
Chapter 2

The Planning Process

Introduction

Normally, the emergency manager serves as the "planning coordinator" responsible for leading the jurisdiction's effort to develop an EOP. This chapter offers the emergency manager suggestions for the process of developing an EOP. This process may be more important and useful to the jurisdiction's emergency management community than the final product itself. The suggestions can be easily tailored to the specific needs of a jurisdiction.

Principles

Developing an all-hazard plan for protecting lives and property in the jurisdiction may appear to be an extremely difficult challenge. It need not be if following principles are applied.

Don't Reinvent the Wheel

Emergency operations planning need not start from scratch. Planners should take advantage of others' experience.

Use Available Guidance and Training Materials

The State is a valuable resource for the local jurisdiction. States typically publish their own planning guides, conduct workshops and training courses, and assign their planners to work with local planners. FEMA supports State training efforts through its Emergency Management Institute (EMI), and offers courses. FEMA also publishes many documents relating to planning for specific functions and hazards.

Build on What Exists in the Jurisdiction

If the jurisdiction has an EOP or other contingency plans, they are the place to start. Existing plans can point the planning coordinator to applicable authorities, perceptions of risk in the community, members of the jurisdiction's emergency response organization, mutual aid agreements with other jurisdictions, and more. The planning coordinator should review the existing EOP for questionable assumptions, inaccuracies, inconsistencies, omissions, and vagueness. Critiques of recent emergency operations and exercises in the jurisdiction will help the planning coordinator develop a sense of what needs to be done.

Don't Go It Alone

The planning coordinator's is only one view. If a coordinated emergency response depends on teamwork, planning for response should involve the jurisdiction's emergency "team." Documentary research should be supplemented by interviews with key officials of the jurisdiction's response organization: They may have information and insights that the planning coordinator lacks, as well as ideas that can spark creative solutions to problems. Key officials also determine what staff will be made available for planning meetings and what priority emergency planning issues will have in day-to-day work, so it is important to secure their commitment to the planning process.

Benefits of the Team Approach

FEMA recommends a team approach to planning for these reasons:

- The EOP is more likely to be used and followed if the tasked organizations have a sense of ownership, i.e., their views were considered and incorporated.
- More knowledge and expertise are brought to bear on the planning effort.
- Closer professional relationships among response and recovery organizations in the planning process should translate into better coordination and teamwork in emergencies.

Potential Team Members

The planning team should be drawn from various groups that have a role or stake in emergency response. The list below is not all-inclusive. The important thing is for the planning coordinator to ensure that the planning team membership represents a good cross section of the organizations involved in the jurisdiction's emergency response effort.

- The Office of the Chief Executive.
- Law enforcement, fire/rescue, and emergency medical services (including dispatchers/911 at the local level), public health and safety, etc.
- Existing planning agencies (e.g., community development, economic development, city planning commissions/municipal planners).
- Hazard mitigation planner/coordinator.

- Local Emergency Planning Committees (LEPC), for hazardous materials (HAZMAT) information.
- Public works agencies and utility companies.
- Social service agencies and volunteer organizations (e.g., American Red Cross (ARC), Salvation Army, etc.).
- Area hospitals, emergency medical service agencies, medical examiner, coroner, mortician, and other appropriate members of the medical community.
- Educational administrators.
- Public Information Office (PIO).
- Local media.
- Industrial and military installations in the area.
- State aviation authority and/or others connected with provision of air support.
- Port authorities, U.S. Coast Guard station.
- The jurisdiction's Chief Financial Officer, auditor, and heads of any centralized procurement and resource support agencies.
- Jurisdiction's legal counsel.
- Labor and professional organizations.
- Organizations in the animal care and control community, including veterinary services.
- Amateur radio/CB groups, such as Radio Amateur Civil Emergency Service (RACES), Radio Emergency Associated Communications Teams (REACT), etc.
- Emergency managers and agency representatives from neighboring jurisdictions, to coordinate mutual aid needs.

- State and/or Federal representatives, as appropriate.

