yds ³
Dam Volume	35,903 mtrs ³	118,505 mtrs ³	15,290 mtrs ³
Year Completed	1876	1971	1951
DSOD Inspections/Yr	2	2	1

INUNDATION AREA

Portions of Burlingame beyond 101 south of Broadway

	Crocker	Lower Emerald	Green Oaks #1
Dam Number	2014-000	612	1604-002
Owner	Hillsborough	Emerald Lk CC	Capitola Inv
Parapet Code/Height	---	---	---
County	San Mateo	San Mateo	San Mateo
Stream	Sanchez Creek Tr	ib/SF Bay	Grn Oaks Crk
Section	23	26	29
Township	4S	5S	9S
Range	5W MD	4W MD	4W MD
Latitude	37 33.9	37 28.0	37 7.5
Longitude	122 22.4	122 23.2	122 18.9
Thomas Guide	Pg 28, E4	Pg 36, C4	Pg 59A, D5
Type	Earth	Earth	Earth
Storage Capacity	22 acre ft	45 acre ft	322 acre ft
Storage Capacity	27 decamtrs	55 decamtrs	397 decamtrs
Drainage Area	0.26 mi ²	0.25 mi ²	1.1 mi ²
Drainage Area	0.67 km ²	0.65 km ²	2.85 km ²
Reservoir Area	2 acres	4 acres	22 acres
Reservoir Area	1 hectare	2 hectares	9.0 hectares
Crest Elevation	292.5 ft	272.0 ft	107 ft
Crest Elevation	89.2 mtrs	82.9 mtrs	32.6 mtrs
Crest Length	200 ft	280 ft	880 ft
Crest Length	61.0 mtrs	85 mtrs	268 mtrs
Height	45 ft	57 ft	39 ft
Height	14 mtrs	17 mtrs	12 mtrs
Total Freeboard	10.7 ft	6.0 ft	6.0 ft
Total Freeboard	3.3 mtrs	1.8 mtrs	1.8 mtrs
Operating Freeboard	---	5.0	3.0
Operating Freeboard	---	1.5	0.9
Crest Width	13 ft	20 ft	12 ft
Crest Width	4.0 mtrs	6 mtrs	4 mtrs
Dam Volume	11,000 yds ³	19,200 yds ³	42,934 yds ³
Dam Volume	8,410 mtrs ³	14,679 mtrs ³	32,825 mtrs ³
Year Completed	1890	1885	1936
DSOD Inspections/Yr	2	2	1
Inundation Area	Sanchez Creek Portions of in Burlingame Western to 101 south of Broadway		

	Johnston	Lake Lucerne	Laurel Creek
Dam Number	605-002	602-000	1070-000
Owner	HMB Heritage	Emma Muzzi	San Mateo
Parapet Code/Height	---	---	---
County	San Mateo	San Mateo	San Mateo
Stream	Arroyo Leon	Arroyo delos	Frijoles Laurel Creek
Section	32	21	5
Township	5S	8S	5S
Range	5W MD	5W MD	4W MD
Latitude	37 27.2	37 13.4	37 31.6
Longitude	122 25.4	122 24.3	122 19.3
Thomas Guide	Pg 56, B5	Pg 32, D3	
Type	Gravity	Earth	Earth
Storage Capacity	30 acre ft	455 acre ft	55 acre ft
Storage Capacity	37 decamtrs	561 decamtrs	67 decamtrs
Drainage Area	7.6 mi ²	4.69 mi ²	0.9 mi ²
Drainage Area	19.68 km ²	12.15 km ²	2.33 km ²
Reservoir Area	5 acres	45 acres	3 acres
Reservoir Area	2 hectares	18 hectares	1 hectare
Crest Elevation	96 ft	19 ft	172.0 ft
Crest Elevation	29.3 mtrs	5.80 mtrs	52.4 mtrs
Crest Length	132 ft	346 ft	287 ft
Crest Length	40 mtrs	105 mtrs	87 mtrs
Height	31 ft	21 ft	40 ft
Height	9 mtrs	6 mtrs	5.0 ft
Total Freeboard	1.8 mtrs	1.6 mtrs	1.5 mtrs
Operating Freeboard	4.0	---	---
Operating Freeboard	1.2	---	---
Crest Width	2 ft	23 ft	30 ft
Crest Width	1 mtrs	7 mtrs	9 mtrs
Dam Volume	190 yds ³	15,343 yds ³	134,000 yds ³
Dam Volume	145 mtrs ³	11,730 mtrs ³	102,449 mtrs ³
Year Completed	1919	1923	1969
DSOD Inspections/Yr	1	1	2

INUNDATION AREA Portions of downtown San Mateo Half Moon Bay

	Lower Crystal Springs	Notre Dame	Pilarcitos
Dam Number	10-006	619-000	10-008
Owner	City/County SF	Notre Dame	City/County SF
Parapet Code/Height	1/9.0	---	---
County	San Mateo	San Mateo	San Mateo
Stream	San Mateo Crk	Belmont Creek	Pilarcitos Creek
Section	1	9	33
Township	5S	5S	4S
Range	5W MD	4W MD	5W MD
Latitude	37 31.8	37 30.5	37 32.9
Longitude	122 21.6	122 18.4	122 25.4
Thomas Guide	Pg 31, F2	Pg 32, E5	Pg 28, A6
Type	Gravity	Earth	Earth
Storage Capacity	57,910 acre ft	120 acre ft	3,100 acre ft
Storage Capacity	71,431 decamtrs	148 decamtrs	3,823 decamtrs
Drainage Area	29.4 mi ²	0.53 mi ²	3.8 mi ²
Drainage Area	76.15 km ²	1.37 km ²	9.84 km ²
Reservoir Area	1,323 acres	8 acres	109 acres
Reservoir Area	535 hectares	3 hectares	44 hectares
Crest Elevation	292.8 ft	366 ft	700.0 ft
Crest Elevation	89.2 mtrs	111.6 mtrs	213.4 mtrs
Crest Length	600 ft	210 ft	520 ft
Crest Length	183 mtrs	64 mtrs	158 mtrs
Height	140 ft	51 ft	103 ft
Height	43 mtrs	16 mtrs	31 mtrs
Total Freeboard	9.0 ft	4.0 ft	7.2 ft
Total Freeboard	2.7 mtrs	1.2 mtrs	2.20 mtrs
Operating Freeboard	1.0 ft	21.7 ft	---
Operating Freeboard	0.30 mtrs	6.6 mtrs	---
Crest Width	40 ft	12 ft	25 ft
Crest Width	12 mtrs	4 mtrs	8 mtrs
Dam Volume	157,200 yds ³	50,000 yds ³	371,200 yds ³
Dam Volume	120,187 mtrs ³	38,227 mtrs ³	283,800 mtrs ³
Year Completed	1888	x	1866
DSOD Inspections/Yr	2	2	2

Inundation Area

Downtown Laurel Creek Canyon to San Mateo, So. Channel downtown to Ralston Ave/Half Moon Bay 101 overpass and No. to Burlingame Recreation lagoon

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MAJOR AIR CRASH

General Situation

San Francisco International Airport is the fifth busiest international airport in the United States. Up to 30,000 transients are served on a daily basis with 30% of them unable to speak English. In the 63 year history of the airport, there have been no passenger deaths.

A plane or jet crash in San Mateo County could cause serious damage and life loss requiring an immediate and coordinated response by various law enforcement, fire, and medical services. In the case of a downed aircraft, the size, speed, and highly flammable fuel magnify the proportions of emergency response services required. The worst air crash in San Mateo County occurred in 1953 when an Australian airliner plunged into Kings Mountain near Woodside. Nineteen passengers and crew members were killed.

The numbers of killed and injured persons from an aircraft accident is dependent on the location of the crash and the way the plane impacts the ground. If the crash occurs in a populated area, the time of day is important in determining numbers of persons injured or killed on the ground.

Law enforcement efforts in a major crash would focus on cordoning off the impacted location, maintaining open traffic lanes for emergency vehicles, and keeping curious citizens at a safe distance from the incident. Fire fighting resources would be charged with fire containment and search and rescue. Depending on local arrangements, the local response agencies will effect a unified command organization. Mobile command and communication centers would be established as needed.

Special Situation

San Francisco International Airport

San Francisco International Airport(SFIA) is owned by the City and County of San Francisco and operated in San Mateo County. The airport is located in the northeastern quadrant of San Mateo County. Aircraft landing at SFIA usually make their approaches to Runway 28 by flying northwesterly up the bay from San Jose. Exceptions to this practice occur when there are strong southerly winds. Aircraft approach over the City of San Bruno to Runway 08. Aircraft taking off from SFIA fly over San Bruno, South San Francisco, Brisbane, and Daly City in what has been referred to as the gap. The gap as it traverses these cities is 1.2 miles wide and 5.8 miles in length. This aircraft flight path encompasses the entire Serramonte neighborhood of southern Daly City, central San Bruno, and South San Francisco with resident population of approximately 45,000 persons. These neighborhoods are characterized by single family residential uses at about sixteen units per acre. Multi-family units are scattered throughout the planning area and are constructed at 20-25 units/acre. Several large regional shopping centers are also located within the gap.

Due to the close proximity of dwelling units and high density of the urbanized area, a downed jet liner could cause a large number of fatalities and serious injuries. Since the homes are typically located within six feet of each other, the number of units immediately impacted would be high and the risk of fire spreading would be significant.

Two factors related to the airport departures should be noted. The majority of flights leaving San Francisco International Airport use the Shoreline Departure route. The shoreline is used when fog does not reduce visibility of San Bruno Mountain. When the fog is heavy, or the departing flight is destined for the Far East or Hawaii, the jet will use the Gap Departure.

The Gap Departure is used by flights from San Francisco International Airport approximately 30% of the time (65,000-70,000 flights/year).

The second important factor for departures is the size and load of flights headed for Pacific destinations. The jets are heavy with fuel and typically carry 250 persons. These characteristics would require extra medical facilities and fire fighting capabilities.

While the above scenario would dictate a quick and multi-jurisdictional response, the probability of such an event is low. According to national studies of airport accidents involving large aircraft, the vast majority of airliner accidents occurs either immediately before landing or within 1,000 yards of take-off.

San Carlos Airport

On the baylands of south central San Mateo County, San Carlos Airport is a busy facility catering primarily to private pilots and student pilots. Takeoff and landing patterns for this airport are restricted to baylands located generally southeast and northeast from populated areas. Exceptions to this are portions of the Redwood Shores section of Redwood City and Foster City.

Half Moon Bay Airport

Half Moon Bay Airport is located directly north of Pillar Point Yacht Harbor and directly east of the Pacific Ocean in the central coastal region of San Mateo County. Although its facilities are used mainly by pilots of private, single engine aircraft, it possesses sufficient runway length to accommodate a small multi-engine jet airliner. Takeoff and landing patterns encompass primarily rural and scattered unincorporated residential areas (2-3 residents per acre) to the north and east of the airport and the incorporated city of Half Moon Bay (4-6 residences per acre) to the south.

Palo Alto Airport

A general aviation airport in the City of Palo Alto in Santa Clara County near the south end of San Francisco Bay on the western shore; nonprofit, membership organization composed of pilots, aircraft owners and other friends of Palo Alto Airport. The purpose of the PAAA is to promote and preserve the safe and efficient operation of the Palo Alto Airport for all users.

Emergency Response Actions

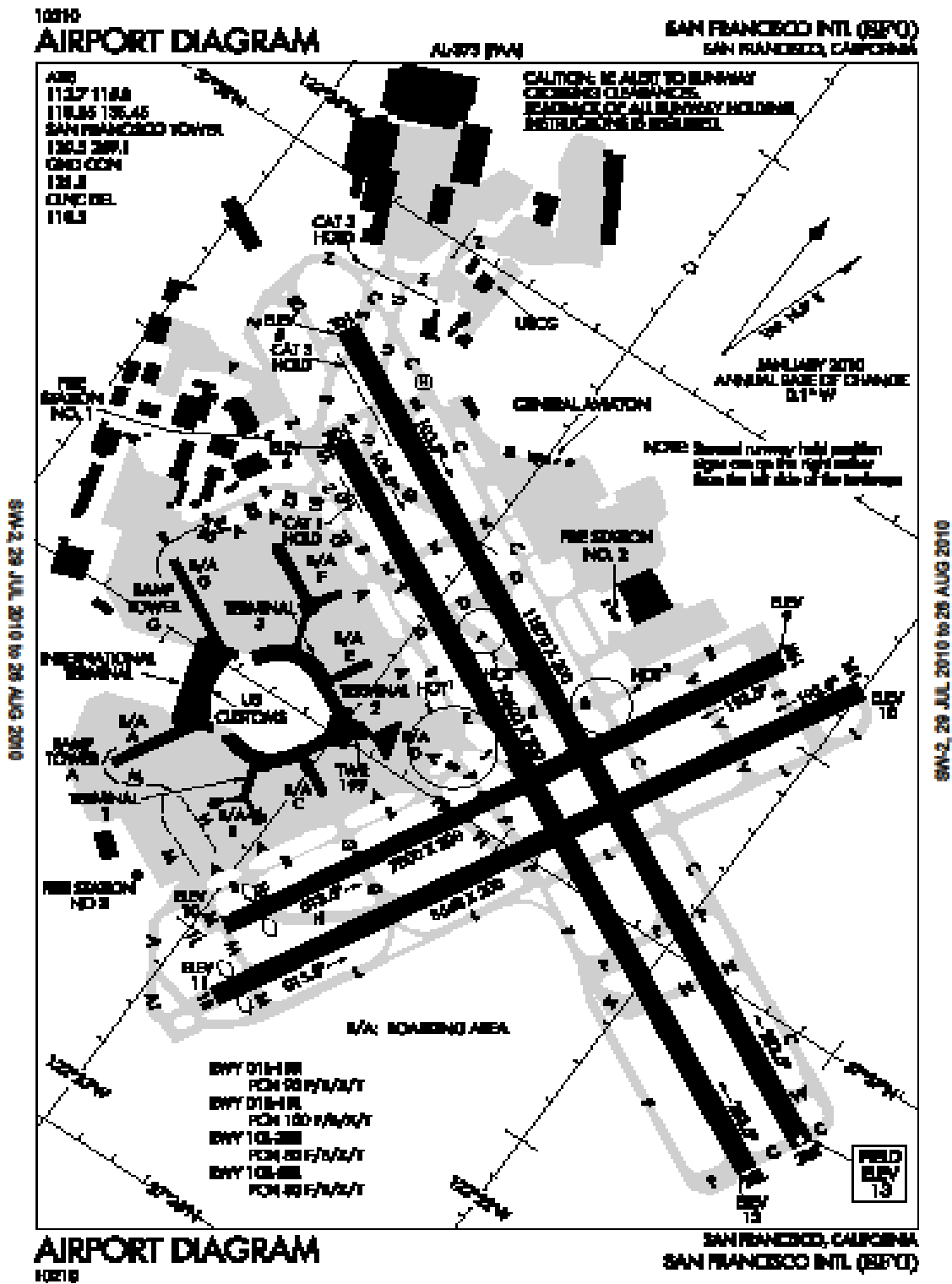
Emergency response actions associated with the above situations are presented in Volume One, Operations Section Event Specific Checklist.

References

San Mateo County High-Rise/Major Air Crash Response Assignment Plan adopted by the San Mateo County Fire Chiefs' Association

- Airport Traffic Control Plan
- Mutual Aid Agreement between San Mateo County Fire Departments and San Francisco Fire Department
- AREA OES SOP 1.7

Exhibit-1 Airport Flightline Map



TRAIN CRASH

General Situation

Rail service into and out of San Mateo County continues to change. The most notable was the purchase of Southern Pacific Right-of-way by San Mateo, Santa Clara, and San Francisco counties. Train crashes can cause deaths, injuries, and substantial property loss. If the crash causes fires, hazardous materials releases, or other secondary effects, the consequences can be even more serious and environmentally damaging. Most crashes are caused by operator error or signal control system failures.

Special Situation

Two tracked systems exist in San Mateo County - the Southern Pacific, and the Bay Area Rapid Transit District (BART). The Southern Pacific right-of-way runs from Palo Alto in the south through Brisbane in the north with spurs in industrial areas. A freight track leaves the mainline in south Redwood City and traverses Fair Oaks, the 101 freeway (by an overpass), and East Menlo Park. There are spurs in Redwood City (down Chestnut Street, under 101, and out to the Port of Redwood City), San Carlos (north of Commercial Street), Burlingame (south of Adrian Road), and South San Francisco (several industrial spurs, including tracks to several points in Oyster Point). An abandoned right-of-way leads off the mainline in South San Francisco northwest through Colma and Daly City (old Mission Boulevard route).

