

Appendix A

## FUNCTIONS TO BE PERFORMED IN EOC

A. Normalcy

The primary direction and control functions in periods of normalcy are development of readiness and capability of the emergency organization.

1. Readiness and capability are distinguishable. Readiness is the ability of the emergency staff to execute plans it has designed. Readiness is developed by hiring adequate emergency management staff, preparing plans, training those with emergency responsibilities, and conducting regular emergency exercises. Capability refers to the hardware necessary to execute plans, including EOCs and EOC systems, vehicles and heavy equipment, and stocks of necessary emergency supplies. Readiness is relatively inexpensive to develop; capability will depend, to a large degree, on the size of the jurisdiction, its attitudes toward preparedness, and availability of State and Federal financial assistance.

2. To develop readiness and capability, functions of the direction and control staff during this period will include planning, training, exercising, and identification of community, public, and private resources, both human and material. These functions are:

a. During the normalcy period, plans should be written, revised, distributed, and tested. They should cover the full range of emergencies that could reasonably be expected to occur in the local jurisdiction.

b. Emergency service personnel should become familiar with plans through training sessions and simulation exercises. Some plans may be tested with field exercises, where emergency equipment and personnel are actually moved and volunteers used to simulate casualties. For example, the field exercise is appropriate for testing a multicasualty incident plan or plane crash plan. Other plans, designed for response to major widespread emergencies, will lend themselves more to testing by means of tabletop or operations exercises. Nuclear civil protection plans fall into this category. Such exercises provide a way to test not only staff and plans, but also the EOC and other emergency systems and equipment.

c. A final and related function of the direction and control element during this period is accumulating data on human resources (volunteer groups, auxiliaries); equipment sources (emergency power, water, and engineering materials); and supplies (food, bedding, medical, and sanitation). Subsequent sections detail the data requirements of the direction and control element during each contingency. This information needs to be collected, organized, and updated during quiet times if it is to be available and usable in emergencies.

B. Emergency Without Warning

1. The first and most critical role of the direction and control element in responding to an emergency without warning is to determine the nature and extent of a disaster. Initially, reports will be fragmentary; it is common for communications systems to fail or degrade under the pressures of a major event such as an earthquake or

flash flood. Telephone service may be interrupted or dial tones absent because of system overload. Radio communications may be disrupted by damage to transmitters or antennas or degraded through frequency crowding.

a. Beyond destruction or overload of communications systems, information itself is frequently difficult to gather. Fire, police, and medical vehicles may find it difficult to reach the scenes of major problems because of emergency-caused damage, fires, or contamination. A common problem is that people at the incident site are concentrating on rescue and relief activities and often overlook reporting to authorities. Those at the scene of an emergency are often left without radio or telephone communication and immediately begin rescue activities without notifying someone of the need for assistance.

b. This information-gathering function is a main justification for a centralized direction and control unit—The Emergency Operating Center. If each emergency force has only a partial picture of the overall situation, it is sensible to pool that information at a central point so that problems can be evaluated and ranked, response can be planned and coordinated, and “dead spots”—those areas from which no reports have been received—can be investigated. Police will have at least some information on the problems in the community reported by their patrols or by citizens; fire services will have some information from remote stations, alarm boxes, and citizen reports. Public transportation is increasingly linked to a central dispatch point by radio. If a procedure has been developed to collect information from buses, subways, taxis, and other mobile units, transit agencies will have a good idea of the scope and critical problem areas of the community.

2. The second major function of the direction and control element in such an emergency is evaluating the information it has gathered and setting priorities for response. Actual or impending threats to human life, such as collapsed buildings or leaking dams, are clearly more important than threats against property only. The direction and control elements must ensure that resources are not depleted early by responding to minor problems, which are typically reported first, so that nothing is left when more serious problems become known. An integral part of the priority-setting role of the direction and control element is continual revision of its situation analysis so that resources can be shifted and concentrated efficiently when problems of major dimensions surface. This direction and control role also requires a centralized location, where all elements of the emergency service organization can share in setting priorities and charting out the best mix of forces to respond to individual problems.

3. A third major function of direction and control in an emergency without warning is early determination of what outside help may be needed. Steps to alert and request mutual aid from adjacent or higher jurisdictions, or from private sources in the community are then taken. To properly evaluate the need for outside assistance and the type and size of assistance required, the direction and control element must know what resources it has already deployed, what resources it has left in reserve, and what special equipment and personnel the situation may require. Again, a centralized location—at which information on the situation is gathered and plotted, emergency response is dispatched and coordinated, and resource information on nearby or higher echelon agencies is stored—is essential to ensure timely response to requests for outside assistance.

4. Where State area direction and control systems exist, their functions in the emergency without warning context will be limited. Like local and multijurisdictional-level direction and control elements, the State area will collect and evaluate information

from multijurisdictional areas, and pass the compiled results to the State EOC. A major responsibility will be brokering mutual aid between areas, as well as coordination of State agency response. Finally, the State area direction and control element will be where scarce or specialized resource requests will be funneled and where attempts will be made to satisfy these special needs.

5. Roles assigned to State area EOC's direction and control staff can be handled out of an office with a basic communications package linking it to EOCs in local jurisdictions.

### C. Emergency with Warning

All of the procedures identified in the sections on Normalcy and Emergency Without Warning apply to emergency direction and control functions in emergency with warning. There are four additional functions when advance warning is provided.

1. An important function of the direction and control elements is to warn the public. To do this, the direction and control staff must gather information about the impending situation from higher-level direction and control centers and agencies responsible for monitoring the environment, such as the National Weather Service, the Geological Survey, and State-level organizations that observe stream flows and meteorological phenomena.

2. A second important function of the local direction and control element is deciding whether evacuation is required. If it is determined that evacuation of all or part of the community is necessary, the direction and control element must manage dissemination of the evacuation order, oversee moving the population, and manage mass care facilities to which evacuees are directed.

3. Advance notice of an emergency will also allow the direction and control element and its emergency forces to reduce impacts through short-term mitigation measures. A critical function of direction and control staff will be organizing and implementing actions such as constructing or improving levees and dikes, securing or removing equipment, shuttering windows and doors, clearing storm drains and channels, shutting down hazardous manufacturing processes, and lowering reservoir levels. In large measure, the success of such mitigation efforts will depend on preplanning during the normalcy period.

4. A final direction and control function made possible by the warning period is alerting and readying emergency service units-within the locality, neighboring localities, and at higher echelons. Equipment can be checked, procured, or borrowed; personnel can be put on longer shifts; and reserve and auxiliaries can be assembled. Mass care centers can be staffed and opened and the public informed of their locations and services. Stocks of food, water, medical supplies, and sanitation equipment can be obtained and prepositioned. State and Federal military and civil preparedness agencies can be mobilized and tasks assigned.

Roles of the area-level direction and control element parallel those of the local EOC, with a proportionately larger responsibility for public information activities in places where media are area-based. The area-level EOC must also play an important role in coordinating mitigation efforts among localities it directs. Mitigation activities will depend largely on effective mutual aid systems between localities, areas, and State areas. The multijurisdictional area is the level at which such systems are set into operation and coordinated.

5. When the emergency with warning mode is applied to a nuclear attack, there are three distinct phases of direction and control: early crisis, deepening crisis, and mobilization. Each phase places unique demands upon local, area, and State-level EOC direction and control functions. For more details on actions to increase direction and control readiness see CPG 1-7, Guide for Increasing Local Government Civil Defense Readiness During Periods of International Crisis.

a. Early Crisis

(1) All local jurisdictions, whether designated reception or hazard, will review and improve plans for two protective options: in-place shelter and emergency evacuation. Direction and control elements will also increase public information efforts. Although emergency public information (EPI) materials will primarily be prepared at higher levels, the local jurisdiction is ultimately responsible for dissemination. It must also provide its own advisories to make the announcements site-specific. Residents should know where local shelters are, to what relocation area the community has been assigned, and how to get there. All location direction and control elements during this phase should increase readiness of public agencies and private citizens. Training programs in radiological defense, first aid, and basic firefighting and rescue should be started or intensified. These training efforts serve two important goals-increasing skills and emphasizing the seriousness of the situation. Emergency evacuation exercises for the emergency organization should be organized and conducted at the local level and in conjunction with areawide tests.