**Don't Forget
the Chief
Executive
Official
("CEO")**

Potential planning team members have many day-to-day concerns. For the team to come together, potential members must be convinced that emergency planning has a higher priority--and the person to convince them is the jurisdiction's chief executive. The emergency manager has to enlist the chief executive's support for and involvement in the planning effort. To do so, the emergency manager must show the chief executive what is at stake in emergency planning: share the hazard analysis for the jurisdiction, describe what government and especially the chief executive will have to do, color presentations with images from disasters like those that could befall the jurisdiction, discuss readiness assessments and exercise critiques, and remind the chief executive that planning ultimately facilitates his or her job in an emergency. Any backing available from the chief executive's office will help the emergency manager to obtain the respectful cooperation of other agency heads.

Steps

Following are the basics for development and continual refinement of an EOP. They may be adapted to the needs of a jurisdiction.

Research

The first step is research. This consists of reviewing the jurisdiction's planning framework, analyzing the hazards faced by the jurisdiction, determining the resource base, and noting characteristics of the jurisdiction that could affect emergency operations.

*Review Law,
Plans,
Mutual Aid
Agreements,
and Guidance*

Review local and/or State laws, rules, regulations, executive orders, etc., that may be considered enabling legislation. Review Federal regulatory requirements. Review guidance, existing plans for the jurisdiction, and the plans of neighboring jurisdictions. Review agreements with neighboring jurisdictions, military installations, private sector organizations, etc. Become familiar with the plans of higher levels of government that may be called on to provide assistance.

*Conduct
Hazard/Risk
Analysis*

Hazard analysis is the basis for both mitigation efforts and EOPs. From an emergency operations planning perspective, hazard analysis helps a planning team decide what hazards merit special attention, what actions must be planned for, and what resources are likely to be needed.

Comprehensive hazard analysis merits its own document-length discussion. Chapter 6 offers some considerations for specific hazards, and the Bibliography lists sources for both general concepts and hazard-specific information. However, for purposes of emergency operations planning, basic considerations of process, methods, and sources include the following:

- *Process and Methods.* Hazard analysis requires the planning team to:
 - *Identify hazards*, to know what kinds of emergencies have occurred or could occur in the jurisdiction.
 - Begin with a list of hazards that concern emergency management in your jurisdiction. Laws, previous plans, and elected officials can help define the universe of hazards which the planning team should address in the all-hazard EOP. A list of "traditional" emergency management concerns might include: airplane crash, avalanche, dam failure, drought, earthquake, epidemic, flood, HAZMAT release (in transport or from a fixed facility), hurricane, landslide, mudslide, power failure (sustained), radiological release (in transport or from a fixed facility), subsidence, terrorism, tornado, train derailment, tsunami, urban conflagration, volcanic eruption, wildfire, and winter storm.

Keep in mind that hazard lists pose two problems. The first is the possibility of exclusion or omission: there is always a potential for new and unexpected hazards (which is part of why maintaining an all-hazard capability is important). The second is that such lists involve groupings, which can affect subsequent analysis. A list may give the impression that hazards are independent of one another, when in fact they are often related (e.g., an earthquake might give rise to dam failure). Lists may group under one category very different causes or sequences of events that require different types of response. For example, "flood" might include dam failure, cloudbursts, or heavy rain upstream. Lists also may group a whole range of consequences under the category of a single hazard. "Terrorism," for example, could include use of conventional explosives against people or critical infrastructure; nuclear detonation; release of lethal chemical, biological, or radiological material; and more. "Hurricane" might include not only high winds, storm surge, and battering waves, but even the weakened, post-landfall tropical storm system that can cause inland flooding. It may be necessary, as the hazard analysis evolves, to refine the list of hazards.