The Southern Pacific mainline passes through eleven densely populated cities and some of the most heavily concentrated industry in the county. With one exception (Hillsdale Avenue in San Mateo), all crossings of major east-west streets are at grade and controlled by gates and signals. There is also a railroad control tower in Redwood City.

The SP line is used to carry passengers (CalTrain operated by AmTrack and the San Mateo and Santa Clara County Transit Districts) and freight. The peak commuter hours are Monday through Friday from 7:00 AM to 9:00 AM and 3:30 to 6:30 PM. About 15,000 passengers use the train each day. On nights and weekends, limited passenger service is provided and cargo is transported. Some freight trains also use the tracks during the day.

The Bay Area Rapid Transit District (BART) extends on above-ground tracks next to Interstate 280 into the northern part of San Mateo County with stations in Daly City, Colma South San Francisco, San Bruno, San Francisco International Air port and Millbrae. BART carries passengers only. Its major lines are Daly City in the west to Concord in the East and Richmond in the north to Fremont in the south. The peak service is during the commute hours. Both CalTrain and BART run through densely populated areas and near major transportation routes. CalTrain runs parallel to and usually very near El Camino Real and BART parallels Interstate 280 in Daly City.

Accidents would cause great immediate problems in directing multi-agency response and controlling traffic, and very negatively affect the use of two major roads. Any hazardous materials carried as freight or in another impacted vehicle could substantially complicate response actions. Train accidents are normally associated with:

- Train accidents could be caused by derailment
- An accident with a vehicle at a crossing
- An accident with a pedestrian at a crossing
- A collision with another train
- Or an explosion or fire in or near the train.

Emergency Response Actions

Emergency response actions associated with the above situations are presented in Volume One Chapter Two, Operations event specific Checklists.

Reference

- AREA OES SOP 1.8

LANDSLIDES

General Situation

Landslides include all movements of soil, rock, or debris as a result of falling, sliding, or flowing. Most landslides are a combination of two or more types of motion and/or material. Landslides are categorized according to the types of motion and material involved. They can be directly caused by earthquakes or be completely independent of them.

Falls describe the sudden movement of material from vertical or near-vertical slopes and are generally labeled by the type of material displaced (e.g. soilfall, rockfall).

Slides refer to movements in which the material moves more or less as a unit along recognizable shear surfaces. If the shear surface is concave, the slide movement will be rotational and is denoted by the term "slump." If the shear surface is planar, translational movement occurs and the term "slide" is used alone. Both slides and slumps are further classified according to the type of material involved (e.g., earth slump, rockslide, debris slide where "debris" refers to combinations of soil, weathered bedrock and/or organic material).

Flows describe the movement of material in which a myriad of small-scale movements rather than massive sliding is the dominant mechanism of transport. This category is further broken down by the type of material involved and the rate at which it moves (e.g., debris flow, mudflow). The modifier "avalanche" is used to describe exceptionally fast flows.

The occurrence of landslides is determined by both natural and human factors. Natural factors include the cohesive strength and shrink-swell characteristics of the affected minerals, the orientation of joints and planes of weakness between slide material and bedrock, the steepness of slopes, the degree of saturation of ground materials (highly affected by rainfall), and the density of vegetation. Human factors include the sharp angling and overloading of slopes, the removal of natural vegetation, and the addition of water to the soil by watering of lawns, septic system drain fields, and on-site ponding of storm runoff.

Special Situation

The winters of 1982, 1983, 1986, and 1996/7 provided a grim reminder of the degree of hazard from landslides in San Mateo County. An extraordinarily intense storm on January 4, 1982 saturated many areas, triggering hundreds of small to major landslides in the county. Three children were killed in Pacifica when a debris avalanche struck a home, and millions of dollars in property damage were attributed to landslides throughout the county.

Losses from landslides are directly proportional to population density. For San Mateo County, the hillside areas (both incorporated and unincorporated) from Redwood City to Daly City and Brisbane have the greatest potential for economic loss due to landslides. However, as the population of the county increases and more development takes place in rural unincorporated areas, the potential for economic loss due to landslides could increase in these areas as well.

Emergency Response Actions

Emergency response actions associated with the above situations are presented in Volume One, Operations Section Event Specific Checklist.

Reference

AREA OES SOP 1.9

WILDLAND FIRE

General Situation

Because of the urban, rural and wildland intermix areas in California, fire protection is a difficult problem and fire protection systems are complex. Large tracts of sparsely populated land must be protected from wildland fires in hot, dry summers at the same time that adequate protection must be provided to densely populated urban centers. Fire protection in urban areas must also be designed and equipped to cope with industrial fires with their associated hazardous materials concerns, high-rise structures of varying occupancies, densely built and highly populated residential apartments and similar structures, and transportation accidents involving hazardous materials.

There are twenty cities within San Mateo County. Each city is responsible for its fire protection either by utilizing its own resources or contracting with the California Department of Forestry, a fire district, or adjacent municipal service. Brisbane, Burlingame, Daly City, Foster City, Hillsborough, Millbrae, Pacifica, Redwood City, San Bruno, San Mateo, and South San Francisco have their own fire departments. Other cities are protected by the Colma, Half Moon Bay, Menlo Park, and Woodside Fire Protection Districts. The South County Fire Authority is responsible for fire protection in Belmont and San Carlos. The unincorporated area is the primary responsibility of the California Department of Forestry, along with some fire protection districts and volunteer fire companies.

Fires, in both urbanized and forested settings, can rapidly extend to the point that local resources are inadequate. All fire agencies in San Mateo County have signed the California Master Mutual Aid Agreement and participate in mutual aid operations as required.

Special Situation

Wildland Fires

San Mateo County, like many other parts of California, has environmental characteristics which increase the potential for fires in wildland areas. Highly flammable vegetation, long and dry summers, rugged topography, poor access for fire vehicles, increasing recreational use of remote lands and popularity of rural residential development are all factors which are present in many of the unincorporated portions of the County, which contribute to this hazard potential.

The degree of fire hazard is dependent on three major components: the natural setting of the wildland area; the degree of human use and occupancy of the wildland area; and the level and ability of public services to respond to fires that do occur.

Natural Setting

Vegetation Type

Almost the entire unincorporated rural area is covered with woodland, brush or grassland, except for the cultivated lands in the Coastal Zone. In recent years, extensive study has been undertaken at the state level to classify the fire hazard severity of different regions of the state. One of the key components in measuring severity is the type and quantity of flammable vegetation within a given unit of land area. This factor, also known as "fuel loading characteristics," can then be combined with weather and slope to obtain a measure of relative hazard.

Three basic fuel loading characteristics have been identified by the state.^e "Heavy" fuel loading vegetation is assigned to woodland and brushwood areas. This characteristic is generally assigned to vegetation that is six feet or more in height and which has a crown density^f of 20 percent or more of the ground area. The heavy fuel loading vegetation types include conifers, and mixed evergreen timberlands and chaparral, which are found in abundance in the rural area of the county.

"Medium" fuel loading vegetation generally includes scrub vegetation that is less than six feet in height but with similar crown density characteristics. This category includes California sagebrush, coyote brush, manzanita and other chaparral species common to the county.

"Light" fuel loading vegetative types are various types of grasslands, herbaceous rangelands and irrigated pasture lands. These areas are almost completely treeless and, although highly flammable during dry seasons, do not have significant fuel content to sustain any fire that might be started.

Weather Factors

The second major natural characteristic to consider in fire hazard measurement are local weather conditions. In Northern California, very little rain normally falls between mid-April and the beginning of November. By September, many portions of the state are tinder dry. At the same time, it is not unusual for strong, drying winds to blow in from the north and east.

^e California Department of Conservation, Division of Forestry, [A Fire Hazard Severity Classification System for California's Wildlands](#), pages 10-13.

^f Crown density refers to the density of the top of the vegetation (at its crown) in comparison to the density of the ground area. Obviously, the higher the crown density the more potential fuel there is for burning.

The state has established three "critical fire weather frequency" classes to measure the weather-related fire hazard severity. These classes basically measure the annual number of days in which a critical "fire load index" is exceeded over a 10-year period, with Class I the lowest and Class III the highest level of danger.^g

A fire weather frequency class rating has been provided for all of the USGS quadrangles in California. Due to the high rainfall experienced by the portion of San Mateo County west of Skyline Boulevard, as well as the cooling influence of the summer coastal fog, no portion of San Mateo County is given the most severe weather rating.^h

Slope Characteristics

The third major characteristic of fire hazard measurement is the degree of slope present in a localized area. The rugged terrain and steep slopes that characterize much of the county's rural area can create extreme access problems for fighting fires once they have started. Generally, vegetation is more abundant in steep canyon areas due to less severe sun and wind exposure and greater capture of rain runoff. Fires that start in the bottom of canyons will burn 16 times faster up slope than if they begin at the top of ridges and burn down slope.

The state has divided slope categories into three different classes of fire severity.ⁱ Class I includes slopes from 0 to 40%. This category assumes that direct attack on the fire is possible with all-wheel drive fire trucks, bulldozers, hand crews, and aircraft. Class II includes slopes between 41 and 60%. This class assumes direct attack is not possible with fire trucks, but still possible in most cases with bulldozers, hand crews, and aircraft. Class III (slopes greater than 61%) includes areas mostly beyond the capability of bulldozers which can only be directly attacked by hand crews and aircraft.

Composite Fire Hazard Severity Scale

Based on the information obtained over years of research into the effects of vegetative fuel loading, weather and slope factors in determining fire risk, the state has developed a fire hazard severity matrix for general planning purposes.^j This matrix is reproduced as Exhibit 1. 1- Composite Fire Hazard Severity Ratings for Vegetative Fuel Loading, Slope and Weather Conditions

^g A Fire Hazard Severity Classification System for California's Wildlands, pages 14-17.

^h Ibid., pages 35-48.

ⁱ Ibid., page 19.

^j California Department of Forestry, Fire Safety Guides for Residential Development in California, 1980, page 6.

Human Use of the Wildland Area

The degree of fire hazard in the wildland areas is also greatly dependent on the number of persons who have access to those areas, whether as permanent residents or daytime visitors. Although a significant amount of new residential development has not occurred in these areas, the access to the development that has occurred does not always meet the standards necessary for optimum fire vehicle access. This is true for certain private roads that have been constructed to serve new development and for certain public roads that were accepted into the county road system in like and kind.^k

Many of the large private properties in hazardous fire areas that have been purchased for open space use have recently been opened for the first time to public access, thereby increasing the risk of wildfire.

Level of Fire Protection Services*County Fire Department of Forestry Responsibility Areas*

Since 1962, the county has contracted with the California Department of Forestry for structural fire protection and general rescue services in the unincorporated areas of the county not served by other fire districts or departments. Officially, this service is provided by CDF under the title of the County Fire Department. In some counties, CDF only has wildland fire protection (for forest, brush and grassland fires) in what are known as "State Responsibility Areas."^l The general goal of the County Fire/CDF system is to provide a response time of five minutes or less to any fire occurring in the rural area 90% of the time.^m

^k Many of the roads, both public and private, into interior portions of the rural area do not meet county standards. This is primarily because they were constructed prior to the adoption of modern road standards or were originally built as logging roads intended to serve very small traffic loads. The public roads that do not meet standards were accepted "in like and kind" by the county during the 1950s upon offer of dedication. The nature of these roads complicates the provision of fire protection services.

^l State Responsibility Areas are the areas where CDF has primary responsibility for preventing and suppressing wildland fires. These are primarily forested lands, watershed lands and lands used for forage.

^m The County Fire/CDF response time goal is expressed in the County of San Mateo, Final Budget, Fiscal Year 1981-1982, page 41.

There are four main County Fire/CDF substations located within the boundaries of San Mateo County. The rural area is served by stations at Skylonda (near the intersection of Skyline Boulevard and state Route 84) and Pescadero. Additional support is available for the rural area at CDF's Saratoga Summit Station on Skyline Boulevard in Santa Clara County. The unincorporated urban area on the Bayside is served by fire stations in Emerald Lake Hills and on Tower Road in Belmont.

County fire protection services for the rural area are supplemented by eight volunteer fire companies. These small companies made up of local residents often are the first to respond to local emergencies. In recognition of their value, the Board of Supervisors annually budgets funds for the volunteers' equipment, protective clothing and training as part of the county's contract with CDF. Exhibit 2 lists the County Fire and volunteer fire protection facilities, their level of staffing, and the equipment available for fire protection services.

Another measure of the level of adequacy of fire protection for a particular area is the insurance rating set by the Insurance Services Office, a grading schedule to measure the relative fire risk of different communities. The ISO rating reflects the adequacy of water supply, adequacy of the fire department, the quality of fire communications and the frequency of fire safety control programs. The grading system ranks areas from one (best) to ten (most deficient).ⁿ

In San Mateo County, the grading classifications range from Class 3 to Class 9, with several of the city fire departments in the Class 3 rating. The unincorporated areas served by CDF range from a rating of 4 in county Service Area #1 (San Mateo Highlands) to 8 in the Pescadero, Burlingame Hills, Palomar Park, and Skyline County Water District areas. The remaining unincorporated areas, which encompass most of the rural county, have been rated Class 9.

Other Fire Protection District Responsibility Areas

Fire protection districts provide fire protection services to portions of the unincorporated areas which are not served by County Fire/CDF. In addition to providing fire protection services, districts also provide the following services: ambulance, rescue and first aid; clearing of vegetation; adoption of fire prevention ordinances; issuance of burning permits; and dissemination of fire prevention information. Seven fire protection districts directly serve portions of the unincorporated areas of San Mateo County that are not served by County Fire/CDF. These districts have varying mutual aid agreements with other jurisdictions, allowing them to request back up aid if necessary. Exhibit 3 lists the individual fire protection districts, the number of their facilities, the portions of the unincorporated area served by each, and the number of personnel and equipment they have available. This Exhibit also summarizes the mutual aid agreements each district has with other districts.

ⁿ International County Managers' Association, Municipal Fire Administration, pages 15-23.

Urban Fires

County Fire/CDF generally provides fire protection services to the unincorporated rural areas, with the exception of a few urbanized unincorporated portions of the county, most significantly, Emerald Lake Hills, Palomar Park and San Mateo Highlands. Other unincorporated urban areas are served by fire protection districts, as indicated in Exhibit 3. In these areas, structural fire hazards can be a major problem.

The key components in measuring relative fire hazard in urban areas are access for fire vehicles and availability and adequacy of water for fire flow. Weather is usually not an important factor in the urban portion of the county. Response time is generally faster in urban areas. Two of county Fire's four stations, Belmont and Emerald Lake, are located in the unincorporated urban area. The independent fire protection districts have facilities in close proximity to developed urban areas.

In the Belmont area, water supply is generally adequate to meet the needs for fighting structural fires. In Emerald Lake Hills and Devonshire Canyon, the key problems have been inadequate roads and water distribution systems (hydrants and size of water lines).^o

Emergency Response Actions

Emergency response actions associated with the above situations are presented in Volume One, Operations Section Event Specific Checklist.

Exhibits

Exhibit 1 - Composite Fire Hazard Severity Ratings for Vegetative Fuel Loading, Slope and Weather Conditions

Exhibit 2 - County Fire/CDF Department Summary of Facilities, Personnel and Equipment Serving the Unincorporated Area

Exhibit 3 - Fire Protection Agencies Serving Unincorporated Areas

Reference

AREA OES SOP 1.6

^o San Mateo County Planning Division, Emerald Lake Hills Community Plan, 1977, page 11.