(2) In addition to the general direction and control roles stated above, hazard-area management staff should either activate the local EOC on a standby basis or upgrade it to immediate activation if the crisis deepens. Representatives of essential industries in the local jurisdiction should be selected to serve on EOC staffs and trained in use of the facility. Shelter upgrading programs should be initiated and warning systems tested and widely publicized.

(3) In localities designated as reception areas, major direction and control efforts should focus on preparing to receive relocated populations. Food, medical, and other supply sources should be identified and plans for increasing stocks should be reviewed. Preparations for receiving hazard-area relocatees should be stepped up, including crash training programs in reception/care/sheltering, and rapid augmentation of shelter capacity.

b. Deepening Crisis (Local Level)

(1) As the crisis deepens, functions described in the early crisis period will be accelerated. Local direction and control staffs must be prepared to respond to increased requests for public information. Special door-to-door campaigns by scout troops or other volunteers may be organized to ensure wide distribution of EPI materials. Public information should emphasize the advisability of families setting aside food, water, medical supplies, and bedding in anticipation of a evacuation order.

(2) During this phase, a major function for direction and control elements at all levels is watching for signs of spontaneous evacuation and adjusting plans and resources accordingly. The direction and control element should be sensitive to increased traffic on major highways, work and school absenteeism, bank withdrawals, increased purchase of food and gasoline, and discontinued utilities or reports of reduced utility consumption. If significant shifts of population from the localities are found, the direction and control element should alert multijurisdictional-area and State-area staffs.

(3) In hazard areas, there will be an added direction and control function during this phase. In anticipation of an evacuation order, local police visibility should be increased to reassure those who may hesitate leaving their homes.

c. Mobilization (Local Level)

The decision to evacuate or take shelter will, to some extent, ease the burden on direction and control elements at all levels. It will no longer be necessary to plan and prepare for two separate contingencies. But once the decision to evacuate is made, a new and more time-critical set of direction and control functions will emerge.

(1) If the decision is made to remain in place, last minute efforts must concentrate on upgrading shelter spaces, stocking shelters, and informing the public of shelter locations and supplies that should be brought to them. Publicity should also be accelerated about warning systems and meanings of various signals. Training in EOC operations and testing of communication equipment should continue. Direction and control elements should encourage shelter managers to organize first aid, rescue, fire-fighting, and radiological monitoring classes in the shelter complexes.

(2) If the decision to evacuate is made, direction and control roles in reception and hazard areas diverge sharply. In reception areas, efforts should concentrate on moving foodstuffs, medical supplies, and other necessities from above-ground distribution points into shelters. Final training of shelter management teams should take place, as well as training of the reception units that will meet, register, and distribute relocatees.

(3) In hazard areas, direction and control elements will concentrate on getting the evacuation movement underway and ensuring it is expedited through a combination of public information and traffic control measures. Commuting arrangements for essential workers should be put into effect and work on upgrading shelters for direct effects protection accelerated.

d. Early Crisis (Multijurisdictional-Area Level)

(1) Area direction and control roles parallel those of local jurisdictions with correspondingly higher emphasis on the dissemination of general advisory Emergency Public Information (EPI) as opposed to site-specific information.

(2) Like local jurisdictions, area direction and control elements must review their plans and increase readiness of their forces. They must also monitor the status of preparations in local jurisdictions and assist localities that need help.

(3) The area direction and control element must assume primary responsibility for the extremely important training/exercising role. This role will also be greater at the multijurisdictional level since training services must be provided for its own employees and citizens as well as for localities that may not have in-house training capabilities.

e. Deepening Crisis (Multijurisdictional-Area Level)

(1) Monitoring of spontaneous evacuations should be undertaken at the multijurisdictional-area level, where aggregate data will be more meaningful than data collected at the local level. If spontaneous evacuation is substantial, the direction and control elements should ensure that traffic control systems are in place and road clearing capabilities are in a full state of readiness.

(2) During this deepening crisis phase, State and Federal financial and other assistance for crisis preparedness is likely to become available. The area EOC will have to set priorities regarding where fallout shelter construction and improvement are most needed, where food and medical supplies should be stockpiled, and area direction and control elements will have to shift competing requests for assistance in order to apply resources to areas where the most lives and productive capacity can be saved.

(3) Also during this period, the area direction and control staff should make a special effort to test the warning system, from receipt of a National Warning System (NAWAS) message through dissemination to local jurisdictions and activation of local sirens and other systems. Such tests should be accompanied by public information campaigns that explain the siren signal system, describe what actions should be taken, and review community shelter locations and assignments.

(4) Equipment and supplies should be stockpiled in the EOC facility to adequately support sustained EOC operations through the in-shelter period.

f. Mobilization (Multijurisdictional-Area Level)

(1) Direction and control elements will bear prime responsibility for moving the population to reception areas. This movement will have to be monitored closely and State-area and adjacent area EOCs will have to be kept informed of progress and bottlenecks. Special steps should be taken to protect emergency equipment and supplies through dispersion or timely sheltering.

(2) Public information remains a major task during this phase. Last-minute instructions on preferred routes, in the case of the relocation option; or on newly developed shelters, in the case of the in-place option, should be disseminated through the Emergency Broadcast System (EBS).

g. Early Crisis (State Level)

(1) Basic emergency public information materials will be prepared and disseminated directly to major media, as well as to areas and local jurisdictions for further distribution.

(2) Direction and control elements will also closely monitor local training and exercising, as well as coordinate and conduct State-area-level training and exercise activities. Training for State-area staffs is particularly important because they typically interact much less frequently than area and local-level management groups. During this phase, State-area staffs will have to develop working relationships and understandings that are developed during the normalcy period at the local level. In addition, special training needs may be identified with respect to EOC operations during this period.

(3) Data and display needs in the State-area EOC will be substantial. There must be records of locations, communications links, and resources of all areas and local jurisdictions in the region. There should be systems to display shelter loading and radiological and nuclear detonation reporting. Data should be collected and maintained on essential industries throughout the State area and on relocation sites of industrial management cadres. State-area maps should be available in quantity to plot post-attack situations and transportation routes.

-- (4) The State-area EOC should have good fallout protection, and must have communications to State headquarters, to areas, and to other State-area EOCs. Where possible, redundancy should be built in through recruitment and use of radio amateurs to back up government radio systems. (See CPG 1-3 for non-risk area protection criteria for Federal funding.)

h. Deepening Crisis (State Level)

(1) As the crisis deepens, there will be increasing demands for public information from Lower echelons of the EOC staff and the public. The State area should be prepared to respond to an increased demand for information from the media. The monitoring function mentioned above in regard to spontaneous evacuation is especially important at the State-area level, for it may require substantial revision of State-area population and resource allocations.

(2) At this stage, a major direction and control function for the State-area organization is coordination of State and Federal assistance to local governments. This involves both setting priorities for assistance and coordinating the provision of aid.

(3) The State-area direction and control element should be prepared to accommodate the governor and/or his or her staff if a decision is made at higher levels to relocate the state EOC or disperse part of its staff.

1. Mobilization (State-Area Level)

(1) Effectiveness of the relocation or movement to shelter operation should be continuously monitored and special problems addressed as they arise. State and Federal resources should be applied and coordinated through the State-area center whenever bottlenecks or overloads occur in the movement process.

(2) Planning for information collection and distribution during the in-shelter (attack) period should be refined. All communications and reporting systems should be tested down to the areas and up to State or Federal regional EOCs.

Appendix B

## STAFFING AND ORGANIZATION

A. EOC Staffing1. Planning

a. The first factor to consider in determining an EOC size and the structure needed to house it is the number of people required to carry out functions described in this handbook.

b. There is often a tendency to plan for more staff than actually needed. Two major factors should be considered: the size of the community being served and the scope of the functions to be performed.

c. Personnel to staff the EOC would be drawn primarily from existing departments of government, though it may also include nongovernment personnel responsible for resource functions provided under emergency plans. Thus, representatives of industry, commerce, professional groups, or trade associations may be designated to serve as members of emergency groups responsible for supply and distribution of food, petroleum, or other resources.

2. Direction

a. All activity within the EOC should be coordinated by an executive, usually the emergency manager, acting as chief of staff and reporting directly to the chief executive. This individual should thoroughly understand established emergency operating procedures and have appropriate authority to carry out the position's responsibilities.