- For each of these potential emergencies, determine whether it has happened or could happen in the jurisdiction. Some can be eliminated by common sense (e.g., where mountains do not exist, volcanic eruption is not likely). For the rest, there are three lines of investigation: history (including statistical compilations), expert opinion, and maps--which summarize results of the first two.
- *Profile hazards and their potential consequences*, to have the information necessary for the next two steps (and to set the stage for other applications of the hazard analysis). The categories of information and the precision of the data will depend on several factors. One is the kinds of decisions the analysis is meant to support. For example, to decide that one hazard poses more of a threat than another may require only a qualitative estimate (e.g., "High" vs. "Medium")--but to plan for health and medical needs the planning team would want to have an estimate for likely fatalities and injuries. Another factor is the availability of information and time. It may be necessary to take a long view of hazard analysis, and have each version build on the preceding one as part of a "research agenda" for emergency management.
- Develop information on each of the hazards identified for the community. Of particular interest are the hazard's **frequency** of occurrence (both historical and predicted or probable, as available), **magnitude** and **intensity**, **location** (if the hazard is associated with a facility or landscape feature) and **spatial extent** (either around the known location of the hazard or as an estimate for non-localized hazards like tornado), **duration**, **seasonal pattern** (based on month by month historical occurrence), **speed of onset** and **availability of warning**
- Develop information on the potential consequences of the hazard. This depends on identifying a vulnerable zone (if the hazard is localized) or relating the estimated spatial extent of the hazard to

the jurisdiction (by a simple ratio of the hazard's extent to the jurisdiction's area, to get gross estimates of lives and property at risk, or by "overlying" the estimated spatial extent of the hazard on a portion of the jurisdiction and determining what would be affected). Several kinds of consequences can be investigated; response planning would be concerned with effects on people (total affected, likely deaths and injuries), critical facilities and community functions, property, and sites of potential secondary hazards (e.g., dams, chemical processing plants). The planning team can use both historical information and modeling to arrive at estimates for planning. In modeling, the general process is to consider what is exposed to a given intensity of the hazard, how susceptible it is to a type of damage or consequence (e.g., death, for people; destruction, for property; days of service loss or repair time for critical facilities), and some measure of loss (e.g., dollars, for property). Over time, collection of this information can be made easier by sectoring the jurisdiction (optimally, in sectors that will also be used for damage assessment) and developing a profile of each sector: e.g., rough number of structures falling into different classes of construction, number of different kinds of critical facilities, rough number of people in different age groups or having special needs, etc.

- *Compare and prioritize risks*, to determine which hazards merit special attention in planning (and other emergency management efforts). The planning team must consider frequency of the hazard and the likely or potential severity of its consequences, to develop a single indicator of the threat: This allows comparison and setting of priorities. While a mathematical approach is possible, it is easier to manipulate qualitative ratings (e.g., "High", "Medium", "Low") or index numbers (e.g., reducing quantitative information to a 1 to 3, 1 to 5, or 1 to 10 scale, based on defined thresholds) for different categories of information

used in the ranking scheme. Some approaches involve consideration only of frequency and consequences, and treat the two categories as equally important. In other approaches, potential consequences receive more weight than frequency.

- *Create and apply scenarios*, to brainstorm needed hazard-specific planning provisions and estimate hazard-specific resource requirements. While it is important to have a sense of magnitudes involved (whether the single indicator used to rank hazards, or estimated numbers of people affected), these are static. Planning is concerned with actions that take place in time. For the top-ranked hazards, or hazards that rate above a certain threshold, the planning team should consider scenarios. Using information from the profile, the planning team should think about how the hazard occurrence would develop in the jurisdiction. Starting with a given intensity of the hazard, the team can imagine the hazard's development from initial warning (if available) to its impact on a specific part of the jurisdiction (as identified through analysis) and its generation of specific consequences (e.g., collapsed buildings; loss of critical services and infrastructure; death, injury, or displacement). Through this initial brainstorming--which can be refined in formal tabletop exercises--the team will decide what actions and resources will become necessary. It will also become conscious of the planning assumptions to be used in functional annexes and hazard-specific appendices to the EOP (discussed in the following chapters of this Guide).
- *Sources*. Sources of maps for hazards would include compilations of hazard information made by FEMA and State emergency management agencies, the U.S. Geological Survey (USGS) and State geological surveys, and the National Weather Service (NWS) and its local offices. For more localized hazards, maps from the Federal Insurance Administration (FIA), maps of 10- and 50-mile Emergency Planning Zones (EPZ) around nuclear power plants, and any maps of HAZMAT sites prepared by the LEPC would be useful. For historical investigation, many potential