Exhibit-1

**COMPOSITE FIRE HAZARD SEVERITY RATINGS FOR
VEGETATIVE FUEL LOADING, SLOPE AND WEATHER CONDITIONS
CRITICAL FIRE WEATHER FREQUENCY^P**

	<u>Frequency I</u>			<u>Frequency II</u>			<u>Frequency III</u>		
	Slope %			Slope %			Slope %		
	0-40	41-60	61+	0-40	41-60	61+	0-40	41-60	61+
Fuel Loading^q	(1)	(1.6)	(2)	(1)	(1.6)	(2)	(1)	(1.6)	(2)
Light (grass) (1)	1	1.6	2	2	3.2	4	8	12.8	16
Medium (scrub) (8)	8	12.8	16	16	25.6	32	64	102.4	128
Heavy (wood) (16)	16	25.6	32	32	51.2	64	124	204.8	256

Source: California Department of Forestry, "Fire Safety Guides for Residential Development in California - 1980"

1. Fire Hazard Severity Ratings can be interpreted as follows:
Moderate Hazard = 1.0 - 12.8
High Hazard = 16.0 - 32.0
Extreme Hazard = 51.2 - 256.0
2. Critical Fire Weather Frequency is a term used by the California Department of Forestry to rate weather conditions that are likely to produce high intensity fires. The frequency ratings, I, II, and III are based on the number of days per year that a critical fire load index is exceeded in a given fire danger area. Frequency I (moderate) is assigned to area exceeding this index less than one day per year over a 10-year period. Frequency II (high) is assigned for area exceeding the index from 1 - 9.5 days per year and Frequency III (extreme) for those areas exceeding 9.5 days.
3. The figure in parentheses represent numerical values assigned to slope/fuel loading classes in order to arrive at the fire hazard severity ratings.

Exhibit-2

**COUNTY FIRE/CDF DEPARTMENT SUMMARY OF
FACILITIES, PERSONNEL AND EQUIPMENT
SERVING THE UNINCORPORATED AREA**

FACILITY	LOCATION	EQUIPMENT AVAILABLE ^r	PERSONNEL
<u>California Department of Forestry Facilities</u>			
Skylonda Station	Skyline Blvd near Route 84	3 engines	14
Belmont Station	Tower Road, Belmont	3 engines	23
Pescadero Station	Pescadero	2 engines	12
Emerald Lake Station	Jefferson Ave., Redwood City	1 engine	6
<u>Volunteer Facilities</u>			
Palomar Park Volunteer	Palomar Drive off Edgewood Redwood City	1 engine 1 rescue vehicle	11
Kings Mt Volunteer	Skyline Blvd near Kings Mt	1 engine 1 rescue vehicle 1 water tender	23
Skylonda Volunteer	Woodside Road near Skyline	1 engine	7
La Honda Volunteer	La Honda	1 engine 1 water tender	11
Pescadero Volunteer	Pescadero	1 engine 1 water tender "Jaws of Life"	15
Loma Mar Volunteer	Pescadero Road, Loma Mar	1 engine	12

EQUIPMENT

^r During the summer, County Fire/CDF loses three contract engines. However, the state (CDF) mans five engines and hires approximately 20 additional seasonal personnel which can be used for structural fire protection.

<u>FACILITY</u>	<u>LOCATION</u>	<u>AVAILABLE^s</u>	<u>PERSONNEL</u>
Middleton Tract	End of Portola Park Road	1 engine	12
South Skyline/ Saratoga Summit	Skyline Blvd near Route 9	1 water tender	15

Source: California Department of Forestry/County Fire

^s During the summer, County Fire/CDF loses three contract engines. However, the state (CDF) mans five engines and hires approximately 20 additional seasonal personnel which can be used for structural fire protection.

Exhibit-2 Fire Protection Agencies Service Unincorporated Areas

FIRE AGENCY	UNINCORPORATED AREA SERVED	PERSONNEL	EQUIPMENT	MUTUAL AID AGREEMENT
Colma FPD	Uninc areas between DCY and CLM, including BRD	.5	4 engines 1 rescue	County
Half Moon Bay FPD	El Granada, Miramar, Princeton, canyons east and south of HMB	21	5 engines 2 rescue 1 ladder 1 utility	County
Menlo Park FPD	Uninc areas in ATN, EPA and MNP	104	7 engines 2 rescue 1 truck	RCY & PA
Palo Alto Fire Dept.	Most of Uninc. Stanford lands	4	1 pumper 1 staff car	WDS, MNP
Point Montara FPD	Moss Beach and Montara	6	3 engines 1 rescue 1 staff car	County HMB
Redwood City Fire Dept.	Portion of North Fair Oaks north of Middlefield Road	3	1 engine 1 ladder truck	MNP
San Francisco Fire Dept.	San Francisco Airport	67	8 engines 2 rescue 7 staff 1 fire boat	County
So. County Fire Authority	Harbor Industrial Area	67	4 engines 1 truck	County RCY
Woodside FPD	Los Trancos Woods, Vista Verde, Ladera, Emerald Lake Hills and portions of Stanford land	33	4 engines 1 rescue 2 patrol 1 utility 2 staff	County, MNP, RCY, PA, CDF

Source: San Mateo County Local Agency Formation Commission, Cities and Special Districts Handbook, 1984. Numbers updated by phone 3/93

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OIL SPILL

General Situation

San Mateo County is nationally recognized for its unique environmental qualities and resources. The coastline has a great diversity of coastal wildlife, including numerous endangered species. Fishing areas along the central California coast line support over 2,500 commercial fishermen operating 1,800 vessels. In 1979, these fisherman landed approximately 79 million pound of fish at an estimated value of \$40 million on the dock and \$150 million at retail prices. The sports fishing industry for the central coast generated over \$118 million in direct expenditures in 1990. The tourist and recreation areas attract millions of visitors to the Bay Area annually and provide a major economic resource to the region.

The oil spill caused by the Exxon Valdez in Prince Williams Sound provided a wake-up-call for Emergency Planners at the federal, state and local levels. As a result of the disastrous spill and the inability of responders to provide a timely and coordinated cleanup effort, the federal government passed legislation to provide oil spill response guidelines. Federal law (CFR parts 300 and OPA 90) provides requirements for Oil Companies and Shippers and assigns roles and responsibilities in oil spill response at the federal and state levels. The U.S. Coast Guard has been designated as "On-Scene Coordinator" (OSC) to represent federal interests.

Special Situation

Marine oil spills pose a significant potential danger to the San Mateo County coastal environment both within San Francisco Bay and along the Pacific coastline. A continual threat exists from the substantial number of vessels that travel along the central coast, including approximately 1,800 oil tankers which annually enter the Golden Gate on their way to Bay Area refineries. Other marine vessels carry hazardous materials and chemicals which, if spilled, also pose a threat to the environmental and economic resources of the county.

In response to the possibility of a major oil spill California Senate Bill (SB) 2040, the Lempert-Keene-Seastrand Oil Spill Prevention and Response Act of 1990 (Act), was signed into law by the Governor in September 1990. This legislation created the Office of Oil Spill Prevention and Response (OSPR) within the Department of Fish & Game in January 1991 and provided guidance for local governments to prepare Oil Spill Contingency Plans. Pursuant to sections 8670.35 and 8670.38-40 of the Government Code; and Section 22 of SB 2040, local governments were encouraged to prepare, update, or revise an Oil Spill Contingency Plan Element (plan element) as part of their existing Hazardous Materials Emergency Response Area Plan (Area Plan), as required by Section 25503 of the Health and Safety Code. The San Mateo Operational Area Oil Spill Contingency Plan Element is in work and will be published during August 93.

The purpose of the San Mateo Operational Area Oil Spill Contingency Plan Element is to protect San Mateo County and its shoreline from oil spills by facilitating and guiding the county's response to oil spills in the marine environment. This response will operate in a coordinated effort with federal and state agencies utilizing the "Unified Command System" management structure to respond to an oil spill.

The primary objective of the Oil Contingency Plan is to provide a comprehensive, functional document that covers all aspects of oil spill planning and preparedness so as to provide the best achievable protection of San Mateo County and the California Coast. Once a spill occurs, the county's objective, switch to those of controlling the source of the discharge, containing the spill, cleanup, disposal of the oil and contaminated materials, and finally documentation and cost recovery.

The county's priorities for protection are as follows:

- Human health and welfare
- Endangered fish, wildlife, and their habitats
- Threatened fish, wildlife, and their habitats
- Sensitive environmental areas, such as, spawning habitat
- Other fish, wildlife, and their habitat, including migratory corridors
- Public recreational areas and areas of commercial interest
- Private recreation areas, individual boats, etc.

The San Mateo Oil Contingency Plan Element addresses the following issues:

- Identification of problems unique to the San Mateo County Coastal Region which includes both the San Francisco Bay and Pacific Ocean areas
- Identification of preparedness requirements to protect the health and safety of residents of San Mateo County and its coastal environments
- Provides a structure and set of procedures which coordinates the efforts of local governments, private industry, civic groups and state and federal agencies
- Condense, organize and simplify information so that the responder has access to all elements and does not have to refer to other documents
- Provides fundamental check lists for key positions which will highlight important steps or contacts

Reference

San Mateo Operational Area Oil Spill Contingency Plan Element

TSUNAMI

General Situation

The phenomenon called "tsunami" is a series of ocean waves of extremely long length generated by undersea earthquakes, volcanic eruptions, or massive undersea landslides. As a tsunami crosses the deep ocean its length from crest to crest may be a hundred miles or more, and its height from trough to crest only a few feet. In deep water tsunamis may reach speeds of 600 miles per hour. When the tsunami enters shallow coastal waters, its speed decreases and the wave height increases. This creates the large waves that become a threat to life and property. Following the arrival of the first wave, subsequent waves may increase in height and arrive minutes to hours later.

Special Situations

Although there are no known recorded deaths from tsunami action in San Mateo County, it is probable there was wave impact in 1946, 1960, and in 1964. In 1946 an earthquake in the Aleutian Islands generated a tsunami that caused one death in Santa Cruz County. The resultant tsunami from the Alaskan earthquake of 1964 caused eleven deaths in Crescent City just south of the Oregon border.

The USGS has produced a tsunami inundation area map based on a 20 foot runup along coastal areas and at the Golden Gate. Such a runup is estimated to occur an average of once every 200 years.

The areas of the county which would be most heavily damaged by a tsunami are those along the Pacific Coast: Point Ano Nuevo; the Pescadero Creek and San Gregorio Creek estuaries; Half Moon Bay; Miramar; and El Granada. Within the City of Pacifica, affected areas would include: San Pedro Valley; Rockaway Beach; Linda Mar; and Laguna Salada. The degree of damage experienced by these areas would depend on the local sea bottom and coastal topographic characteristics, as well as the incoming direction of the tsunami.

Along the bayside of San Mateo County, a 20 foot runup at the Golden Gate would be attenuated to a maximum of 8 feet at Sierra Point (Brisbane) and roughly 4 feet at Ravenswood Point (East Palo Alto) based on the USGS analysis. Bayshore locations which are most subject to damage include: Sierra, Oyster, Coyote, and Ravenswood Points; the San Francisco Airport area; the Burlingame shoreline; Brewer Island in Foster City; Belmont Slough; Greco Island, and portions of Bair Island.

Seiches are oscillating waves in an enclosed or partly-enclosed body of water. They are caused by earthquakes or landslides which displace a significant amount of water.

Four bodies of water in San Mateo County are believed to be large enough to pose significant seiche potential: Upper Crystal Springs Reservoir; Lower Crystal Springs Reservoir; San Andreas Lake; and Pilarcitos Lake. If an earthquake similar in magnitude to the 1906 earthquake were to occur at a time when these water bodies were at the high water mark, seiches could top the spillways by several feet and cause major inundation downstream.

Emergency Response Actions

Emergency response actions associated with the above situations are presented in Volume One, Operations Section Event Specific Checklist and the Pacifica and Half Moon Bay Tsunami Plans.

Reference

AREA OES SOP 1.10

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CIVIL UNREST

General Situation

The spontaneous disruption of normal, orderly conduct and activities in urban areas, or outbreak of rioting or violence that is of a large nature, is referred to as civil unrest. Civil unrest can be spurred by specific events such as large sporting events or criminal trials, or can be the result of long-term frustration with authority. Civil unrest is usually associated with the fact that normal on-duty law enforcement and safety forces cannot adequately deal with the situation until additional resources are acquired. This is the time period when civil unrest can grow to large proportions.

Threat to law enforcement and safety personnel can be severe and bold in nature. Securing of essential facilities and services is necessary. Looting and fires can take place as a result of perceived or actual non-intervention by authorities.

Specific Situation

Fortunately, San Mateo has not encountered the problems Los Angeles faced in the Watts Riots of 1964. The 1992 Rodney King verdict caused the most widespread rioting in recent history, with losses of property in the millions.

More recently, radical militia groups have utilized terrorism as a weapon with bombings of civilian targets and governmental facilities including: the World Trade Center in New York City; the Olympic bombing in Atlanta; and the Federal Building in Oklahoma City. The San Mateo Area, consisting of residential, industrial and commercial properties, is minimally vulnerable to the effects of civil unrest.

Emergency Response Actions

Emergency response actions applicable to all common hazards are presented in the Volume One, Operations Section Event Specific Checklists.

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NATIONAL SECURITY EMERGENCY

General Situation

With the end of the Cold War and the recent demise of the Soviet Union, the chance of war between the super powers has been greatly reduced. Strategic Arms Reductions Treaties (Start I & II) have been signed by the Soviet government and the United States to greatly decrease the number of nuclear arms between the two superpowers.

Although the threat of conflict has diminished between the super powers, the number of regional, conventional (non-nuclear) wars has greatly increased to include major conflicts in the Middle East and Eastern Europe. The United States has recently participated in major conflicts in Central America and the Middle East. The proliferation of weapons technologies in the last decade has given many countries the capability to attack other nations with weapons of mass destruction. Fortunately, mass destruction weapons have not been used in these conflicts to date.

Terrorism appears to be on the rise with bombings of government facilities and civilian targets on a world-wide basis. A new threat has surfaced with the breakup of the Soviet Union - physical control of nuclear weapons, weapons grade nuclear material, and biological and chemical weapons. The possibility of terrorists obtaining weapons of mass destruction now presents a major threat.

If a nuclear detonation occurred anywhere in the world, the consequences to the United States would depend upon the location and nature of the attack. There are a number of conditions that may prevail and require different responses.

International Crisis

When nations of differing political goals fail to settle disputes through diplomatic negotiations, war may result. It is possible an attack would be preceded by several days or possibly weeks of tense international crisis rather than by surprise. When diplomatic relations fail and one or more nuclear weapons are detonated, protective actions will be less effective than those taken before the attack. Preparation and evacuation prior to an attack can reduce casualties. Post-attack evacuation or relocation will be extremely difficult or impossible.

Trans-Oceanic Fallout

Prevailing westerly winds could, in the event of a nuclear exchange in Asia or nuclear detonations in the Pacific area, result in fallout or rain-out in California. Radiation intensities could vary greatly but would probably be limited, creating an environmental health problem.

Accidental Launch

A majority of the strategic nuclear weapons within the former Soviet Union remain aimed at targets in the United States. The possibility remains for an accidental launch of a nuclear warhead toward the western United States. Should this occur, the affected area would be limited and the remaining resources of the state could be applied.

Limited Attack

The existing potential of war between the United States and a major nuclear power has been greatly reduced with the end of the Cold War. However, the possibility of a resurgence of ideological conflict cannot be discounted. It is prudent to maintain plans for a possible nuclear attack against the United States. Limited attack is commonly associated with these options:

Counter Force Areas

An attack directed at military installations capable of retaliatory strikes (counter-force) would cause massive problems for adjacent areas. Since it is possible a period of intense crisis could precede such an attack, it may be feasible to initiate a shelter preparation program in areas away from Counter-Force targets. This would include the use of other radiological countermeasures in both risk and non-risk areas.

Other Military Targets

An attack which begins as a counter-force action may be expanded to include additional military targets (e.g., communications and control facilities, supply depots, and industries directly supporting the military mission).

Counter-Value Areas

An attack against economic targets and population centers (counter-value) could occur, but it would most likely happen after an enemy had neutralized targets that could do damage to his own military forces.

All-Out Attack

A full-scale attack against military and economic targets without a preceding period of increasing international tension is possible but not likely. There are few, if any, effective countermeasures against such attack without a massive national program of blast shelter construction.

Nuclear Weapons - General

The effects of the detonation of a thermonuclear weapon vary with the type of burst employed, the explosive power or "yield" of the weapon, and the distance from the point of detonation (ground zero). Bursts are usually categorized as one of five types - high altitude, air, surface, underground, or underwater. It is assumed that in an attack on the United States, either of two types of bursts would be employed - air or surface. Air bursts are generally employed against "soft targets" such as airfields, industrial facilities, and supply depots. Surface bursts are preferred for "hard" targets such as missile silos and underground command and control centers. As a rule, air bursts maximize blast damage while minimizing the generation of radioactive fallout. On the other hand, surface bursts limit damage to a relatively smaller area while producing significant quantities of radioactive fallout. The characteristics of both air and surface bursts are presented below:

Air Burst

The detonation altitude is below 100,000 feet and such that the resultant fireball does not touch the surface of the earth. For any given distance from ground zero, there exists an optimum burst height that will maximize the effects of blast over-pressure for that distance.