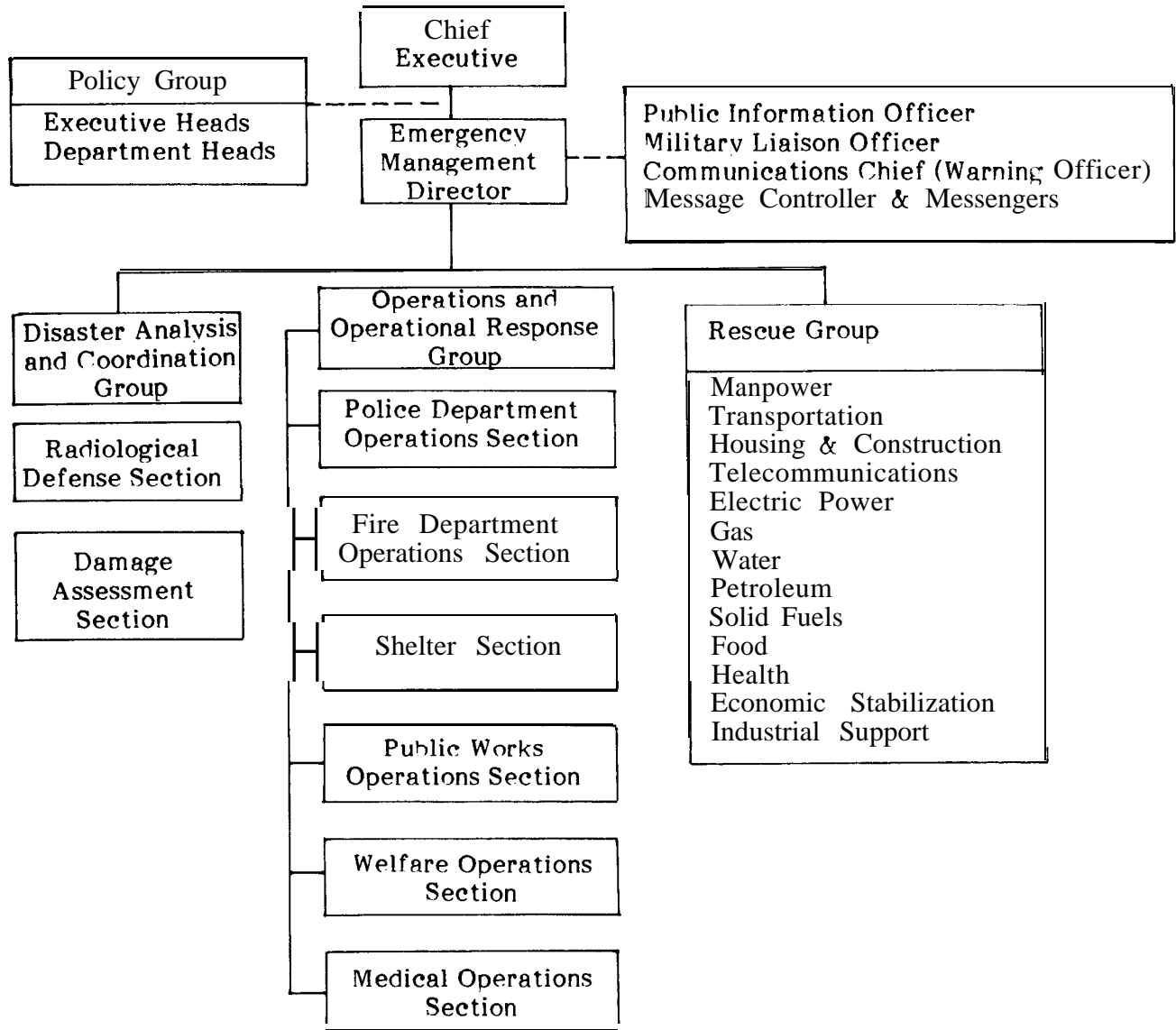
b. The chief of staff works closely with various liaison and administrative personnel, including the public information officer, military liaison officer, communications chief (warning officer), messenger controller, messengers, and plotters. He or she also supervises the principal staff groups: Disaster Analysis Group, Operations Group, and if present, Resource Group. See Figure 5 for additional information on staff organization.

3. Suggested Organizational Structure (see Figure 5)

a. The Policy Group is composed of the chief executive and his or her immediate staff. It is concerned with policy matters-including the basic plan of action and overall deployment of staff and equipment. Normally this group would include the chief executive, the emergency manager, the public information officer, the military liaison officer (if one is available), and key department heads. Some department heads or executive staff may also be members of the operations group. The composition of the executive staff should be based on the peacetime relationships of the chief executive and his or her principal officials, according to how the government defines "policy" matters as opposed to "operations." Conducting EOC exercises will **help** determine the best composition of the executive staff.



FIGURE 5  
EMERGENCY OPERATING CENTER STAFF ORGANIZATION



\*Some Resource functions may be assigned to sections of the Operations Group where operations control of the resource is held (e.g., the health-medical operations section may also be responsible for health resources). Other functions may be represented by one or more staff positions in the Resource Group, depending upon the size of the community

b. The Disaster Analysis and Coordination Group is responsible for collecting and analyzing data, interpreting and predicting natural disaster damage, as well as radiological and other effects resulting from a nuclear detonation. It therefore includes a radiological defense officer. This group's primary task is interpreting the actual or potential impact of disasters on emergency operations for EOC staff.

c. The Operations Group is responsible for conducting emergency operations. This group works with the personnel and equipment of the various departments involved in emergencies. The operations group is divided into sections for police, fire, public works, welfare, medical, and shelter operations. Each section may contain the department chief or the chief operations officer, appropriate support staff, and the dispatching and communications personnel of the department or agency.

(1) A recurring issue in staffing EOCs is whether chiefs of services, particularly police and fire chiefs and public works directors, should be in the EOC or at the emergency. To a great extent, the nature of the emergency will answer this question. In a point-type situation with only one location, such as a transportation accident, fire, or hazardous materials spill, the chief will probably go to the scene to command operations and will delegate EOC liaison responsibilities to a subordinate. In more widespread emergencies that create multiple problems, it will probably be better for the chief to operate out of the EOC where more complete information is available. Alternatively, he or she may decide to remain in the central office or dispatch point of the agency, again delegating EOC representational duties to a subordinate. The preferences of the jurisdiction's chief executive as to where service chiefs are located will also be an important factor.

(2) EOCs have frequently been compared to military tactical operations centers (TOC). In the military, company commanders are in the field with their forces and the TOC is manned by staff people and specialists. Again, the comparison is more valid in the point-type situation than in a generalized emergency. The military company commander is responsible for one unit with a clearly defined mission; the local service chief is responsible for many units that must have flexibility to respond to changing emergency demands, and interact closely with other organizational elements.

(3) In any case, the emergency manager must ensure that all service representatives are capable of meeting the basic direction and control functional responsibilities: gathering information, setting priorities, and coordinating multiagency response.

#### 4. Staffing

a. The EOC staff will include all or most of the representatives identified in Figure 6. A trained and competent situation analysis staff is particularly needed in view of the increased requirement for effective damage assessment. The jurisdiction's planning department is a likely source for this staff. Law enforcement agencies may also provide experienced personnel to assume this responsibility.

b. Of equal importance is the need for an experienced public information officer (PIO). If the jurisdiction does not have a permanent PIO, a seasoned member of the media staff could fill the role. Whoever is chosen should know local media representatives and understand their needs and idiosyncracies. Also, he or she should have prescribed media advisories at hand for major emergencies likely to affect the area.