sources exist. Consult Federal or State hazard analyses, as appropriate, to see if the historical occurrence of the hazard is tabulated by jurisdiction. Also interview representatives from organizations on the planning team about their experience. Check local ARC disaster records. Check police, fire, and other responder records. Research area newspapers at the library. Check with utilities and businesses/facilities that have operated in the area for some time. Involve the local or State historical society, and perhaps area universities (e.g., departments of history, sociology, geography, engineering). Professional or business associations (e.g., of insurers, engineers and builders, etc.) may have useful information. Long-time community residents can even contribute. For expert opinion on hazard potential, the sources are similar. Federal, State, and local agencies; academic, industrial, and public interest group researchers (or private consultants specializing in hazard analysis); and professional associations concerned with the hazards on your list should be able to help, either through interviews or publications. Sources for information on the community and possible consequences to it vary. Ideally, work already will have been done regarding potential consequences of certain facility-based hazards--and it is a matter of checking with the facility and the agency (local, State, Regional, or Federal) that regulates that kind of facility. For demographics, Census data are available, as are off-the-shelf computer products that organize such data by ZIP code. The planning team also should make extensive use of the information about the jurisdiction that is constantly developed within the jurisdiction. The local planning and zoning commission or department, for example, probably has extensive data on demographics, on land use, on numbers and types and--with the tax assessor and/or local realtors' association--value of buildings, and on the structural integrity of buildings (or at least on the code to which they were to be built, and what that code was and was not designed to do regarding hazard effects). The local public works (or civil engineering) department and utilities are the obvious sources for information on potential damage to and restoration time for the critical infrastructure threatened by hazard effects. The Chamber of Commerce

may offer a perspective on damage to business and general economic loss. Other sources of information mentioned previously--emergency service logs and reports, universities, professional associations, etc.-- also apply.

Use of Standard Loss Estimation Methodologies and GIS-Based Methodology Software HAZUS for Conducting Hazard/Risk Analysis:

FEMA and the States have committed to the development of an all-hazard risk assessment capability as a Mitigation objective under the PPA. Therefore, in the near future, the process of analyzing and defining the risk associated with a given natural hazard and making a scientifically and technically valid assessment of the impact on a given area or region, will be feasible by using standard, nationally applicable loss estimation methodologies and a methodology software program called HAZUS developed by FEMA. State and local emergency managers will find these methodologies and HAZUS to be valuable tools to aid them in all phases of emergency management--preparedness, response, recovery, and mitigation.

As early as January 1997, FEMA's standard Earthquake Loss Estimation Methodology and HAZUS will be available to States. This GIS-based software program can be used to generate an estimate of the consequences of a "scenario earthquake"--that is, an earthquake with a specified magnitude and location--and provide a "loss estimate" that describes the scale and extent of the damage and disruption that may result. To achieve an all-hazard risk assessment capability, FEMA is currently developing loss estimation methodologies for other hazards, such as flood, wind, and hurricane, that will expand the capability of HAZUS. These are expected to be available in the next two or three years. In return, States are encouraged under the PPA/Cooperative Agreement process to collect digital building inventory and hazard data from State, local, and private sources and to incorporate that data into HAZUS with the objective of refining the results of loss estimates and other analyses conducted using HAZUS.

Therefore, local jurisdictions may wish to consult with FEMA or their State Emergency Management Agency when they begin to develop an EOP to determine whether their State has obtained and implemented HAZUS and, if so, how it can be used to help them identify potential hazards and characterize risk associated with the occurrence of those hazards.