Since the fireball does not touch the surface of the earth, fallout and residual radiation are essentially limited to the irradiated surviving portions of the weapon casing and delivery vehicle, unexpended portions of the weapon's fission trigger, and radiation produced by detonation of the fission trigger.

Surface Burst

The detonation altitude is such that the fireball touches the surface of the earth. No significant cratering results unless the burst height is 450 feet or less. Blast over-pressure damage is concentrated limited in comparison to that produced by an air burst. When the fireball touches the surface of the earth, surface debris is pulled into the fireball and irradiated. This material eventually returns to the earth as radioactive "fallout."

Nuclear Weapons Effects

The detonation of a thermonuclear weapon produces five distinct and appreciable effects - blast, thermal radiation, initial ionizing radiation, radioactive fallout, and electromagnetic pulse. Each of these phenomena is discussed below:

Blast

Blast is used to refer to the shock wave and attendant high velocity winds that produce sudden, dramatic changes in air pressure. The magnitude of the blast effect (over pressure) is measured in pounds per square inch in excess of normal atmospheric pressure at sea level (14.7 lbs psi). Generally, the over-pressure destroys or damages structures while the high velocity wind damages other objects and produces casualties.

Thermal Radiation

Thermal radiation is a burst of intense light and heat produced at detonation - similar to the effects of exposure to a two-second flash from an enormous sun lamp. This phenomenon can start fires as well as produce casualties. A one megaton explosion can produce flash blindness up to 13 miles on a clear day or 53 miles on a clear night. Thermal radiation can cause skin and retinal burns relatively close to the point of detonation. A one megaton explosion can cause first degree burns at distances of approximately seven miles, second degree burns at approximately six miles, and third degree burns at approximately five miles from ground zero. Current US medical facilities could treat between 1,000 and 2,000 severe burn patients at a time; detonation of a single thermonuclear weapon could produce more than 10,000 such casualties.

Initial Radiation

Initial radiation is emitted during the first minute after detonation. It is composed of gamma rays and neutrons. For large yield weapons, the range of the initial radiation is less than that of the lethal blast and thermal radiation effects. However, with respect to small yield weapons, the initial radiation may be the lethal effect with the greatest range. This is significant when considering a terrorist threat involving nuclear weapons.

Fallout

Fallout is produced by surface debris drawn into and irradiated by the fireball. It rises into the atmosphere and eventually returns to earth. A source of ionizing radiation, fallout may be deposited miles from the point of detonation and thus affect people otherwise safe from the direct effects of the weapon. The radiation danger associated with fallout decreases as the radioactive material decays. Decay rates range from several minutes to several years.

Fallout distribution is determined by weapon yield, type and height of burst, fission/fusion ratio, weather conditions, wind speed, and wind direction. For planning and operational purposes, the radiation situation in an area can be classified in three categories:

- Negligible (NEGRAD) - the fallout radiation level never exceeds 0.5 rems/hour
- Moderate (LORAD) - the fallout radiation level is between 0.5 and 50 rems/hour
- Severe (HIRAD) - the fallout radiation exceeds 50 rems/hour

Electromagnetic Pulse (EMP)

EMP describes intense electric and magnetic fields that can damage unprotected electronic equipment. The effect is most pronounced in high altitude bursts (above 100,000 feet). Surface bursts typically produce significant EMP up to the one psi over-pressure range while air bursts produce somewhat less. No evidence exists suggesting that EMP produces harmful effects in humans.

Risk Areas And Effects

With respect to the immediate effects of nuclear weapons, exclusive of thermal radiation-induced fire, risk areas are categorized as very high, high, medium, and low, depending on the degree of blast over-pressure received. Risk area definitions (and effects likely to be experienced within the boundaries of those risk areas) are presented below:

Very High

These areas are subject to receiving blast over-pressure equal to or greater than 10 psi. The thermal radiation range is 100 calories/centimeter plus, and initial radiation 100 rems plus (surface burst). Effects likely to be experienced include:

- Destruction of above ground structures
- Winds in excess of 260 mph
- Extensive debris deposition hampering ingress and egress
- Ignition of exposed, unprotected flammable materials
- Numerous fires caused by ruptured gas mains and household connections
- Broken water mains
- Severe skin burns to exposed, unprotected persons (95-100% fatalities)

High

These areas are subject to blast over-pressure equal to 5 psi, but less than 10 psi. The thermal radiation range is 50-225 calories/centimeter. Initial radiation is up to 100 rems. Effects likely to be experienced include:

- Severe damage to reinforced concrete structures - wood frame structures destroyed
- Winds 160-280 mph
- Significant debris deposition
- Ignition of exposed flammable materials
- Numerous fires
- Broken water mains
- Severe skin burns to exposed, unprotected population
- Approximately 50% fatalities (40% of the population experiences some degree of injury)

Medium

These areas are subject to blast over-pressure equal to 2 psi but less than 5 psi. The thermal radiation range is 10-100 calories/centimeter. There is negligible initial radiation. Effects likely to be experienced include:

- Moderate damage to reinforced structures - severe damage to wood frame structures
- Winds of 70-160 mph
- Light to moderate debris deposition
- Scattered fires
- Second and third degree burns to exposed, unprotected population
- 5% fatalities (45% of the population suffers some degree of injury)

Low

These areas are subject to blast over-pressure equal to .5 psi but less than two psi. The thermal radiation range is up to 30 calories/centimeter. There is negligible initial radiation. Effects likely to be experienced include:

- Moderate to light structural damage to all buildings
- Winds of 8-70 mph
- Light debris deposition
- Scattered fires
- Second and third degree burns to exposed, unprotected population
- Few fatalities (25% of the population may experience some degree of injury)

Special Situation

In the event of a nuclear attack, radioactive fallout will most likely be present in varying degrees in many areas of the county. The geographical extent and specific intensity of this fallout contamination will depend on the total weight and distribution of the attack, as well as: the design and manner of detonation of the weapons; the physical composition of buildings or soil under the weapons burst (along with the topography); and wind and weather. During various wind and attack combinations, any area of the county could experience a serious fallout condition.

Fallout from nuclear weapon detonations emits ionizing radiation which could cause numerous casualties; prevent and/or delay carrying out emergency post-attack operations; and deny the use of some areas and vital facilities unless effective countermeasures are expeditiously applied. A capacity to detect, measure, and report levels of fallout radiation (along with the capability to receive and evaluate this information) is necessary for making decisions affecting:

- Shelter occupancy periods
- Necessity for fire suppression around shelters (regardless of radiation levels)
- Providing water, food, and other supplies for sheltered and displaced persons
- Implementation of rescue, first aid, medical, and welfare operations
- Relocation of people from areas of high radiation intensity
- Restoration and/or continuance of vital facilities (particularly utilities)
- Radiation exposure control for workers accomplishing these tasks in the fallout area

All of the above assume the detonation is a surface burst and will cause fallout. However, if it is an air burst no fallout will be generated and sheltering survivors from radiation may be necessary only for limited periods.

Emergency Response Actions

Emergency response actions associated with the above situations are presented in Volume One, Operations Section Event Specific Checklist.

Exhibits

Exhibit 1 - Terrorism

Exhibit 2 - Nuclear Weapons Accident

Exhibit-1 Terrorism

GENERAL SITUATION

San Mateo County has a diverse population of just less than a million persons. The County is also home to many business and government agencies, transportation infrastructure, and cultural facilities which are vulnerable to terrorist attack. Terrorism remains a continuing threat throughout the world and within the United States. A variety of political, social, religious, cultural and economic factors underlie terrorist activities. Terrorists occasionally target civilian targets to spread their message or communicate dissatisfaction with the status quo. The media interest generated by terrorist attacks makes this a high visibility threat.

SPECIFIC SITUATION

Recent trends toward large-scale incidents generating significant casualties make preparedness and the mechanisms for effective response essential. The destruction of the World Trade Center in New York City and the damage to the Pentagon in Washington DC on September 11, 2001, the bombings of the Murrah Federal Building in Oklahoma City and the Centennial Park Olympic Games in Atlanta have not only demonstrated this but have shown the extensive damage that can be afflicted on people and property. In addition to large-scale attacks, a full range of assault styles must be considered. Contemporary terrorist activity runs the gamut from simple letter bombings, through assassinations with small arms, up to and including major car bombings.

Bombings and arson remain significant sources of terrorist activity. Related threats include bomb threats which disrupt the normal operations of transit systems and government or corporate facilities. Venues likely to suffer the impact of terrorism include aviation targets, mass transit targets, and government facilities. Entertainment and cultural facilities may also be targeted. Conventional political motivations for terrorism continue; however, issues involving weapons proliferation, organized crime and narcotic trafficking are seen as having increasing influence. The potential for nuclear, biological, or chemical (NBC) terrorism employed by sub-national actors also is a potential concern.

Recent events make nuclear, biological, chemical (NBC) emergencies a plausible scenario necessitating detailed contingency planning and preparation of emergency responders to protect the civilian populace in major urban centers such as the Bay Area. Among the events heightening the threat level are the Sarin attack on the Tokyo subway, followed by an attempted cyanide assault on the subway six weeks later. The presence of cyanide residue in the debris of the World Trade Center bombing in New York heightens domestic concern. Biological incidents of note include the synthesis of Ricin by an anti-government, tax protest group whose members were convicted for violating the Biological Weapons Anti-Terrorism Act. Nuclear terrorism occurred in Moscow when Chechen insurgents claimed to have placed radiological waste in Moscow parks to further their cause.

The Federal Bureau of Investigation (FBI) is the lead federal agency with responsibility for crisis management (efforts geared toward preventing, interdicting and responding to the criminal aspects of terrorism) at all terrorist acts within the United States. In the Bay Area, the FBI closely coordinates this activity with local law enforcement through the San Mateo Sheriffs Office and local city Police Departments. Efforts to resolve life safety threats to the public, including firefighting, rescue operations, and treatment of persons wounded by terrorist activity are known as consequence management. These efforts are the primary responsibility of local government and require close coordination between law enforcement, the fire service, health care and medical providers. During response to terrorism acts,

these efforts are coordinated through the Sheriff's Office and are addressed in the County Operational Area Terrorism Response Annex. The Sheriff's EOB has responsibility for marshaling interagency consequence management efforts.

EMERGENCY RESPONSE ACTIONS

Emergency response actions applicable to common hazards are presented in County departments' Emergency Plans.

Exhibit-2 Nuclear Weapons Accident

General Situation

Nuclear weapons are transported by air, rail, and highway. Transportation accidents have occurred in the past and could occur again. An accident in which there is no release of the fissionable material is a "Bent Arrow" and one involving release is a "Broken Arrow."

Specific Response

All accidents involving military aircraft which may be carrying military weapons, or train or truck accidents involving military weapons, should be reported immediately to the California OES. California OES will contact Joint Nuclear Accident Coordinating Committee (JNACC). This group is responsible for tracking nuclear weapons shipments. They will advise DEM if a nuclear weapon was present. DEM will relay the information to the local jurisdictions.

Concurrently, and particularly if a nuclear weapon was involved, the nearest military base will dispatch security forces to cordon off the area and declare it a National Defense Zone. This zone is a temporary Federal Reserve and under the control of the federal government. It will be maintained until any national defense secret material (including portions of the weapon) is removed. Once that is done, the area returns to the jurisdiction of the local government.

Clean-up of radioactive material will be a joint federal, state, and local effort. The state Department of Health Services - Radiologic Health Branch (RHB) is responsible for identifying and controlling contamination. RHB will determine when clean-up is complete and the area is safe to re-enter.

If there is a fire during a Broken Arrow, the radioactive materials may have been carried great distances in the smoke plume. In this case, RHB is responsible for making sure the radioactive materials do not enter the food chain.

Food chain contamination is the greatest radiological hazard. This is because the radioactive isotopes found in weapons emit primarily alpha particles and have only limited emissions of gamma and beta radiation. Alpha particles are not a significant hazard unless the alpha emitter gets into the body. Once inside, it can do significant damage. For this reason, the state (primarily RHB and California OES) will work closely with the local jurisdictions to identify and remove the radioactive contamination from the environment.

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CHAPTER FOUR RECOVERY

INTRODUCTION

Recovery refers to those measures undertaken by an entity following a disaster that will return all systems (utilities, phones, government offices, etc.) to normal levels of service. Effective recovery consists of a complex array of interdependent and coordinated actions. Some jurisdictions may have recovery operations as a separate manual, referenced in the EOP.

CONCEPT OF OPERATIONS

Recovery operations should begin as soon as possible after a disaster. Many think recovery operations generally are initiated after the disaster response has been ongoing and appears to show some promise of diminishing. A successful recovery starts at the moment of impact. There is no clearly defined separation between response and recovery. The tasks are different from response, but they should be carried out simultaneously. Establishing a recovery organization prior to a disaster has proven effective in enabling a smooth and speedier recovery.

Although SEMS is required for emergency response, it is not specifically required for recovery operations. However, emergency planners may find it useful to continue using SEMS principles and procedures for recovery when personnel are already in a SEMS environment.

Short Term

Recovery operations are divided into two phases. The first phase is short term. This involves restoring the infrastructure that includes:

- Electric power and gas service
- Communications
- Water and sewer
- High impact areas and special populations, schools, hospitals, etc.
- Economic and social systems of the community

Continued coordination from the response phase into the recovery phase is necessary to identify high priority areas for resumption of utilities, liability concerns, financing, and recovery ordinances. City emergency managers should develop checklists for short-term recovery to ensure governing boards are kept up-to-date, to identify potential areas of mitigation, and to improve preparedness and response planning.

Long Term

Long-term recovery consists of actions that will return the city back to normal pre-disaster levels of service. Long-term considerations include:

- Development of a recovery team
- Economic and resource stabilization
- Hazard mitigation
- Updating plans based on lessons learned
- Post-event assessments

It is critical that the documentation functions during response continue and expand into recovery. Checklists should be developed for recovery operations to ensure accountability. Failure to strictly account for damage documentation and personnel costs can result in loss of possible reimbursement.

SEMS RECOVERY ORGANIZATION

Recovery operations differ significantly from emergency response. SEMS is not required for recovery operations, although it is used by State OES in recovery operations and may provide for greater efficiency at all levels.

Response activity is greater in the SEMS Operations and Logistics functions. Recovery activities see much more activity in the Finance/Administration function and less in the other SEMS functions.

The Operational Area plays a different role in recovery than in response. The Operational Area may act as an information and coordination point for its constituent jurisdiction. However, each local jurisdiction rather than the Operational Area, works directly with state and federal recovery programs.

Recovery plans utilizing SEMS functions may have the following tasking:

Management Section

This section is responsible for the jurisdiction's overall recovery. Tasks include:

- Informing and briefing elected officials
- Providing lead for policy decisions
- Issuing public information releases
- Ensuring safety of response activities

Operations Section

This section is responsible for operations that restore the jurisdiction back to normal day-to-day operations. Tasks include:

- Restoring medical facilities and service
- Restoring government facility functions
- Removing debris
- Demolishing buildings
- Restoring utilities
- Providing emergency housing
- Providing application process for disaster assistance
- Providing building and public safety inspections

Planning/Intelligence Section

This section documents and provides management with direction for recovery activities. Tasks include:

- Providing documentation of SEMS compliance for disaster assistance
- Providing after-action reports consistent with SEMS requirements (*The most current After Action Report is located on RIMS*)
- Providing direction in land use and zoning issues
- Issuing building permits
- Developing alternative building regulations and code enforcement
- Reviewing the general plan
- Providing an action plan for recovery operations
- Developing redevelopment plans
- Developing recovery situation reports
- Documenting recovery operations

- Creating mitigation plans

Logistics Section

Logistics section is responsible for obtaining resources necessary to carry out recovery operations.

Tasks include:

- Providing government operations
- Allocating office space
- Providing recovery supplies and equipment
- Providing vehicles and personnel

Finance Section

Finance/Administration handles the jurisdiction's recovery financial transactions.

Tasks include:

- Managing public Finance
- Preparing and maintaining the budget
- Developing and maintaining contracts
- Processing accounting and claims
- Collecting taxes
- Managing insurance settlements

Organizations should be assigned appropriate SEMS functions to address the tasks listed above.