FIGURE 6  
EOC STAFFING REQUIREMENTS

Director of emergency management agency or emergency services  
Emergency Management Coordinator and staff  
Public Information Officer  
Situation Analysts and Plotters  
Communication Officer  
Communications representatives (including radio and telephone operators)  
Radiological Defense Officer  
Warning Officer  
Procurement representative

Police representative(s)  
Fire representative(s)  
Public Works/Engineering representative(s)  
Health/Medical representative(s)  
Welfare/Shelter representative(s)  
Utilities representatives  
Water  
Electricity  
Gas  
Sanitation

Resource representatives  
Food  
Housing  
Transportation  
Telecommunications  
Petroleum products  
Agriculture

Representatives of voluntary agencies  
Red Cross  
Salvation Army  
Church groups  
Radio amateurs  
Citizens Band groups

State and Federal representatives

c. To effectively gather, evaluate, and respond to emergency information, EOCs must have the participation of medical and utility managers and representatives of other resource services listed in Figure 6. Utility and medical representatives are more often available at the area level than the local level.

d. Inclusion of public information officers on EOC staffs will enhance the ability to communicate quickly and clearly to the public. In emergencies with warning, the direction and control element should also be prepared to expand to include representatives of private contractor associations, voluntary agencies, and other groups that can contribute to mitigation efforts. The direction and control staff should also have the ability to call for, register, assemble, transport, and supervise individual volunteers who wish to assist in mitigation activities. If military units are based in the area, they should be represented in the EOC direction and control staff.

e. The Resource Group is responsible for operational supply functions and for maintaining contact between government and various private, commercial, and industrial organizations that are participating in emergency operations. This role includes actions to ensure the availability of resources required to support the jurisdiction's operations. Government or nongovernment personnel with resource assignments may be located in the EOC. Or, if EOC space is insufficient, they may be located in other sheltered space-preferably in the same or a nearby building.

f. Some of the personnel carrying out key resource functions designated in Figure 5 will not require space in or near the EOC. For example, key communications personnel might have protected emergency facilities at the operations center of the telephone company. However, an appropriate representative in the resource group should be responsible for maintaining contact with these emergency operating locations to ensure coordinated activity in support of the jurisdiction.

## B. Recommended Staff Composition

1. General. The following figures are examples of staff compositions that may be appropriate for your community. They can be used as a starting point for developing the staffing poster that will fit the needs of the EOC you are planning.

2. Joint City-County EOC Staff. The recommended staff size for a joint city-county EOC may be determined by first concluding from Figure 7 the staff recommended for the city EOC and then adding additional staff required for the county level from Figure 9. Figure 8 recommends the composition of additional county-level staff.

3. Crisis Relocation. In determining EOC staff size, emergency management planners must consider the potential impact of a Crisis Relocation Plan on the resident population. Impact will depend on whether the EOC is located in a potential risk area or host area. Staffing contingency plans should be developed to respond to the resulting increase or decrease in the resident population.

FIGURE 7  
RECOMMENDED CITY GOVERNMENT EOC STAFF COMPOSITION

Municipal Population	Total Staff Size (for 2-shift Operations)	May be located in Operations Room or adjacent rooms		Not in Operations Room		Always located in the Operations Room											May be located adjacent to the Operations Room																				
		Policy Group		Communications Personnel*		Group Chief	Damage Assessment Section	Radical Defense Section	Operations Group										Group Chief** (May be in OPS Room)	Resource Group																	
		CD Director	Public Information Officer	Communications Officer (Warning)	Military Liaison Officer	Radio	Telephone	Group Chief	Group Chief	Police Dept.	Operations Section*	Fire Dept.	Operations Section*	Public Works Dept.	Operation Section*	Shelter Operations Section*	Welfare Operations Section*	Medical and Health Section*	Message Controller	Messengers and Plotters†	Plotter†	Group Chief**	Stabilization Economic	Construction and Housing	Transportation	Manpower	Industrial Support	Petroleum	Solid Fuels	Electric Power	Gas	Water	Food Resources	Health Resources	Support (Housekeeping, Security-Medical)		
300,000	126	4	Z	Z	Z	1#	16	2	2	2	7	7	4	4	6	9	4	4	4	2	4	2	2	4	I#	I#	I#	I#	I#	I#	I#	I#	I#	I#	I#	5#	
150,000	89	4	Z	Z	Z	I#	10	2	2	5	5	4	4	4	4	4	4	4	2	4	2	4	4	I#	I#	I#	I#	I#	I#	I#	I#	I#	I#	I#	I#	4#	
75,000	59	Z	Z	1#	I#	I#	6	2	2	4	4	4	Z	Z	4	4	2	2	2	2	4	2	4	I#	I#	I#	I#	I#	I#	I#	I#	I#	I#	I#	I#	3#	
50,000	46	Z	Z	I#	I#	I#	4	2	2	4	4	4	Z	Z	Z	Z	2	2	2	2	2	2	2	I#	I#	I#	I#	I#	I#	I#	I#	I#	I#	I#	I#	2#	
25,000	34	Z	I#	I#	I#	I#	4	2	2	3	3	3	Z	Z	Z	Z	3	3	3	2	2	2	I#	I#	I#	I#	I#	I#	I#	I#	I#	I#	I#	I#	I#	I#	
10,000	25	Z	I	I	I	I	4	2	2	2	1#	1#	IX	I	I	I	3	3	3	##	##	##	I#	I#	I#	I#	I#	I#	I#	I#	I#	I#	I#	I#	I#	I#	I#

\*Sections include the section chief, the senior operations officer and support personnel including operational units plotters. Communications personnel who also belong to individual sections are grouped together for allocation to appropriate sections, depending upon the characteristics of the local emergency management system.

†Plotters listed here do not include operational units plotter that are included in the operations sections.

# These personnel are expected to work the equivalent of one shift, being on-call as warranted by the situation.

§ Food Resource tasks are picked up by welfare section.

\*\* Health resource tasks are picked up by medical section.

++ Utilities resource tasks are picked up by public works section.

## Controller, messenger, and plotting functions are taken over by operating section.

§§ Duties or Operations Group Chief are assumed by the Emergency Management Director.

°° Telecommunications Resource Tasks are picked up by the Communications Officer.

+++ It is desirable that all members of the Disaster Analysis Group be trained as Radiological Defense Officers. As a minimum, all members should have completed the Radiological Monitoring for Instructors Course.

Forms are shown only as examples. FEMA does not stock or distribute these forms.

**FIGURE 8  
RECOMMENDED COUNTY GOVERNMENT EOC STAFF COMPOSITION**

Municipal Population	Total Staff Size (for 2-shift Operations)	May be located in Operations Room or adjacent rooms					Not in Operations Room		Disaster Analysis Group (Some personnel may be in other rooms)				Always located in the Operations Room													May be located adjacent to the Operations Room												
		Policy Group					Communications Personnel*		Group Chief				Operations Group													Resource Group												
		Chief Executives	CD Director	Public Information Officer	Communications Officer (Warning)	Military Liaison Officer	Radio	Telephone	Group Chief	Damage Assessment Section	Radical Defense Section	Police Dept. Operations Section*	Fire Dept. Operations Section*	Operations Section*	Public Works Dept. Operation Section*	Sheriff Operations Section*	Welfare Operations Section*	Medical and Health Operations Section*	Message Controller	Messengers and Plotters†	Group Chief	Economic Stabilization	Construction and Housing	Transportation	Manpower	Industrial Support	Petroleum	Solid Fuels	Electric Power	Gas	Water	Food Resources	Health Resources	Support (Housekeeping Security-Medical)				
300,000	80	2	2	1#	2	1#	8	16	2	2	2	2	2	2	2	2	2	2	2	2	2	4	4	4	4	4	4	4	4	4	1#	1#	1#	**				
150,000	65	2	2	1#	1#	1#	6	10	2	2	2	2	2	2	2	2	2	2	2	2	2	2	4	4	4	4	4	4	1#	1#	1#	**						
75,000	51	2	2	1#	1#	1#	4	8	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1#	1#	1#	**						
50,000	44	2	1	1#	1#	1#	4	8	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1#	1#	1#	1#	**							
25,000	33	2	1	1#	1#	1#	4	6	2	2	2	2	2	2	2	3	2	2	2	2	2	2	1#	1#	1#	1#	1#	1#	1#	1#	**							
10,000	24	2	1	1#	1#	1#	4	4	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1#	1#	1#	1#	1#	1#	1#	1#	**							

\*Sections include the section chief, the senior operations officer and support personnel including operational units plotters. Communications personnel who also belong to individual sections are grouped together for allocation to appropriate sections, depending upon the characteristics of the local emergency management system.

+Plotters listed here do not include operational units plotter that are included in the operations sections.

#These personnel are expected to work the equivalent of one shift, being on-call as warranted by the situation.

\$Food Resource tasks are picked up by welfare section.

\*\*Health resource tasks are picked up by medical section.