Determine the Resource Base

Agency heads and other potential members of the planning team should know what kinds of resources they can bring to emergency response and recovery. The problem is to quantify and list them, and compare the resources available to the resources needed for an effective emergency response. Shortfalls may require negotiating agreements with private suppliers or other jurisdictions. Determination of the resource base also should include a consideration of what

facilities are vital to emergency operations and how they might be affected by hazards: Problems that cannot be mitigated should be taken into account in the EOP, not assumed away.

*Note Special
Facets of the
Planning
Environment*

The planning team should note geographic and topographic features that may affect operations--for example, dependence on a single main transportation artery in and out of the jurisdiction. Planners also should identify special needs groups (non-English speakers, the aged, the disabled) and where they are concentrated (especially institutions such as nursing homes). Finally, the planning team should be alert to demographic and other trends in the jurisdiction that affect assumptions.

Development

Research leads to a written EOP through steps similar to these:

- Develop a rough draft of the basic plan, functional annexes, and hazard-specific appendices to serve as a point of departure for the planning team.
- Develop agendas and invitation lists for first cycle of planning meetings; perhaps deliver invitations in person and conduct preliminary interviews with key officials.
- Brief the “CEO” and perhaps invite him or her as a keynote speaker.
- Conduct a presentation meeting, establish committees for parts of the EOP, appoint committee chairs, and schedule a follow-up meeting.
- Work with committees on successive drafts.
- Prepare necessary graphics (e.g., maps, organizational charts).
- Produce a final draft and circulate the draft to the planning team for review and comment.
- Hold a meeting to incorporate final changes, discuss an implementation strategy and necessary distribution, and obtain (informal) commitments to provide information that could necessitate revision.

- Obtain concurrence from organizations with identified responsibilities for implementing the EOP.
- Present the EOP to local elected officials and obtain official promulgation of the EOP (advise the local media in advance).
- Print and distribute the EOP, with a copy (or press release) to local media. Maintain a record of the organizations and persons that received a copy (or copies) of the plan.

Validation

The written EOP should be checked for its conformity to applicable regulatory requirements and the standards of Federal or State agencies (as appropriate)--and for its usefulness in practice. Further, conduct of a "table top" exercise involving the key representatives of each tasked organization may serve as a practical and useful means to help validate the plan.

Plan Review

Consult the next level of government about its EOP review cycle. Plan reviews allow responsible agencies to suggest improvements in an EOP based on their accumulated experience. States may review local EOPs; FEMA Regional offices may assist States in the review of EOPs, upon request. Hazard-specific Federal programs (such as the REP program) require periodic review of certain sections of the all-hazard EOP, and may require review of associated SOPs.

Plan Testing

To evaluate new or revised EOP, use functional and full scale emergency management exercises. Exercises offer the best way, short of emergencies, to determine if an EOP is understood and "works."

Maintenance

The EOP is a living document. Problems emerge, situations change, gaps become apparent, Federal requirements are altered--and the EOP must be adapted to remain useful and up-to-date.

*Remedial
Action
Process*

A remedial action process can help a planning team identify, illuminate, and correct problems with the jurisdiction's EOP. A remedial action process captures information from exercises, post-disaster critiques, self-assessments, audits, administrative reviews, and the like, which may indicate that deficiencies exist. It then brings members of the planning team together to discuss the problem, and to consider and assign responsibility for remedies. Remedial actions may involve revising planning assumptions and operational concepts, changing organizational tasks, or

modifying organizational implementing instructions (SOPs). They also may involve refresher training on performance of tasks assigned by the EOP to an organization's personnel. The final component of a remedial action process is a means to track and follow up the assigned actions.

*Revision
Process*

Establish a process for review and revision of the EOP. Review should be a recurring activity, accomplished on at least an annual basis. As appropriate, significant issues and problems identified through a remedial action process and/or the annual review should provide the information needed to allow the planning team to make the necessary revision(s) to the plan.

*Implementing
Documents*

Ensure that each tasked organization or individual develops the SOPs necessary to facilitate the accomplishment of assigned tasks. The EOP does not anticipate every detail of the tasks it describes--but the details are important to its implementation.

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