DAMAGE ASSESSMENT

During the early phase of a disaster, the initial damage is only estimated. Plans should include procedures for conducting more detailed surveys to be used in disaster project applications.

The procedures should include the following:

Safety Concerns

Safety precautions that will contribute to recovery operations include:

- Ensuring gas, water, sewer leaks are identified
- Ensuring utilities are turned off in unsafe or damaged structures
- Securing hazardous materials sites and preparing clean-up plan; ensuring unsafe buildings are vacated, clearly marked and access is restricted
- Identifying safety precautions to be undertaken by emergency workers

Structural Damage

Checklists and procedures for survey teams should include the following terms when describing damages:

- Destroyed - Cost of repair is more than 75% of value
- Major Damage - Cost of repair is greater than 10% of value
- Minor Damage - Cost of repair is less than 10% of value.

Note: Damages are limited to the structure and not contents.

Structural Categories

The following are categories used for private structures applying for disaster assistance:

- 1 - 3 - Homes, includes Town Homes and Condominiums
- 4 - Mobile Homes
- 5 - Rental Units
- 6 - Farm Dwellings
- 7 - Businesses

Recovery Activities

Common terms for recovery activities are listed below:

- **Category A: Debris Clearance**

Clearance of debris, wreckage, demolition, and removal of buildings damaged beyond repair.

- **Category B: Protective Measures**

Measures to eliminate or lessen immediate threats to life, and public health, and safety.

- **Category C: Roads & Bridges**

All non-emergency work and any that may require more time for decision-making, preparation of detailed design, construction plans, cost estimates, and schedules.

- **Category D: Water Control Facilities**

Includes flood control, drainage, levees, dams, dikes, irrigation works, seawalls, and bulkheads.

- **Category E: Public Buildings and Equipment**

Buildings, vehicles or other equipment, transportation systems, fire stations, supplies or inventory, higher education facilities, libraries, and schools.

- **Category F: Utilities**

Water supply systems, sanitary sewerage treatment plants, storm drainage, light/power.

- **Category G: Other**

Park facilities, piers, boat ramps, public and private non-profit facilities, recreational facilities, playground equipment.

List of Damages

Once a Presidential Disaster Declaration has been made, a "List of Damage" needs to be completed by each jurisdiction and transmitted to the Operational Area. The Operational Area will transmit damages to the OES Region, who will in turn send them to the State and FEMA. It should include:

- Location of Action/Damage
Geographical location of damaged facility or emergency work.
- Description of Action/Damages
Narrative description explaining the nature of the disaster-related problem (engineering details are not needed).
- Estimates of Cost
A separate estimate for each facility or system affected.

DISASTER ASSISTANCE

Disaster assistance is divided into two forms: Individual and Public Assistance. Recovery plans should address both types of assistance, methods of acquiring help, restrictions, and other pertinent information.

Individual Assistance

Government Assistance to Individuals

Individual assistance consists of services provided to individuals and businesses - the private sector. Effective recovery plans should have the following federal programs for individual assistance included:

Federal Programs:

- **Disaster Housing Assistance Program**
This is a federal program administered by FEMA that provides temporary housing to disaster victims during presidentially declared disasters.
- **Disaster Mortgage and Rental Assistance Program**
This program provides grants for home-related mortgage or rent payments to disaster victims, who as a result of a disaster, have lost their job or business and face foreclosure or eviction from their homes. It is a federal program available under a presidentially declared disaster.
- **Housing and Urban Development (HUD) Program**
This program is offered to families with an income below \$20,000. It provides up to 70% of the rental cost for a maximum of 18 months to disaster victims. It is also available under a presidentially declared disaster.
- **Small Business Administration (SBA)**
This program is automatically implemented following a presidential disaster declaration for Individual Assistance, or may be implemented at the request of the governor. It provides low interest loans to businesses and individuals who have suffered disaster losses.
- **Individual and Family Grant Program (IFGP)**
This is authorized only by a federal disaster declaration. It provides grants to disaster victims who are not eligible for SBA loans.
- **Cora Brown Fund**
This is authorized only by a federal disaster declaration. The fund provides disaster victims with assistance provided they are not eligible for any other disaster assistance award from the government or other organizations.

These are only a few federal programs that could be activated under a presidentially declared disaster. Disaster assistance may be altered by legislation passed at the time of the event. Other types of assistance may also be available. EOPs should have all programs addressed either in the plan or in a supplement.

Non Profit Volunteer Charitable Organizations

Recovery plans should include all forms of assistance available, including volunteer charitable organizations such as the American Red Cross, Salvation Army, and others. Plans should identify what is available, conditions, and client focus.

In developing a recovery plan that includes volunteer charitable organizations, local networks of volunteer agencies should not be overlooked. Some communities have a "community council" of local organizations that may be able to provide some level of relief or fund-raising experience. This can be helpful in developing a local disaster victims' fund or outreach.

Public Assistance

Public assistance consists of various programs of disaster relief to the public sector. Public sector includes state and local government (city, county, special district). Recovery plans should include the following forms of assistance and the application process:

State – Natural Disaster Assistance Act (NDAA)

NDAA is available to counties, cities, and special districts to repair disaster-related damages to public buildings, levees, flood control works, channels, irrigation works, city streets, county roads, bridges, and other public works except those facilities used solely for recreational purposes. This program offers up to 75% of the eligible cost to: repair, restore, reconstruct or replace public property or facilities; to cover direct and indirect costs of grant administration with the OES Director's concurrence; and, to cover the cost of overtime and supplies used for response.

Conditions for Implementation of NDAA:

- OES Director must concur with local emergency declaration for permanent restoration assistance;
- Governor must proclaim a state of emergency (for disaster response and permanent restoration assistance); or
- President must declare a major disaster or emergency (for matching fund assistance for cost sharing required under federal public assistance programs).

Federal – Robert T Stafford Disaster Relief Act of 1974

The following is a brief overview of this program. This information would be useful in a recovery plan because it is the primary source of public assistance. Recovery planners may choose to go into more detail about this program.

Applicability

A Presidential Declaration of Major Disaster or Emergency is required to activate the provisions of this law.

Eligible Applicants

Eligible applicants include the following:

- State agencies
- Counties
- Cities
- Special districts
- Schools K-12
- Colleges and institutions of higher education
- Private non-profit organizations organized under § 501(c) 3 of the Internal Revenue Code;

- Utilities
- Emergency agencies
- Medical agencies
- Custodial care organizations
- Government services such as: community centers, libraries, homeless shelters, senior citizen centers, and similar facilities open to the general public

To provide efficiency in the recovery process, the particulars of work and cost eligibility, wage information, and other pertinent information should be included in the recovery plan. This could be in the form of information sheets on each program, checklists, or written procedures.

DISASTER FIELD OFFICE

Following a Presidential Declaration of a Major Disaster or Emergency, a Disaster Field Office will be established in the proximity of the disaster area. The DFO provides the direction and coordination point for federal assistance.

Typical functions of the DFO include:

- Management - Coordination of the overall federal assistance programs for both Individual and Public Assistance, as well as any existing emergency work.
- Public Information - Overall direction of public news releases on the progress of the emergency recovery actions, public notices on obtaining assistance, problems, and other pertinent information.
- Liaison - Provides coordination and cooperation with other federal and state agencies
- Operations - Responsible for damage survey teams, outreach activities, and program implementation (i.e., Public Assistance, Individual Assistance, Hazard Mitigation, etc.)
- Logistics - Provides materials and resources to perform the tasks associated with recovery.
- Finance/Administration - Tracks and monitors costs, approves purchases, audits activities as needed.
- Plans/Intelligence - Develops action plans, identifies priorities, potential problems, documents the overall recovery actions.

MITIGATION

This aspect of recovery operations is critical in reducing or eliminating disaster-related property damage and loss of lives from reoccurring. The immediate post-disaster period presents a rare opportunity for mitigation. During this time, officials and citizens are more responsive to mitigation recommendations, and unique opportunities to rebuild or redirect development may be available. Recovery plans would benefit from addressing mitigation planning as part of the recovery process.

The following represents some information that would be useful in recovery sections of emergency plans.

Forms of Mitigation

- Changes in building codes
- Variances or set-backs in construction
- Zoning, to reduce types of construction in high hazard areas
- Relocation or removal of structures from high hazard zones

This could also be described in more detail in recovery plans as checklists, SOPs, or information sheets.

REFERENCE INFORMATION

FEMA procedures over the last few years have evolved and mitigation of disasters is becoming a key component of disaster recovery. The internet provides the optimum method of obtaining up-to-date information relating to disaster response and Public Assistance Programs. Public Assistance Program Publications can be downloaded from the FEMA website at www.fema.gov/rrr/pa/padocs.shtm. Key Public Assistance Publications that should be obtained include Public Assistance Policy Digest – FEMA 321, Public Assistance Guide – FEMA 322, Applicant Handbook – FEMA 323 and Debris Management Guide – FEMA 325.

INTERNET LINKS

Additional information is available on the internet at the following locations.

- State of California – www.oes.ca.gov/
- Federal Emergency Management Agency – www.fema.gov/
- FEMA Forms - www.fema.gov/r-n-r/pa/appfrm1.htm
- FEMA Public Assistance Publications - www.fema.gov/rrr/pa/padocs.shtm.

APPENDIX A GLOSSARY

This glossary contains definitions of terms commonly used in the Standardized Emergency Management System (SEMS) and the Incident Command System (ICS).

A

Advance Element of the Emergency Response Team (ERT-A)

The portion of the Emergency Response Team (ERT) which is the first group deployed to the field to respond to a disaster incident.

Action Plan

The plan prepared in the EOC containing the emergency response objectives of an SEMS and ICS levels and reflecting overall priorities and supporting activities for a designated period. The plan is shared with supporting agencies.

Activate

At a minimum, a designated official of the emergency response agency that implements SEMS/ICS as appropriate to the scope of the emergency and the agency's role in response to the emergency.

Aerial Reconnaissance

An aerial assessment of the damaged area, which includes gathering information on the level and extent of damage and identifying potential hazardous areas for on-site inspections.

After Action Report

A report covering response actions, application of SEMS/ICS, modifications to plans and procedures, training needs, and recovery activities. After action reports are encouraged following any emergency which requires a declaration of an emergency.

Agency

An agency is a division of government with specific function, or a non-governmental organization (e.g., private contractor, business, etc.) that offers a particular kind of assistance. In SEMS/ICS, agencies are defined as jurisdictional (having statutory responsibility for incident mitigation), or assisting and/or cooperating (providing resources and/or assistance). (See Assisting Agency, Cooperating Agency, and Multi-Agency)

Agency Assistance

Grants for projects or planning activities, loans, and all other forms of financial or technical assistance provided by the agency.

Agency Dispatch

The agency or jurisdictional facility from which resources are allocated to incidents.

Agency Executive or Administrator

Chief executive officer (or designee) of the agency or jurisdiction that has responsibility for the incident.

Agency Representative

An individual assigned to an incident or to an EOC from an assisting or cooperating agency who has delegated authority to make decisions on matters affecting that agency's participation at the incident or at the EOC. Agency representatives report to the liaison officer at the incident or to the liaison coordinator at EOC levels.

Air Operations Branch Director

The person primarily responsible for preparing and implementing the air operations portion of the Incident Action Plan. Also responsible for providing logistical support to helicopters operating on the incident.

Allocated Resources

Resources dispatched to an incident.

American Red Cross

A quasi-governmental volunteer agency that provides disaster relief to individuals and families.

Area Command

An organization established to: (1) oversee the management of multiple incidents that are each being handled by an Incident Command System organization or (2) oversee the management of a very large incident that has multiple Incident Management Teams assigned to it. Area Command has the responsibility to set overall strategy and priorities, allocate critical resources based on priorities, ensure that incidents are properly managed, and ensure that objectives are met and strategies followed.

Assigned Resources

Resources checked in and assigned tasks on an incident.

Assignments

Tasks given to resources to perform within a given operational period based on tactical objectives in the Incident or EOC Action Plan.

Assistant

Title for subordinates of the command staff positions at the Field ICS level. The title indicates a level of technical capability, qualifications, and responsibility subordinate to the primary positions. Assistants may also be used to supervise unit activities at camps.

Assisting Agency

An agency directly contributing tactical or service resources to another agency.

Available Resources

Incident-based resources which are available for immediate assignment.

B

Base

The location at an incident where primary logistics functions for an incident are coordinated and administered. There is only one base per incident. (Incident name or other designator will be added to the term "Base"). The Incident Command Post may be co-located with the base.

Base Flood

A term used in the National Flood Insurance Program to indicate the minimum size flood to be used by a community as a basis for its flood plain management regulations, presently required by regulation to be that flood which has a one-percent chance of being equaled or exceeded in any given year. Also known as a 100-year flood or one-percent chance flood.

Base Flood Elevation (BFE)

The elevation for which there is a one-percent chance in any given year that flood levels will equal or exceed it. The BFE is determined by statistical analysis for each local area and designated on the Flood Insurance Rate Map. It is also known as the 100-Year Flood.

Branch

The organizational level at the ICS Field Level having functional or geographic responsibility for major parts of incident operations. The branch level is organizationally between section and division/group in the Operations Section, and between section and units in the Logistics Section. Branches are identified by the use of Roman Numerals or by functional name (e.g., medical, security, etc.). Branches are also used in the same sequences at the EOC Levels.

Branch Director

The ICS title for individuals responsible for supervision of a branch at the field level.

C

Cache

A pre-determined complement of tools, equipment and/or supplies stored in a designated location, and available for incident use.

Camp

A geographical site within the general incident area, but separate from the Incident Base. It is equipped and staffed to provide sleeping, food, water, and sanitary services to the incident personnel.

Care and Shelter

A phase of operations that meets the food, clothing, and shelter needs of people on a mass care basis.

Casualty Collection Points (CCP)

A location within a jurisdiction which is used for the assembly, triage (sorting), medical stabilization, and subsequent evacuation of casualties. It may be used for the receipt of incoming medical resources (doctors, nurses, supplies, etc.). Preferably, the site should include or be adjacent to an open area suitable for use as a helicopter pad.

Catastrophic Disaster

Although there is no commonly accepted definition of a catastrophic disaster, the term implies to an event or incident which produces severe and widespread damage of such a magnitude as to result in the requirement for significant resources from outside the affected area.

Catastrophic Disaster Response Group (CDRG)

The national-level group of representatives from the federal department and agencies under the plan. The CDRG serves as a centralized coordinating group which supports the on-scene federal response and recovery efforts. Its members have access to the appropriate policy-makers in their respective parent organizations to facilitate decisions on problems and policy issues.

Chain of Command

A series of management positions in order of authority.

Check-In

The process whereby resources first report to an incident or into an EOC. Check-in locations at the field level include the incident command post (resources unit), incident base, camps, staging areas, helibases, helispots, and division supervisors (for direct line assignments).

Checklist

A list of actions taken by an element of the emergency organization in response to a particular event or situation.

Civil Air Patrol

A civilian auxiliary of the United States Air Force which provides personnel, services, and equipment for specified missions in support of state and local emergency operations.

Civil Disorder

Any incident intended to disrupt community affairs that requires police intervention to maintain public safety. Incidents may be riots and mass demonstrations as well as terrorist attacks.

Civil Preparedness Guidance (CPG)

A series of FEMA policy documents.

Clear Text

The use of plain English in radio communications transmissions. No Ten Codes or agency specific codes are used.

Code of Federal Regulations (CFR)

"49 CFR" refers to Title 49 - the primary volume regarding HAZMAT transportation regulations.

Command

The act of directing and/or controlling resources at an incident by virtue of explicit legal, agency, or delegated authority. May also refer to the Incident Commander.

Command Post

(See Incident Command Post)

Command Staff

The Command Staff at the field level consists of the information officer, safety officer, and liaison officer. They report directly to the Incident Commander. They may have an assistant or assistants as needed. These functions may also be found at the EOC levels in SEMS/ICS, although the proper term for the Section is the "Management Section". At the EOC level, the staff members would report to the EOC EOC Director.

Communications Unit

An organizational unit in the Logistics section responsible for providing communication services at an incident or an EOC. A communications unit may also be a facility (e.g. a trailer or mobile van) used to provide the major part of an Incident Communications Center.

Community Right-to-Know

Legislation requiring communication of chemical information to local agencies or the public.