++Utilities resource tasks are picked up by public works section.

# #Controller, messenger, and plotting functions are taken over by operating section.

\$\$Duties of Operations Group Chief are assumed by the Emergency Management Director.

ooo Telecommunications Resource Tasks are picked up by the Communications Officer.

+++It is desirable that all members of the Disaster Analysis Group be trained as Radiological Defense Officers.

As a minimum, all members should have completed the Radiological Monitoring for Instructors Course.



Appendix C

## PHYSICAL REQUIREMENTS

A. Location

Location is a major requisite for siting an EOC. It will be a factor in an EOC's survivability and operability. Several major considerations to be kept in mind when locating a new EOC are:

1. Government-Owned Facility. There are advantages to building on government property or modifying a government building to accommodate an EOC. Control over design and construction, as well as security and access, is increased. The availability of equipment is enhanced and the ability to use portions of the EOC-for permissible activities-is established.

2. Proximity to Government Center. The EOC should be located, if possible, in the building housing the primary offices of government. This permits the chief executive and other key officials to reach the EOC rapidly and allows members of the EOC staff, such as communication dispatchers, to operate in the same facility in normal operations, in natural disasters, and in nuclear emergency. Locating an EOC near city hall, the county courthouse, or State capitol allows it to be reached quickly by key government executives. This allows rapid notification of EOC personnel, access to records (both at the EOC and in government buildings where files cannot be easily moved), and quick addition of resources and staff should an emergency escalate beyond the capabilities of the EOC team on hand.

3. Insulation from Disaster. If a known risk area is identified, the EOC should be located on the periphery or outside the area. In earthquake areas, for example, EOCs should be located away from fault lines and insubstantial soil areas, and be sited in buildings meeting stringent seismic structural codes. Flood plains, dam inundation zones, and central city areas subject to conflagration must be avoided.\* EOCs should be distant from hazardous materials storage facilities, nuclear plants, or toxic waste transportation routes. EOCs should not be sited in flight approach paths or near transportation paths subject to emergencies (e.g., railroad tracks over which chemicals or pressurized gas are carried).

4. Center of Area Served. A centrally located site-allowing for faster response to all parts of the jurisdiction--should be considered where practicable. A central location offers better control, easier access for EOC personnel, and greater accessibility by operational forces. However, the disadvantages of such centralization do not permit this approach in many jurisdictions.

5. Avoid Congestion. Being centrally located does not mean being boxed in. Surface access to an EOC must be as clear as possible. A location in a downtown area that might suffer major damage could cause an EOC to become isolated from operational forces and additional EOC team members. Collapsing buildings, inadequate roads, destroyed bridges, and a host of other problems following a major natural emergency or war could severely limit EOC operations.

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\*CPG 1-32 disallows construction in flood hazard areas unless FEMA has determined that the EOC would be fully operational during a flood.



6. Radio Propagation. EOC location should enhance the transmission and reception of radio signals. Since an EOC must rely solely on its integral antenna and power systems in many instances, it should be located where the least radio interference will occur.

7. Expandable. Demands on space needed to operate the EOC will vary with different emergencies. As a result, allowances should be made for expanding the EOC to meet different contingencies. Also, after an EOC is established, the jurisdictional population base could change dramatically, or new conditions could require expanded emergency operations (e.g., construction of a nuclear power plant).

8. Structural Integrity. An EOC should be constructed or located in a building to ensure survivability and operability during a wide variety of emergency situations.

9. Alternate EOCs. EOCs located in hazard areas, where there is great likelihood that they could not survive a nuclear attack or operations would be limited because of increased congestion should be supplemented with an alternate EOC. A preselected and prepared secondary site, together with relocation plans, will enable an EOC to be moved quickly. A mobile unit equipped with communications capability greatly enhances the ability of an EOC to relocate without seriously degrading its direction and control functions.

10. Security. Locating an EOC so that it can be easily and quickly secured is important. Protection of communications, support systems, and safety of EOC emergency managers is particularly critical during times of civil unrest, incidents of terrorism, and war.

Even if an EOC does not qualify for Federal assistance, the criteria listed above are important to consider. Not every EOC can be located in a building exclusively designed for emergency operations. If the local government plans to construct new facilities—a new city hall, fire headquarters, or police station—it would be advantageous to incorporate some modifications to facilitate inclusion of an EOC. Perhaps other buildings already have adequate space—schools, university buildings, State or county facilities. There are numerous structures in almost every city and county that, with some modification, could serve as an EOC.

## B. Protection

To serve the public, the EOC must survive. Therefore, protection should be an integral part of planning, building (or modifying), and equipping an EOC. Securing the building and its staff against a wide variety of conditions will require close examination of its basic location (outside immediate hazard areas such as flood plains), structural integrity (ability to withstand storms, terrorist assault), and security procedures (securing facility with police, fences, sandbags).

Protection also means allowing for failures in equipment such as antennas and generators. All equipment should be installed with security in mind. This will require placing vulnerable equipment in more secure locations and providing for extra support devices (such as additional struts for antennas). Ventilation openings should have steel grates. Water wells or storage tanks should be protected by fences, enclosed entirely, or guarded.

Entrance and egress from an EOC should be controlled in an emergency to further preserve EOC integrity. This will mean establishing a stringent SOP delineating who should or should not be in the EOC and support facilities. During emergencies, well-meaning operational forces such as police, fire, and sheriff's deputies tend to congregate around EOCs. If their presence is not essential, they should be excluded to avoid overcrowding, confusion, and disruption.

Protection cannot be limited to the EOC proper. Transportation routes must be kept open; ancillary offices used to maintain the continuity of government must also be secure. Storage areas for vital supplies, mobile stock, and vehicles must be secured. All of these facilities need to be protected. As conditions change before and during an emergency, the security systems need to be reexamined and modified. As an example, if there is major construction on the primary route to the EOC—a bridge being replaced, streets torn up, or nearby buildings under construction—it would prevent the rapid arrival of key EOC team members during a crisis. Therefore, alternate methods of reaching the EOC should be developed. If emergency response vehicles, such as ambulances, police cars, fire trucks, and water tankers, have traditionally been parked in open lots or unprotected garages, they would be vulnerable during civil unrest, terrorist activity, or war.

EOC plans for large jurisdictions or high-hazard areas often call for alternate EOC locations. Those outlying EOCs need to be protected as well; they could become the central headquarters for emergency command staff in the event the core EOC had to be abandoned or was rendered inoperable. Relocation plans should consider the needs of security. Moving should be anticipated. Key information, equipment, and personnel should be moved as safely, quickly, and practically as possible. A mobile unit would enhance an EOC's ability to relocate without losing radio communications in the interim. Listed below are protection requirements for the range of crisis situations an EOC might confront.

1. Weather Emergencies. Flooding and tsunami (seismic sea wave) threats can be mitigated by placing sandbags around the EOC and critical ancillary equipment. Runoff channels should be cleaned and reinforced; sump pumps and adequate power to operate them should be positioned. Effects of violent storms can be lessened by attaching extra tie-downs to antennas and other protruding equipment. Windows and air vents should be protected from flying objects and inundation.

2. Civil Unrest. Placing protective shields over windows and other openings, strengthening doors, and increasing surveillance at entrances will help protect against civil uprising and terrorist activities. Fencing, barriers, and segregation of intruders from critical areas, such as vehicle storage areas and supply warehouses, become important under these circumstances.

3. Earthquake. EOCs located in earthquake areas or in jurisdictions receiving notification of potential quake activity should make every effort to bolt down, tie, or otherwise secure all equipment within and near the EOC. Falling objects cause injuries and damage equipment. If time permits, extra bracing of structures adds a measure of safety. Wooden beams wedged against ceilings and walls can provide extra support.

4. Nuclear Accident or Attack. Nuclear accident and aggression pose additional protection problems. Primarily, risk of radioactive fallout must be considered. All EOCs should have a minimum degree of fallout protection for a protection factor of at least 100. The 100-PF standard provides a high level of operational reliability in relation to cost effectiveness. Greater protection can be purchased, but at a price most

jurisdictions and the FEMA assistance program cannot afford. If an EOC cannot be built in the near future with 100-PF construction techniques, using available space and modifying it is an alternative worth considering. There are two other critical elements of nuclear protection-blast protection and electromagnetic pulse (EMP) protection. These elements will be discussed in Technical Guidance chapters to be added to this handbook.