Compact

Formal working agreements among agencies to obtain mutual aid.

Claims Unit

Functional unit within the finance section responsible for financial concerns resulting from property damage, injuries, or fatalities at the incident or within an EOC.

Complex

Two or more individual incidents located in the same general area which are assigned to a single incident commander or to a unified command.

Comprehensive Emergency Management (CEM)

An integrated approach to the management of emergency programs and activities for all four emergency phases, (mitigation, preparedness, response, and recovery), all types of emergencies and disasters (natural, man-made, and attack), and all levels of government (local, state, and federal) and the private sector.

Computerized Hazard Identification Program (CHIP)

Part of FEMA's Integrated Emergency Management System, this evaluation program identifies the hazards posing the greatest threat to state and local governments and the capabilities of existing programs to respond (formerly referred to as Hazard Identification and Capability Assessment).

Continuity of Government (COG)

All measures that may be taken to ensure the continuity of essential functions of governments in the event of emergency conditions including line-of succession for key decision makers.

Contingency Plan

A sub- or supporting plan which deals with one specific type of emergency, its probable effect on the jurisdiction, and the actions necessary to offset these effects.

Cooperating Agency

An agency supplying assistance other than direct tactical or support functions or resources to the incident control effort (e.g., American Red Cross, telephone company, etc.).

Coordination

The process of systematically analyzing a situation, developing relevant information, and informing appropriate command authority of viable alternatives for selection of the most effective combination of available resources to meet specific objectives. The coordination process (which can be either intra- or inter-agency) does not involve dispatch actions. However, personnel responsible for coordination may perform command or dispatch functions within the limits established by specific agency delegations, procedures, legal authority, etc. Multi-agency or Inter-agency coordination is found at all SEMS/ICS levels.

Coordination Center

Term used to describe any facility that is used for the coordination of agency or jurisdictional resources in support of one or more incidents.

Cost-Sharing Agreements

Agreements between agencies or jurisdictions to share designated costs related to incidents. Cost-sharing agreements are normally written, but may be verbal between authorized agency or jurisdictional representatives at the incident.

Cost Unit

Functional unit within the finance section responsible for tracking costs, analyzing cost data, making cost estimates, and recommending cost-saving measures.

CPG 1-5 - Objectives for Local Emergency Management

Prepared by FEMA, this describes guide functional objectives that represent a comprehensive and integrated emergency management program.

CPG 1-8: Guide for Development of State and Local Emergency Operations Plans

Prepared by FEMA, this document describes how to write Emergency Operations Plans.

CPG 1-8a: Guide for the Review of State and Local Emergency Operations Plans

Prepared by FEMA, this publication provides FEMA staff with a standard instrument for assessing EOPs that are developed to satisfy the eligibility requirement for receiving Emergency Management Assistance (EMA) funding - also called the "crosswalk" checklist.

CPG 1-35: Hazard Identification, Capability Assessment, and Multi-Year Development Plan

This plan for local governments is prepared by FEMA and is used as a planning tool to guide local jurisdictions through a logical sequence for identifying hazards, assessing capabilities, setting priorities, and scheduling activities to improve capability over time.

D

Damage Assessment

The process is utilized to determine the magnitude of damage and the unmet needs of individuals, businesses, the public sector, and the community as a result of a disaster or emergency event.

Dam Failure

Part or complete collapse of a dam and usually causing downstream flooding.

Declaration

The formal action by the City Manager to make a state eligible for major disaster or emergency assistance under the Robert T. Stafford Disaster Relief and Emergency Assistance Act, PL 3-288, as amended (the Stafford Act).

Declaration Process

When a disaster strikes, local authorities and individuals request help from private relief organizations and their state government which gives all possible assistance. If assistance is beyond their capability, the governor requests a City Managerial declaration of a major disaster or an emergency.

Delegation of Authority

A statement delegating authority and assigning responsibility provided to the incident commander by the agency executive. The delegation of authority can include objectives, priorities, expectations, constraints, and other considerations or guidelines as needed. Many agencies require written delegation of authority to be given to incident commanders prior to their assuming command on larger incidents.

Demobilization Unit

Functional unit within the planning section responsible for assuring orderly, safe and efficient demobilization of incident or EOC assigned resources.

Department Operations Center

An EOC used by a distinct discipline (such as fire, medical, hazardous material) or a unit (such as department of public works, department of health or local water district). Department operations centers may be used at all SEMS/ICS levels above the field response level depending upon the impacts of the emergency.

Deputy Incident Commander (Section Chief or Branch Director)

A fully-qualified individual who, in the absence of a superior, could be delegated the authority to manage a functional operation or perform a specific task. In some cases, a deputy could act as relief for a superior and, therefore, must be fully qualified in the position. Deputies may also be found as necessary at all EOC levels.

Designated Area

Any emergency or major disaster-affected portion of a state that has been determined eligible for federal assistance.

Direction and Control (Emergency Management)

The provision of overall operational control and/or coordination of emergency operations at each level of the statewide emergency organization. This may include the actual direction of field forces or the coordination of joint efforts of governmental and private agencies in supporting such operations.

Disaster

A sudden calamitous emergency event bringing great damage, loss, or destruction.

Disaster Application Center

A facility jointly established by the federal and state coordinating officers within or adjacent to an disaster-impacted area. It provides disaster victims a "one-stop" service for meeting their emergency representatives of local, state, and federal governmental agencies, private service organizations and certain representatives of the private sector.

Disaster Assistance Program

A program that provides state funding or reimbursement for local government response related personnel costs incurred in response to an incident as defined in Section 2402 (i).

Disaster Field Office

A central facility established by the Federal Coordinating Office within or immediately adjacent to disaster-impacted areas. It is utilized as a point of coordination and control for state and federal governmental efforts to support disaster relief and recovery operations.

Disaster Preparedness Improvement Grant Program (DPIG)

Authorized under Section 201 of the Stafford Act, it offers annual matching awards are provided to states to improve or update their disaster assistance plans and capabilities.

Disaster Recovery Manager (DRM)

The person appointed to exercise the authority of a regional director for a particular emergency or disaster.

Disaster Service Worker

Includes public employees and any unregistered person recruited into service during a state of war emergency, a state of emergency, or a local emergency by a person having authority to command the aid of citizens in the execution of his duties. It does not include any member registered as an active fire fighting member of any regularly organized volunteer fire department, and having official recognition, and full or partial support of the county, city, town, or district in which such fire department is located.

Disaster Support Area (DSA)

A predesignated facility anticipated to be at the periphery of a disaster area where disaster relief resources (manpower and material) can be received, accommodated or stockpiled, allocated, and dispatched to the disaster area. A separate portion of the area may be used for receipt and emergency treatment of casualties arriving via short-range modes of transportation (air and ground) and for the subsequent movement of casualties by heavy, long-range aircraft to adequate medical care facilities.

Disaster Welfare Inquiry (DWI)

A service that provides health and welfare reports about relatives and other individuals believed to be in a disaster area. This service operates when the disaster caused dislocation or disruption of normal communications facilities and precludes normal communications.

Dispatch

The implementation of a command decision to move a resource or resources from one place to another.

Dispatch Center

A facility from which resources are assigned to an incident.

Division

Divisions are used to divide an incident into geographical areas of operation. Divisions are areas identified by alphabetic characters for horizontal applications and often by numbers when used in buildings. Divisions are also used at EOC levels and are found organizationally between branches and units.

Division or Group Supervisor

The position title for individuals responsible for command of a division or group at an incident.

Documentation Unit

Functional unit within the planning section responsible for collecting, recording, and safeguarding all documents relevant to an incident or within an EOC.

Dose

Accumulated or total exposure to gamma radiation and commonly expressed in REMs.

Dosimeter

An instrument for measuring and registering total accumulated exposure to gamma radiation.

E**Economic Stabilization**

The intended result of governmental use of direct and indirect controls to maintain and stabilize the nation's economy during emergency conditions. Direct controls include setting or freezing of wages, prices, and rents or the direct rationing of goods. Indirect controls include government implementation of monetary, credit, tax, or other policy measures.

Emergency

A condition of disaster or extreme peril to the safety of persons and property caused by such conditions as air pollution, fire, flood, hazardous material incident, storm, epidemic, riot, drought, sudden and severe energy shortage, plant or animal infestations or disease, a governor's warning of an earthquake, volcanic prediction, or other conditions (other than conditions resulting from a labor controversy).

Emergency Broadcast System

A system that enables the City Manager and federal, state, and local governments to communicate through commercial radio and television broadcast stations with the general public in the event of a disaster. Now referred to as the Emergency Alert System (EAS).

Emergency Management (Direction and Control)

The provision of overall operational control and/or coordination of emergency operations at each level of the statewide emergency organization. It also may be the actual direction of field forces or the coordination of joint efforts of governmental and private agencies in supporting such operations.

Emergency Management Coordinator

The individual within each jurisdiction with the day-to-day responsibility for the development and maintenance of all emergency management coordination efforts.

Emergency Management Director (Emergency Services Director)

The individual within each political subdivision that has overall responsibility for jurisdiction emergency management coordination efforts.

Emergency Medical Services

Treatment of casualties necessary to maintain their vital signs prior to treatment at a medical center.

Emergency Medical Technician (EMT)

A health-care specialist with particular skills and knowledge in pre-hospital emergency medicine.

Emergency Operations

Those actions taken during the emergency period to protect life and property, care for the people affected, and temporarily restore essential community services.

Emergency Operations Center (EOC)

A location for performing centralized emergency management. EOC facilities are established by an agency or jurisdiction to coordinate the overall agency or jurisdictional response during an emergency.

Emergency Operations Plan (EOP)

A jurisdiction plan for responding to appropriate hazards.

Emergency Period

A period which begins with the recognition of an existing, developing, or impending situation that poses a potential threat to a community. It may include the warning and impact phase and continue until immediate and ensuing effects of the disaster no longer constitute a hazard to life or threat to property.

Emergency Plans

Those official and approved documents which describe principles, policies, concepts of operation, methods, and procedures to be applied in carrying out emergency operations or rendering mutual aid during emergencies. These plans include such elements as continuity of government, emergency functions of governmental agencies, mobilization and application of resources, mutual aid, and public information.

Emergency Public Information (EPI)

Information disseminated to the public by official sources during an emergency, using broadcast and print media. EPI includes instructions on survival and health preservation action, disaster status information (number of deaths, injuries, property damage, etc.), and other useful information (available through state/federal assistance).

Emergency Public Information System

The network of information officers and their staffs operating from EPICs (centers) at all levels of government within the state. The system also includes the news media through which emergency information is released to the public.

Emergency Response Agency

Any organization responding to an emergency whether in the field, at the scene of an incident, or in an EOC may include an entity providing mutual aid to such an organization.

Emergency Response Personnel

Personnel involved with an agency's response to an emergency.

EOC Action Plan

The plan developed at EOC levels which contains objectives, actions to be taken, assignments, and supporting information for the next operational period.

Essential Facilities

Facilities that are vital to maintaining the health, safety, and overall well-being of the public following a disaster (e.g., hospitals, police and fire department buildings, utility facilities, etc.). May also include buildings that have been designated for use as mass care facilities (e.g., schools, churches, etc.).

Evacuee

An individual who moves or is moved from a hazard area to a less hazardous area with anticipation of return when the hazard abates.

Event

A planned, non-emergency activity. SEMS/ICS can be used as the management system for a wide range of events (e.g., parades, concerts or sporting events).

Exercise

A maneuver or simulated emergency condition involving planning, preparation, and execution carried out for the purpose of testing, evaluating, planning, developing, training, and/or demonstrating emergency management systems and individual components and capabilities. Provides ability to identify areas of strength and weakness for improvement of an emergency operations plan (EOP).

Exercise Scenario

Background detail (domestic, international, political, military) against which an exercise is conducted.

Expedient Shelter

Any shelter constructed in an emergency or crisis period on short notice by individuals, single families, or small groups of families.

F**Facilities Unit**

A functional unit within the support branch of the logistics section at the field response level that provides fixed facilities for the incident. These facilities may include the incident base, feeding areas, sleeping areas, sanitary facilities, etc.

Federal Agency (federal definition)

Any department, independent establishment, government corporation, or other agency of the executive branch of the federal government including the United States Postal Service, but not including the American Red Cross.

Federal Coordinating Officer (FCO)

The person appointed by the City Manager to coordinate federal assistance following an emergency or major disaster declaration.

Federal Disaster Assistance

Consists of in-kind and monetary assistance to disaster victims, state, or local government by federal agencies under the provision of the Federal Disaster Relief Act and other statutory authorities of federal agencies.

Federal Disaster Relief Act

Public Law 93-288, as amended, that gives the City Manager broad powers to supplement the efforts and available resources of state and local governments in carrying out their responsibilities to alleviate suffering and damage resulting from major peace-time disasters.

Federal Emergency Management Agency

The agency created in 1979 to provide a single point of accountability for all federal activities related to disaster mitigation and emergency preparedness, response, and recovery.

Federal Hazard Mitigation Officer (FHMO)

The FEMA employee responsible for representing the agency for each declaration in carrying out the overall responsibilities for hazard mitigation and for Subpart M including coordinating post-disaster hazard mitigation actions with other agencies of government at all levels.

Federal Insurance Administration (FIA)

The government unit (part of FEMA) that administers the National Flood Insurance Program.

FEMA-State Agreement

A formal legal document between FEMA and the affected state, it contains the understandings, commitments, and binding conditions for assistance applicable as the result of the major disaster or emergency declared by the City Manager. It is signed by the FEMA regional director (or designee) and the governor.

Field Coordination Center

A temporary facility established by the office of emergency services within or adjacent to areas affected by a disaster. It functions under the operational control of the OES mutual aid regional manager and is supported by mobile communications and personnel provided by OES and other state agencies.

Field Operations Guide

A pocket-size manual of instructions on the application of the Incident Command System.

Finance/Administration Section

One of the five primary functions found at all SEMS/ICS levels and responsible for all costs and financial considerations. At any incident, the section may include the time unit, procurement unit, compensation/claims unit, and cost unit.

Flood Hazard Boundary Map (FHBM)

The official community map showing the boundaries of the flood plain and specially designated flood hazard areas. It is prepared by FEMA using the best flood data available at the time a community enters the emergency phase of the National Flood Insurance Program (NFIP). It is superseded by a Flood Insurance Map (FIRM).

Flood Insurance

The insurance coverage provided under the National Flood Insurance Program.

Flood Insurance Rate Map (FIRM)

The official community map prepared by FEMA showing the base flood elevation along with special hazard areas and the risk premium zones. The Flood Insurance Rate Map development is funded by FEMA and is based on detailed surveys and analysis of the site-specific hydrologic characteristics.

Food Unit

A functional unit within the Service branch of the Logistics section responsible for providing meals for incident and EOC personnel.

Function

In SEMS/ICS, function refers to the five major activities in the SEMS/ICS (i.e., Command, Operations, Planning, Logistics and Finance/Administration). The same five functions also are found at all SEMS EOC levels. At the EOC, the term "Management" replaces "Command." The term "Function" is also used when describing the activity involved (e.g., "the planning function").

Functional Element

Refers to a part of the incident, EOC, or DOC organization such as section, branch, group or unit.

G

General Staff

The group of management personnel reporting to the incident commander or to the EOC director. They may each have a deputy, as needed. At the SEMS EOC and field ICS level, the general staff consists of the operations, planning, logistics, and finance section chiefs.

Generic ICS

Refers to the description of ICS that is generally applicable to any kind of incident or event.

Ground Support Unit

Functional unit within the support branch of the logistics section at the SEMS EOC and ICS field response level that is responsible for the fueling, maintaining, and repairing of vehicles, and the transportation of personnel and supplies.

Group

Groups are established to divide the incident into functional areas of operation. Groups are composed of resources assembled to perform a special function not necessarily within a single geographic division. (See Division). Groups are located between branches (when activated) and resources in the operations section.

H

Hazard

Any source of danger or element of risk to people or property.

Hazard Area

A geographically defined area in which a specific hazard presents a potential threat to life and property.

Hazardous Material

A substance (or combination of substances) which, because of quantity, concentration, physical, chemical, radiological, explosive, or infectious characteristics, poses a substantial present or potential danger to humans or the environment. Generally, such materials are classified as explosives and blasting agents, flammable and non-flammable gases, combustible liquids, flammable liquids and solids, oxidizers, poisons, disease-causing agents, radioactive materials, corrosive materials, and other materials (including hazardous wastes).

Hazardous Material Incident (stationary)

Any uncontrolled release of material capable of posing a risk to health, safety, and property. Areas at risk include facilities that produce, process, or store hazardous materials as well as all sites that treat, store, and dispose of hazardous materials.

Hazardous Material Incident (transportation)

Any spill during transport of material that is potentially a risk to health and safety.

Hazard Mitigation

A cost effective measure that will reduce the potential for damage to a facility from a disaster event.

Hazard Mitigation Assistance Program

The program authorized under Section 404 of the Stafford Act that provides funding for hazard mitigation projects. These projects are cost-effective and complement existing post-disaster mitigation programs and activities by providing funding for beneficial mitigation measures that are not funded through other programs.

Hazard Mitigation Plan

The plan resulting from a systematic evaluation of the nature and extent of vulnerability to the effects of natural hazards present in society. It includes the actions needed to minimize future vulnerability to hazards.

Helibase

The main location for parking, fueling, maintaining, and loading helicopters operating in support of an incident. It is usually located at or near the incident base.

Helispot

Any designated location where a helicopter can safely take-off and land. Some helispots may be used for loading supplies, equipment, or personnel.

Hierarchy of Command

(See Chain of Command)

I

Incident

An occurrence or event that requires action by emergency response personnel to prevent or minimize loss of life or damage to property and/or natural resources.

Incident Action Plan

The plan developed at the field response level which contains objectives reflecting the overall incident strategy, specific tactical actions, and supporting information for the next operational period. The plan may be oral or written.

Incident Base

Location at the incident where the primary logistics functions are coordinated and administered. (Incident name or other designator will be added to the term "Base"). The incident command post may be co-located with the base and there is only one base per incident.

Incident Commander

The individual responsible for the command of all functions at the field response level.

Incident Command Post (ICP)

The location at which the primary command functions are executed. The ICP may be co-located with the incident base or other incident facilities.

Incident Command System (ICS)

The nationally-used, standardized, on-scene emergency management concept. It is specifically designed to allow its user(s) to adopt an integrated organizational structure equal to the complexity and demands of single or multiple incidents without being hindered by jurisdictional boundaries. ICS is the combination of facilities, equipment, personnel, procedures, and communications operating within a common organizational structure with responsibility for the management of resources to effectively accomplish stated objectives pertinent to an incident.

Incident Communication Center

The location of the communications unit and the message center.

Incident Management Team

The Incident Commander and appropriate General and Command staff personnel assigned to an incident.

Incident Objectives

Statements of guidance and direction for the selection of appropriate strategy and the tactical direction of resources. Incident objectives are based on realistic expectations of what can be accomplished when all allocated resources have been effectively deployed. Incident objectives must be achievable and measurable, yet flexible enough to allow for strategic and tactical alternatives.

Individual Assistance (IA)

Supplementary federal assistance provided under the Stafford Act to individuals and families adversely affected by a major disaster or an emergency. Such assistance may be provided directly by the federal government, state or local governments, or disaster relief organizations.

Information Officer

A member of the command staff responsible for interfacing with the public and media or with other agencies requiring information directly from the incident. There is only one information officer per incident. The information officer may have assistants. This position is also referred to as public affairs or public information officer in some disciplines. At SEMS EOC and Field ICS levels, the information function may be established as a coordinator or as a section or branch reporting directly to the EOC director.

Initial Action

The actions taken by resources which are the first to arrive at an incident.

Initial Response

Resources initially committed to an incident.

Integrated Emergency Management System (IEMS)

A strategy for implementing emergency management activities. It builds upon those functions common to preparedness for any type of occurrence and provides for special requirements of individual emergency situations. IEMS goal is to provide function based plan annexes that can be adapted to varied hazard events.

Intermediate-Term Prediction

A prediction of an earthquake that is expected within a period of a few weeks to a few years.

J**Jurisdiction**

This is a range or sphere of authority. Public agencies have jurisdiction at an incident related to their legal responsibilities and authority for incident mitigation. Jurisdictional authority at an incident can be political/geographical (e.g., special district, city, county, state or federal boundary lines), or functional (e.g., police department, health department, etc.) (See Multi-Jurisdiction).

Jurisdictional Agency: The agency having jurisdiction and responsibility for a specific geographical area or a mandated function.

L**Landing Zone**

(See Helispot)

Leader

The SEMS/ICS title for an individual responsible for a functional unit, task forces, or teams.

Liaison Officer: A member of the command staff at the SEMS EOC and Field ICS level and responsible for coordinating with representatives from cooperating and assisting agencies. At SEMS EOC levels, the function may be done by a coordinator and/or within a section or branch reporting directly to the EOC Director.

Lifelines: A general term including all systems for storing, treating, and distributing fuel, communications, water, sewage, and electricity.

Life-Safety

Refers to the joint consideration of both the life and physical well-being of individuals.

Local Emergency

The duly proclaimed existence of disaster conditions or extreme peril to the safety of persons and property within the territorial limits of a city, county, or city and county. These conditions may be air pollution, fire, flood, storm, epidemic, riot, or earthquake or other conditions, (other than labor controversy). These conditions 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 political subdivisions.

Local Government

Means local agencies defined in Government Code 8680.2 and special districts as defined in California Code of Regulations, Title 19 Division 2, Chapter 5, NDAA, 2900(y).

Local Government Advisory Committee (LGAC)

Committees established by the director of OES to provide a forum for the exchange of information among the cities and counties of a mutual aid region. The LGAC may develop a consensus of action and policy among local emergency managers on issues, policies, and programs of concern to local governments. If necessary, the LGAC may bring such concerns to the attention of OES executive management.

Logistics Section

One of the five primary functions found at all SEMS/ICS levels. The section is responsible for providing facilities, services, and materials for the incident or at an EOC.

Long-Term Earthquake Potential

No specific time frame. Can refer to decades, centuries, or millennia.

Long-Term Prediction

A prediction of an earthquake that is expected within a few years up to a few decades.

M

Major Disaster

Any hurricane, tornado, storm, flood, high-water, wind-driven water, tidal wave, tsunami, earthquake, volcanic eruption, landslide, mudslide, snowstorm, drought, fire, explosion, or other catastrophe in any part of the United States. The event causes damage of sufficient severity and magnitude to warrant a City Managerial declaration and disaster assistance under the Federal Disaster Relief Act.

Management by Objectives

In SEMS EOC and ICS field levels, this is a top-down management activity which involves a three-step process to achieve the desired goal. The steps are establishing the objectives, selecting appropriate strategy(s) to achieve the objectives, and directing assignments associated with the selected strategy.

Mass Care Facility

A location where temporary services are provided to disaster victims during an emergency. Services and assistance may include lodging, food, clothing, registration, welfare inquiry, first aid, and essential social programs.

Media

All means of providing information and instructions to the public including radio, television, and newspapers.

Medical Unit

Functional unit within the service branch of the logistics section at SEMS EOC and ICS Field levels responsible for the development of the Medical Emergency Plan and for providing emergency medical treatment.

Message Center

The Message Center is part of the incident or EOC communications center and is co-located or placed adjacent to it. It receives, records, and routes information to appropriate locations at an incident or within an EOC.

Mitigation

Pre-event planning and actions which aim to lessen the effects of a potential disaster. (See also Comprehensive Emergency Management)

Mobilization

The process and procedures used by all organizations (federal, state, and local) for activating, assembling, and transporting all resources that have been requested in response to or support of an incident.

Mobilization Center

An off-incident location at which emergency service personnel and equipment area temporarily located pending assignment to incidents, release, or re-assignment.

Medical Self-Help

The medical treatment provided for the sick and injured by citizens and emergency forces in the absence of professional care.

Multi-Agency Coordination

The functions and activities of representatives of involved agencies and/or jurisdictions making decisions regarding the prioritizing of incidents and the sharing and allocation of critical resources.

Multi-Agency Coordination System (MACS)

The combination of personnel, facilities, equipment, procedures, and communications integrated into a common system. When activated, MACS has the responsibility for coordination of assisting-agency resources and support in a multi-agency or multi-jurisdiction environment. A MAC Group functions within the MACS.

Multi-Agency Incident

An incident where one or more agencies assist a jurisdictional agency or agencies. The incident may be managed under a single or a unified command structure.

Multi-Jurisdiction Incident

An incident requiring action from multiple agencies that have a statutory responsibility for incident mitigation. In SEMS/ICS, these incidents will be managed under unified command.

Multi -Purpose Staging Area (MSA)

A predesignated location such as a county/district fairgrounds having large parking areas and shelter for equipment and operators. The location provides a base for coordinated, localized emergency operations. It may also be a rally point for mutual aid coming into an area, and a site for post-disaster population support and recovery.

Mutual Aid Agreement

Written agreement between agencies and/or jurisdictions in which they agree to assist one another by furnishing personnel and equipment upon request.

Mutual Aid Coordinator

An individual at local government, operational area, region, or state level that is responsible for requesting, obtaining, processing, and using mutual aid resources. Mutual aid coordinator duties will vary depending upon the mutual aid system.

Mutual Aid Staging Area

A temporary facility established within or adjacent to affected areas. It may be supported by mobile communications and personnel provided by field or headquarters staff from state agencies as well as personnel from local jurisdictions throughout the state.

N

National Emergency Training Center (NETC)

This is a FEMA campus in Emmitsburg, Maryland. It is composed of the United States Fire Administration (USFA) and the Emergency Management Institute (EMI).

National Flood Insurance Program (NFIP)

A federal program created by an act of Congress in 1968. It makes flood insurance available in communities that enact satisfactory floodplain management regulations.

National Warning System

The federal portion of the civil defense warning system. It is used to disseminate warning and other emergency information from the warning centers (or regions) to warning points in each state.

National Weather Service Issuances

Outlook - for events possible to develop in the extended period (extended definition depends on the type of event)

Advisory - for events that are occurring or are forecast to develop in the short term (generally within the next 6 hours)

Watch - for the possibility of an event happening within the short term (generally refers to the next 6 to 12 hours)

Warning - the most serious issuance. For life threatening events occurring or forecast to develop within the short term (generally within the next 6 hours)

Statements (or Updates) - Issued as updates to the above products

Flash Flooding

Flash Flooding Warning - flash flooding is occurring or imminent

Urban and Small Stream Flood Advisory - flooding is occurring or is imminent, but not life threatening; nuisance flooding may be upgraded to a Flash Flood Warning if conditions worsen.

Flash Flood Watch - there is a good possibility of Flash Flooding, but it is neither occurring nor imminent (generally means the possibility exists within the next 24 hours)

Flash Flood Statement - updates to any of the above three issuances

Nuclear Incident (fixed facility)

Any nuclear power plant occurrence resulting in a potential or actual release of radioactive material in sufficient quantity to threaten the health and safety of nearby populations.

O

One Hundred -Year Flood

The flood elevation that has a one-percent chance of being equaled or exceeded in any given year. It is also known as the base flood elevation.

Operational Period

The period of time scheduled for execution of a given set of operation actions as specified in the Incident or EOC Action Plan. Operational periods may be various lengths - usually not over 24 hours.

Operations Section

One of the five primary functions found at all SEMS/ICS levels. The EOC Section responsible for all tactical operations at the incident or the coordination of operational activities at an EOC. The Operations Section at the SEMS EOC and ICS field response level can include branches, divisions and/or groups, task forces, team, single resources, and staging areas. At the EOC levels, the Operations Section would contain branches or divisions as necessary for span of control considerations.

Out-of-Service Resources

Resources assigned to an incident, but unable to respond for mechanical, rest, or personnel reasons.

P

Plan

As used by OES, a document which describes the broad, overall jurisdictional response to potential extraordinary emergencies or disasters.

Planning Meeting

Any meeting held as needed throughout the duration of an incident to select specific strategies and tactics for incident control operations and for service and support planning. On larger incidents, the planning meeting is a major part in the development of the Incident Action Plan. Planning meetings are also an essential activity at all SEMS EOC levels.

Planning Section

(Also referred to as Planning/Intelligence)

One of the five primary functions found at all SEMS/ICS levels. It is responsible for the collection, evaluation, and dissemination of information about an incident or emergency and for the preparation and documentation of Incident or EOC Action plans. The section also maintains information on the current and forecasted situation and the status of resources assigned to the incident. At both the SEMS EOC and ICS field response level, the section will include the situation, resource, documentation, and demobilization units, as well as technical specialists. Other units may be added at the EOC level.

Planning Zone

A subdivision of a county that may consist of a city and its sphere of influence in adjacent unincorporated areas; a portion of the unincorporated area of a county, a military installation, or a state facility such as a correctional institution. Zoning simplifies the process of collecting and compiling data according to geographical location.

Political Subdivision

This includes any city, city and county, county, district, or other local governmental agency or public agency authorized by law.

Procurement Unit

A functional unit within the finance section and responsible for financial matters involving vendor contracts.

Public Assistance (PA)

Supplementary federal assistance provided under the Stafford Act to state and local governments or certain private, non-profit organizations. It does not include assistance for the direct benefit of individuals and families.

Public Information Officer

The individual at field or EOC level that has been delegated authority to prepare public information releases and to interact with the media. Duties will vary depending upon the agency and SEMS/ICS level.

R

Radio Amateur Civil Emergency Services (RACES)

An emergency services organization designed to make efficient use of skilled radio amateurs throughout the state in accordance with approved civil defense communications plans. Operators are registered with an OES agency to provide emergency communications support.

Radiological Protection

The organized effort using warning, detection, preventive, and remedial measures to minimize the effect of nuclear radiation on people and resources.

Radiological Officer (RO)

An emergency management staff individual who is responsible for radiological protection operations. The RO is the principal advisor to the director/coordinator and other officials on matters pertaining to radiological protection operations.

Radiological Monitor

An individual trained to measure, record, and report radiation exposure and exposure rates, provide limited field guidance on radiation hazards associated with operations, and perform operator's checks and maintenance on radiological instruments.

Reception Area

A pre-designated area to receive and care for persons displaced from a hazard area.

Recorders

Individuals within ICS or EOC organizational units who are responsible for recording information. Recorders may be found in Planning, Logistics, and Finance/Administration units.

Recovery

Activities traditionally associated with providing federal supplemental disaster recovery assistance under a City Managerial disaster declaration. These activities usually begin within days after the event and continue after the response activities cease. Recovery includes individual and public assistance programs which provide temporary housing assistance as well as grants and loans to eligible individuals and government entities.

Regional Director (RD)

A director of a regional office of FEMA or his/her designated representative. A regional director may be the disaster recovery manager appointed to exercise the authority of the regional director for a particular emergency or major disaster.

Relocatees

These are individuals who are relocated from a hazard area to a low risk area.

Remedial Movement

The post-attack or post-event movement of people to better protected facilities or less hazardous areas.

Remedial Operations

These actions are taken to offset or alleviate its effects after the onset of an emergency situation.

Reporting Locations

These are specific locations or facilities where in-coming resources check-in. (See Check-in)

Rescue Group

Two or more rescue teams responding as a unified group under supervision of a designated group leader.

Rescue Team

Four or more personnel organized to work as a unit. One member is designated team leader.

Resources

Personnel and equipment available or potentially available for assignment to incidents or to EOCs. Resources are described by kind and type, and may be used in tactical support or supervisory capacities at an incident or EOC.

Resources Unit

This is a functional unit within the planning section at the SEMS EOC and ICS field response level. It is responsible for recording the status of resources committed to the incident. The unit also evaluates resources currently committed to the incident, the impact that additional responding resources will have on the incident, and anticipated resource needs.

Response

Activities to address the immediate and short-term effects of an emergency or disaster. Response includes immediate actions to save lives, protect property, and meet basic human needs. Based on the requirements of the situation, response assistance will be provided to an affected state under the Federal Response Plan.

S**Safety Officer**

A member of the command staff at the incident or within an EOC and responsible for monitoring and assessing safety hazards or unsafe situations and developing measures for ensuring personnel safety. The Safety Officer may have assistants.

Search

Systematic investigation of an area or premises to determine the presence and/or location of persons entrapped, injured, immobilized, or missing.

Search Dog Team

A skilled dog handler with one or more dogs trained for finding persons trapped in a manner that precludes detection by sight or sound. Search dogs are usually owned by their handler.

Section

That organization level with responsibility for a major functional area of the incident or at an EOC (e.g., Command or Management, Operations, Planning, Logistics, Finance).

Section Chief

The SEMS/ICS title for individuals responsible for command of functional sections such as operations, planning, logistics and finance.