Appendix D

## SPACE REQUIREMENTS

A. Space and Furniture

Requirements for space and furniture will vary with the size of the EOC jurisdiction and emergency staff and building area availability. Such factors as whether the building is owned or under the control of the local government, or privately owned, will also play a determining role. Regardless of the unique limiting factors, there is a need for minimal furnishings and working space in the EOC. Included in these provisions should be storage considerations.

If the EOC uses government space, part of its facility area can be shared. The Operations Room, however, must be reserved exclusively for EOC activities or other permissible uses. Ancillary space and storage areas may be shared with other government functions provided there is easy and rapid access during times of crisis. Large EOCs normally need nearby conference facilities where key emergency personnel can discuss priority problems away from noise and disruption of the Operations and Communication Rooms. If these areas are shared, they should be marked as belonging to the EOC, and procedures established for immediate priority use during periods of emergency.

1. Furniture. Tables, chairs, desks, and other essential items should be located in or very near the EOC. Lightweight, durable equipment that is easily moved without risk of damage is preferred.

2. Layouts. Furniture and equipment often cannot be permanently arranged in EOC areas and must be moved into place following a call to action. Layouts, therefore, should be posted and personnel trained to know what goes where so EOC operations can begin as quickly as possible during disasters.

Figures 10 through 17 present EOC floorplans and layouts that will permit effective direction and control, including coordination between departments during emergencies. Three major functional areas will be needed in most EOCs: communications, operations, and support.

FIGURE 10  
SCHEMATIC EOC CONFIGURATION

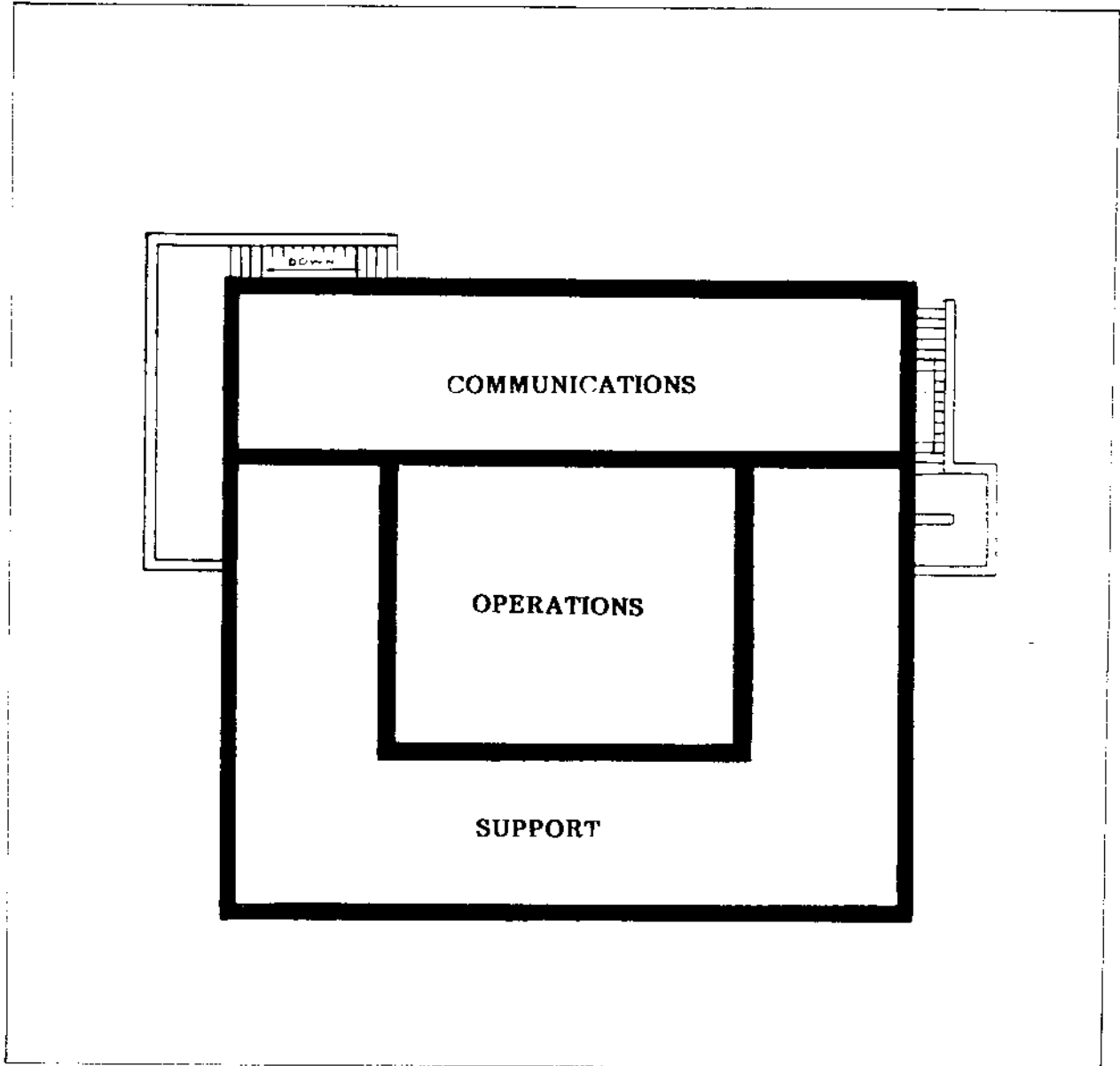
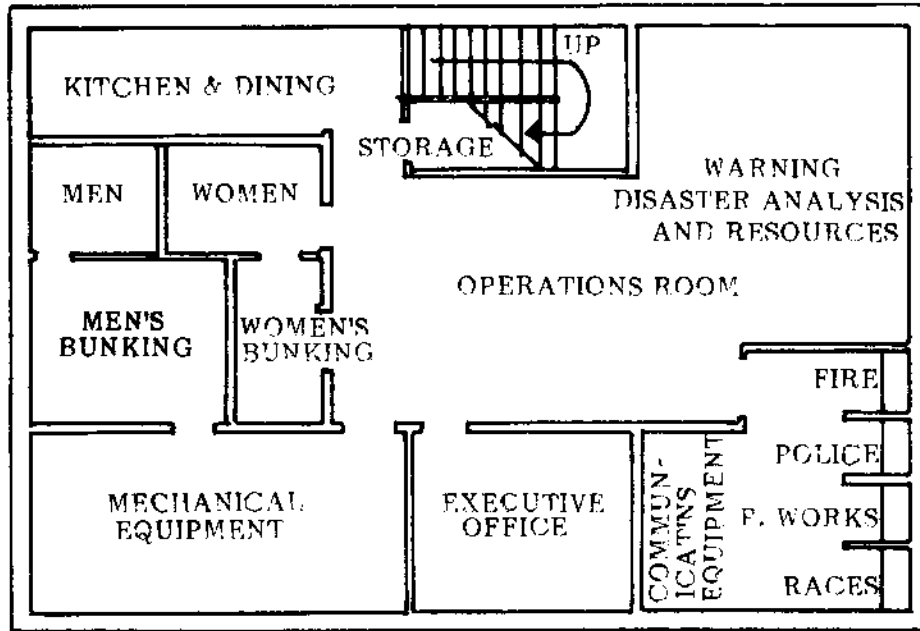