Self-Help

A concept describing self-reliance and self-sufficiency within an adverse environment having limited external assistance.

Sensitive Facilities

Facilities in reception areas that will not normally be used as lodging facilities for relocatees. The facilities are either considered unsuitable or are required for essential activities: food establishments, fire stations, banks, radio stations, etc. However, if any of these facilities provide adequate protection against radioactive fallout, they may be used as a fallout shelter.

Service

An organization assigned to perform a specific function during an emergency. It may be one department or agency, if only that organization is assigned to perform the function, or it may be two or more independent organizations combined to increase operational control and efficiency.

Service Branch

A branch within the logistics section and responsible for service activities at the incident. This may include the communications, medical, and food units.

Shelter Complex

A geographic grouping of facilities used as a fallout shelter when such an arrangement serves planning, administrative, and/or operation purposes. Normally, a complex will include a maximum of 25 individual shelter facilities within a radius of about .5 miles.

Shelter Manager

An individual who provides for the internal organization, administration, and operation of a shelter facility.

Short-Term Prediction

A prediction of an earthquake that is expected within a few hours to a few weeks. The short-term-prediction can be further described as follows: *Alert* - three days to a few weeks; *Imminent Alert* - now to three days.

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

Situation Unit

Functional unit within the planning section and responsible for the collection, organization, and analysis of incident status information, as well as analysis of the situation as it progresses. This unit reports to the planning section chief.

Span of Control

The supervisory ratio maintained within an SEMS EOC or ICS field organization. A span of control of five-positions reporting to one supervisor is considered optimum.

Special District

A unit of local government (other than a city, county, or city and county) with authority or responsibility to own, operate or maintain a project for purposes of natural disaster assistance. This may include a joint powers authority.

Stafford Act

Robert T. Stafford Disaster Relief and Emergency Assistance Act, PL 100-707, signed into law November 23, 1988; amended the Disaster Relief Act of 1974, PL 93-288.

Staging Areas

These are locations set up at an incident where resources can be placed while awaiting a tactical assignment. Staging areas are managed by the operations section.

Staging Area Managers

Individuals within SEMS/ICS organizational units that are assigned special managerial responsibilities at staging areas. (Also Camp Manager)

Standard Operating Procedures (SOPs)

A set of instructions having the force of a directive and covering those features of operations which lend themselves to a definite or standardized procedure. Standard operating procedures support an annex by indicating in detail the process for performing a particular task.

Standardized Emergency Management System (SEMS)

A system established in California for managing response to multi-agency and multi-jurisdiction emergencies at the jurisdiction level. SEMS is similar in organization to the Incident Command System (ICS) and is composed of five basic sections: management, operations, planning, logistics, and finance.

State Agency

Any department, division, independent establishment, or agency of executive branch of a state government.

State Coordinating Officer (SCO)

The person appointed by the governor to act for the state in cooperation with the Federal Coordinating Officer.

State Emergency Organization

The agencies, board, and commissions of the executive branch of state government and affiliated private sector organizations.

State Emergency Plan

The State of California Emergency Plan as approved by the governor.

State of Emergency

The duly proclaimed existence of conditions of disaster or extreme peril to the safety of persons and property within the state and caused by such conditions as air pollution, fire, flood, storm, epidemic, riot, earthquake, or other conditions (not including a labor controversy). It may also include conditions causing a *state of war emergency*. These conditions by reason of magnitude, are likely to be beyond the control of the services, personnel, equipment, and facilities of any single city, county, or city and county, and require the combined forces of a mutual aid region or regions.

State of War Emergency

The condition which exists immediately, with or without a proclamation thereof by the governor, whenever the state or nation is directly attacked by an enemy of the United States. It may exist upon the receipt of a warning from the federal government that such an enemy attack is probable or imminent.

Stay-Put

A resident in a hazardous or potentially hazardous area who refuses to relocate during a directed relocation or who is too ill or infirm to be evacuated.

Strategy

The general plan or direction selected to accomplish incident or EOC objectives.

Supply Unit

A functional unit within the support branch of the logistics section and responsible for ordering equipment and supplies for incident operations.

Support Branch

A branch within the logistics section and responsible for providing personnel, equipment, and supplies to support incident operations. This branch includes the supply, facilities, and ground support units.

Support Resources

These are non-tactical resources under the supervision of the logistics, planning, and finance sections or the command staff.

Supporting Materials

Refers to the several exhibits that may be included within an Incident Action Plan (e.g., communications plan, map, safety plan, traffic plan, and medical plan).

T**Tactical Direction**

This is guidance given by the operations section chief at the SEMS EOC or ICS Field level and includes the tactics appropriate for the selected strategy, the selection and assignment of resources, tactics implementation, and performance monitoring for each operational period.

Task Force

A combination of single resources assembled for a particular tactical need with common communications and a leader.

Team

(See Single Resource)

Technical Specialists

These are specially skilled personnel who can be used anywhere within the SEMS EOC or ICS field level organizations.

Technological Hazard

These hazards emanate from the manufacture, transportation, and use of such substances as radioactive materials, chemicals, explosives, flammables, agricultural pesticides, herbicides, and disease agents. These hazards also include oil spills on land, coastal waters or inland water systems and debris from space.

Time Unit

This is a functional unit within the finance section and responsible for recording time for incident or EOC personnel and hired equipment.

Tort

This is an act that harms another. It occurs when a person commits an act without the right and harms another person as a result.

Traffic Control Points (TCP)

There are places along movement routes that are manned by emergency personnel to direct and control the flow of traffic.

Triage

This is a process for priority sorting of sick and injured people on the basis of urgency and type of condition presented. It improves routing to appropriate medical facilities.

Type

This refers to resource capability. A Type 1 resource provides a greater overall capability due to power, size, capacity, etc., than would be found in a Type 2 resource. Resource typing provides managers with additional information to help select the best resource for the task.

U**Unified Area Command**

A Unified Area Command is established when incidents under an area command are multi-jurisdictional. (area command and unified command)

Unified Command

Unified command is best described as a team effort that allows agencies with responsibility for an incident, either geographical or functional, to manage an incident by establishing a common set of incident objectives and strategies. This is accomplished without losing or abdicating agency authority, autonomy, responsibility, or accountability. This occurs more frequently at the field level, in large-scale events, that involve more than one jurisdiction.

Unit

This is an organizational element having functional responsibility. Units are commonly used in the planning, logistics, or finance sections and can be used in operations for some applications. Units are also found in EOC organizations.

Unity of Command

The concept where each person within an organization reports to only one designated person.

Urban Fire

This defines any instance of uncontrolled burning which results in structural damage to residential, commercial, industrial, institutional or other properties in developed areas.

Urban Rescue

This is the complex process in which trained personnel use specialized equipment to locate and extricate victims trapped in collapsed buildings. It is also the mobilization and management of such personnel and equipment.

V**Volunteers**

These are individuals who make themselves available for assignment during an emergency. These people may or may not have particular skills needed during emergencies or be part of a previously organized group.

W**Weather Warning Levels**

Provided by the National Weather Service to advise public and government agencies of threats due to severe weather. The three levels are *Alert*, *Watch* and *Warning*.

Wildfire

This is any instance of uncontrolled burning in grasslands, brush, or woodlands.

Winter Storm (Severe)

This includes ice storms, blizzards, and extreme cold. The National Weather Service characterizes blizzards as combinations of winds in excess of 35 mph with considerable falling or blowing snow, frequently reducing visibility to 0.25 miles or less.

APPENDIX B LIST OF ACRONYMS AND ABBREVIATIONS

A&E	Architecture and Engineering
AC	Area Command
ADA	Americans with Disabilities Act
AQMD	Air Quality Management District
ARC	American Red Cross
ASCS	U.S. Agricultural Stabilization and Conservation Services
ARES	Amateur Radio Emergency Services
BLM	Bureau of Land Management
BOR	Bureau of Reclamation
BPA	Blanket Purchasing Agreements
C of S	Chief of Staff
CAA	Clean Air Act
CAN	Community Alert Network
CAO	Chief Administrative Office(r)
CAT	Crisis Action Team
CAV	Community Assistance Visit
CCA	Comprehensive Cooperative Agreement
CCP	Casualty Collection Points
CD	Civil Defense
CDBG	Community Development Block Grant
CDC	Centers for Disease Control, U.S. Public Health Service
CDL	Community Disaster Loan
CDRG	Catastrophic Disaster Response Group
CEM	Comprehensive Emergency Management
CEO	Chief Executive Officer
CEP	Comprehensive Emergency Planning
CEPPO	Chemical Emergency Preparedness and Prevention Office
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CFR	Code of Federal Regulations
COE	Corps of Engineers (US Army)
COG	Continuity of Government
CPG	Civil Preparedness Guide
CPI	Consumer Price Index
CWA	Clean Water Act
DA	Damage Assessment
DAC	Disaster Application Center
DAE	Disaster Assistance Employee
DAP	Disaster Assistance Programs
DCS	Disaster Communications Service
DEM	Division of Emergency Management (Nevada)
DFCO	Deputy Federal Coordinating Officer
DFO	Disaster Field Office
DHA	Disaster Housing Assistance

DHHS	Department of Health and Human Services
DLS	Disaster Legal Services
DMIS	Disaster Management Information System
DOB	Duplication of Benefits
DOC	Department Operations Center
DOD	Department of Defense
DOE	Department of Energy
DOL	Department of Labor
DOT	Department of Transportation
DP	Disaster Preparedness
DPIG	Disaster Preparedness Improvement Grant
DRM	Disaster Recovery Manager
DRO	Disaster Recovery Operations
DSA	Disaster Support Area
DSA	Division of the State Architect (California)
DSR	Damage Survey Report
DUA	Disaster Unemployment Assistance
DWI	Disaster Welfare Inquiry
EAS	Emergency Alert System
EBS	Emergency Broadcast System
ED	United States Department of Education
EDD	Employment Development Department
EDIS	Emergency Digital Information System
EEIs	Essential Elements of Information
EEO	Equal Employment Opportunity
EIR	Environmental Impact Review
EMA	Emergency Management Assistance
EMI	Emergency Management Institute
EMMA	Emergency Managers Mutual Aid
EMP	Electromagnetic Pulse
EMSA	Emergency Medical Services Authority
EMS	Emergency Medical Services
EMT	Emergency Medical Technician
ENN	Emergency News Network
EOC	Emergency Operations Center
EOP	Emergency Operating Procedures
EOP	Emergency Operations Plan
EPA	Environmental Protection Agency
EPI	Emergency Public Information
EPIC	Emergency Public Information Center
ER	Emergency Relief Program
ERT	Emergency Response Team
ESA	Endangered Species Act
ESC	Earthquake Service Center
ESC	Emergency Services Coordinator
ESF	Emergency Support Functions
EST	Emergency Support Team

FA	Fire Administration (office symbol)
FAA	Federal Aviation Administration
FAS	Federal Aid System Road
FAST	Federal Agency Support Team
FAX	Facsimile
FBI	Federal Bureau of Investigation
FCC	Federal Communications Commission
FCO	Federal Coordinating Officer
FEMA	Federal Emergency Management Agency
FFY	Federal Fiscal Year
FHWA	Federal Highway Administration
FIA	Federal Insurance Administration
FIPS Number	Same as Project Application Number
FIRESCOPE	Firefighting Resources of Calif. Organized for Potential Emergencies
FMHA	Farmers Home Administration
FONSI	Finding of No Significant Number
FPM	Flood Plain Management
FRERP	Federal Radiological Emergency Response Plan
GAR	Governor's Authorized Representative
GIS	Geographic Information System
GSA	General Services Administration
HAZ MIT	Hazard Mitigation (Safety measures taken in advance to lessen future damage)
HAZMAT	Hazardous Materials
HEW	U.S. Department of Health, Education and Welfare
HM	Hazard Mitigation
HMC	Hazard Mitigation Coordinator
HMDA	Hazard Mitigation and Disaster Assistance
HMGP	Hazard Mitigation Grant Program
HMO	Hazard Mitigation Officer
HMT	Hazard Mitigation Team
HUD	Housing and Urban Development Program
IA	Individual Assistance
IA/O	Individual Assistance/Officer
IC	Incident Commander
ICC	Interstate Commerce Commission
ICP	Incident Command Post
ICS	Incident Command System
IFGP	Individual and Family Grant Program
IG	Inspector General
IMA	Individual Mobilization Augmentee
IRS	U.S. Internal Revenue Service
IRMS	Information Resources Management Service
JIC	Joint Information Center
JDIC	Justice Data Interface Controller

JPA	Joint Powers Agreement
JPIC	Joint Public Information Center
JIS	Joint Information System
LCO	Local Coordinating Officer
LGAC	Local Government Advisory Committee
LEPC	Local Emergency Planning Committee
MACS	Multi-Agency Coordination System
MARAC	Mutual Aid Regional Advisory Committee
MARS	U.S. Army Military Affiliate Radio System
MASF	Mobile Aeromedical Staging Facility
MC	Mobilization Center
MCR	Military Communications Representative
MHFP	Multi-Hazard Functional Planning
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MRA	Mortgage and Rental Assistance Program
MRE	Meals Ready to Eat
MSA	Multi-Purpose Staging Area
MTA	Metropolitan Transit Authority
NAWAS	National Warning System
NCCEM	National Coordinating Council on Emergency Management
NCS	National Communications System
NCSP	National Communications Support System
NCSRM	National Communications System Regional Manager
NDEA	National Defense Education Act
NDMS	National Disaster Medical System
NECC	National Emergency Coordination Center (FEMA)
NEIS	National Earthquake Information Service
NEST	Nuclear Emergency Search Team
NETC	National Emergency Training Center
NFA	National Fire Academy
NFDA	National Funeral Directors Association
NFIP	National Flood Insurance Program
NHC	National Hurricane Center
NHPA	National Historic Preservation Act
NIFCC	National Interagency Fire Coordination Center, U.S. Forest Service
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Interest
NRC	Nuclear Regulatory Commission
NRT	National Response Team
NTC	National Teleregistration Center
NVOAD	National Voluntary Organizations Active in Disaster
NWS	National Weather Service
OFA	Other Federal Agencies

OMB	Office of Management and Budget (Federal)
OPA	Oil Pollution Act
OPM	Office of Personnel Management
OSC	On-Scene Coordinator
OSHA	Occupational Safety and Health Administration
OSTP	Office of Science Technology Policy
PA	Public Affairs
PAO	Public Affairs Officer
PA	Public Assistance
PA/O	Public Assistance Officer
PA#	Project Application Number
PBX	Private Branch Exchange
PDA	Preliminary Damage Assessment
PDH	Packaged Disaster Hospital
PDS	Professional Development Series
PFT	Permanent Full-Time Employee
PIO	Public Information Officer
PL	Public Law - U.S. Public Law 93-288, Federal Disaster Relief Act of 1974
PNP	Private Non-profit Organization
PSI	Pounds per Square Inch
PSR	Personal Service Radio
RACES	Radio Amateur Civil Emergency Services
RADEF	Radiological Defense
RCP	Regional Oil and Hazardous Substances Pollution Contingency Plan
RD	Regional Director (FEMA)
REACT	Radio Emergency Associated Communication Team
REC	Regional Emergency Coordinator
REOC	Regional Emergency Operations Center
RM	Radiological Monitor
RO	Radiological Officer
RRT	Regional Response Team
RTOS	Rail Transit Operations Supervisor
SA	Salvation Army
SAP	State Assistance Program
SAR	Search and Rescue
SARA	Superfund Amendment Re-authorization Act (Title III)
SAST	California State Agency Support Team
SBA	Small Business Administration
SCO	State Coordinating Officer
SEMS	Standardized Emergency Management System
SF	Standard Form
SHMO	State Hazard Mitigation Officer
SHPO	State Historic Preservation Officer
SITREP	Situation Report
SLPS	State and Local Programs and Support Directorate (FEMA)
SOC	State Operations Center
SOP	Standard Operating Procedure

STO	State Training Officer
Subgrantee	An eligible applicant in Federally declared disasters
TH	Temporary Housing
TSCA	Toxic Substances Control Act
USACE	United States Army Corps of Engineers
USAR	Urban Search and Rescue
USDA	U.S. Department of Agriculture
USFA	United States Fire Administration
USGS	United States Geological Survey
VA	Veterans Administration
VSAT	Very Small Aperture Terminal
VOAD	Volunteer Organizations Active Disaster