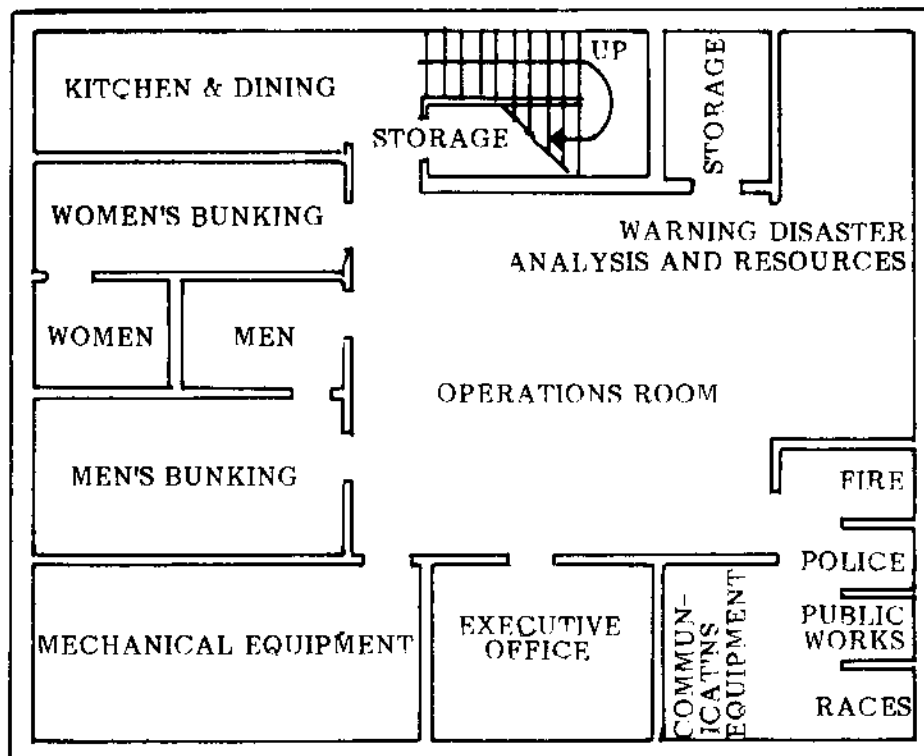
FIGURE 11

EOC REPRESENTATION LAYOUT FOR 1,000 POPULATION



Staff: 20 Area: 1,700 Sq. Feet Scale: 0' 5' 10'

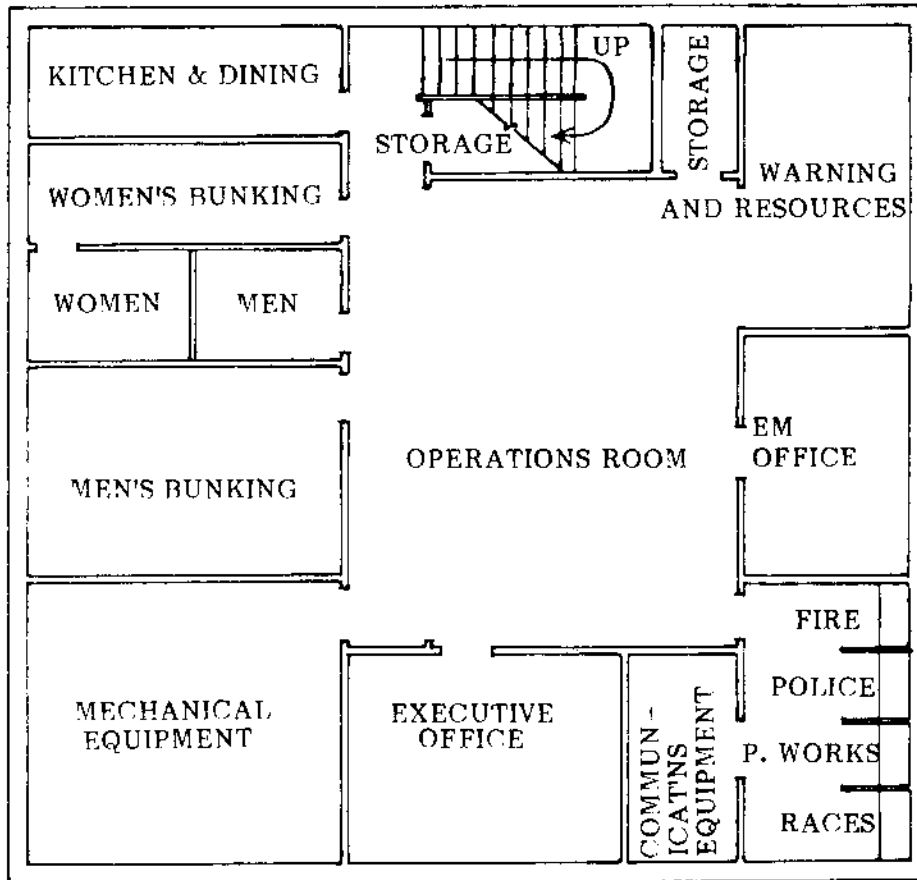
EOC REPRESENTATIVE LAYOUT FOR 10,000 POPULATION



Staff: 24 Area: 2,040 Sq. feet Scale: 0' 5' 10'

FIGURE 12  
EOC REPRESENTATIVE LAYOUT FOR 15,000 POPULATION

REPRESENTATIVE LAYOUT



Staff: 28

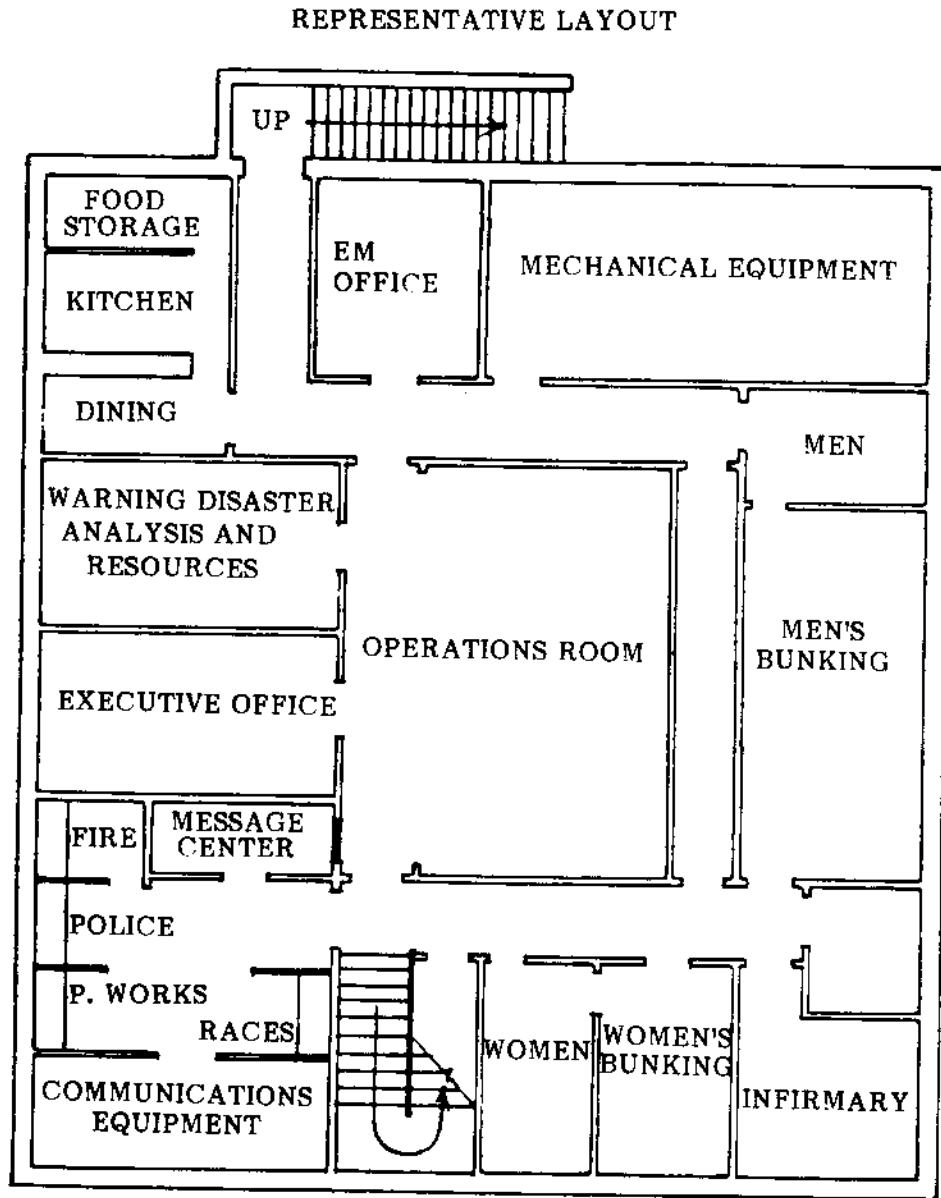
Area: 2,380 Sq. Feet

Scale:



FIGURE 13

EOC REPRESENTATIVE LAYOUT FOR 25,000 POPULATION



Staff: 33

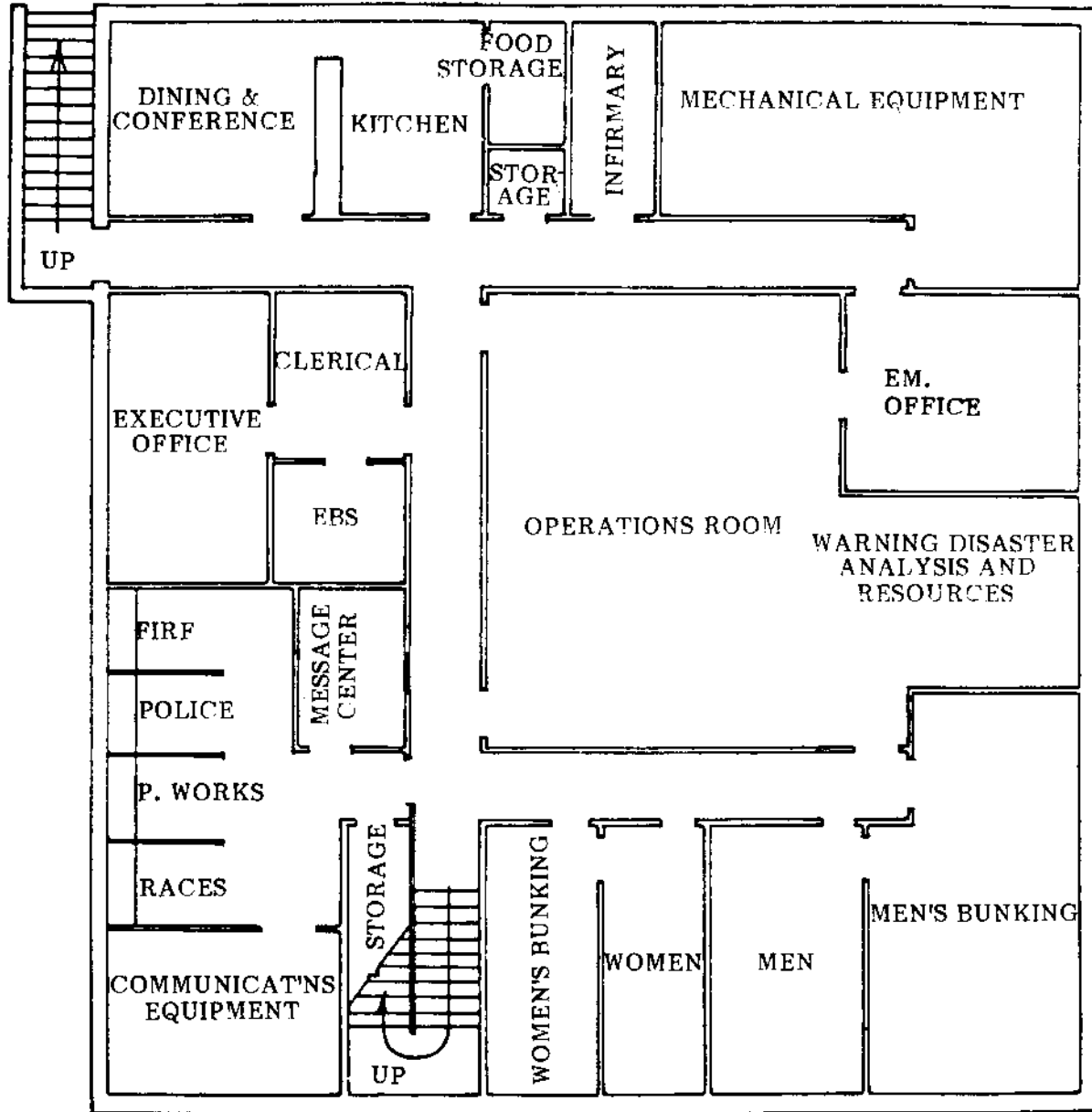
Area: 2,800 Sq. Feet

Scale: 0' 5' 10'



FIGURE 14  
EOC REPRESENTATIVE LAYOUT FOR 50,000 POPULATION

REPRESENTATIVE LAYOUT



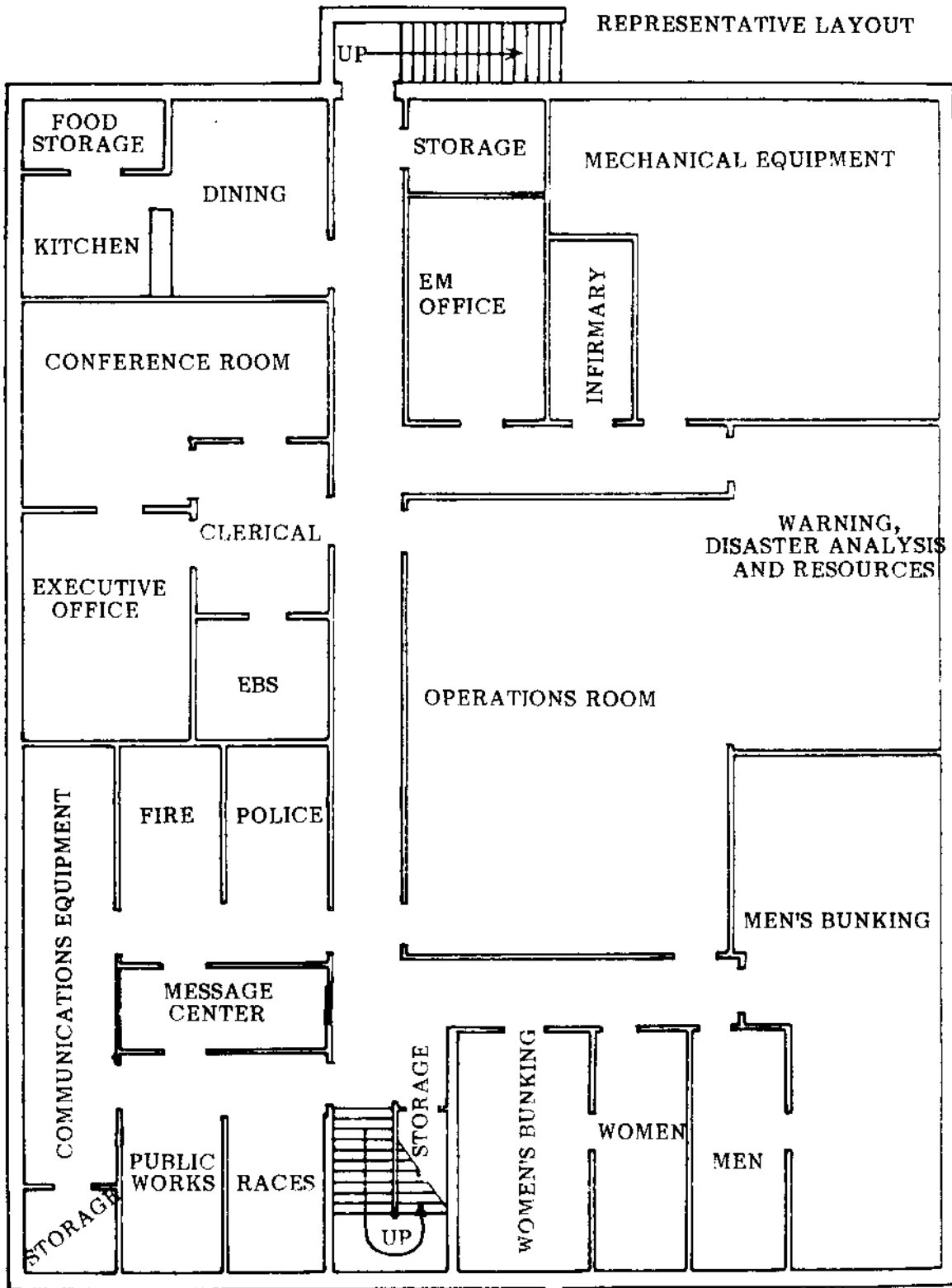
Staff: 47

Area: 3,960 Sq. Feet

Scale: 0 5' 10'

FIGURE 15

EOC REPRESENTATIVE LAYOUT FOR 75,000 POPULATION



Staff: 59

Area: 5,040 Sq. Feet

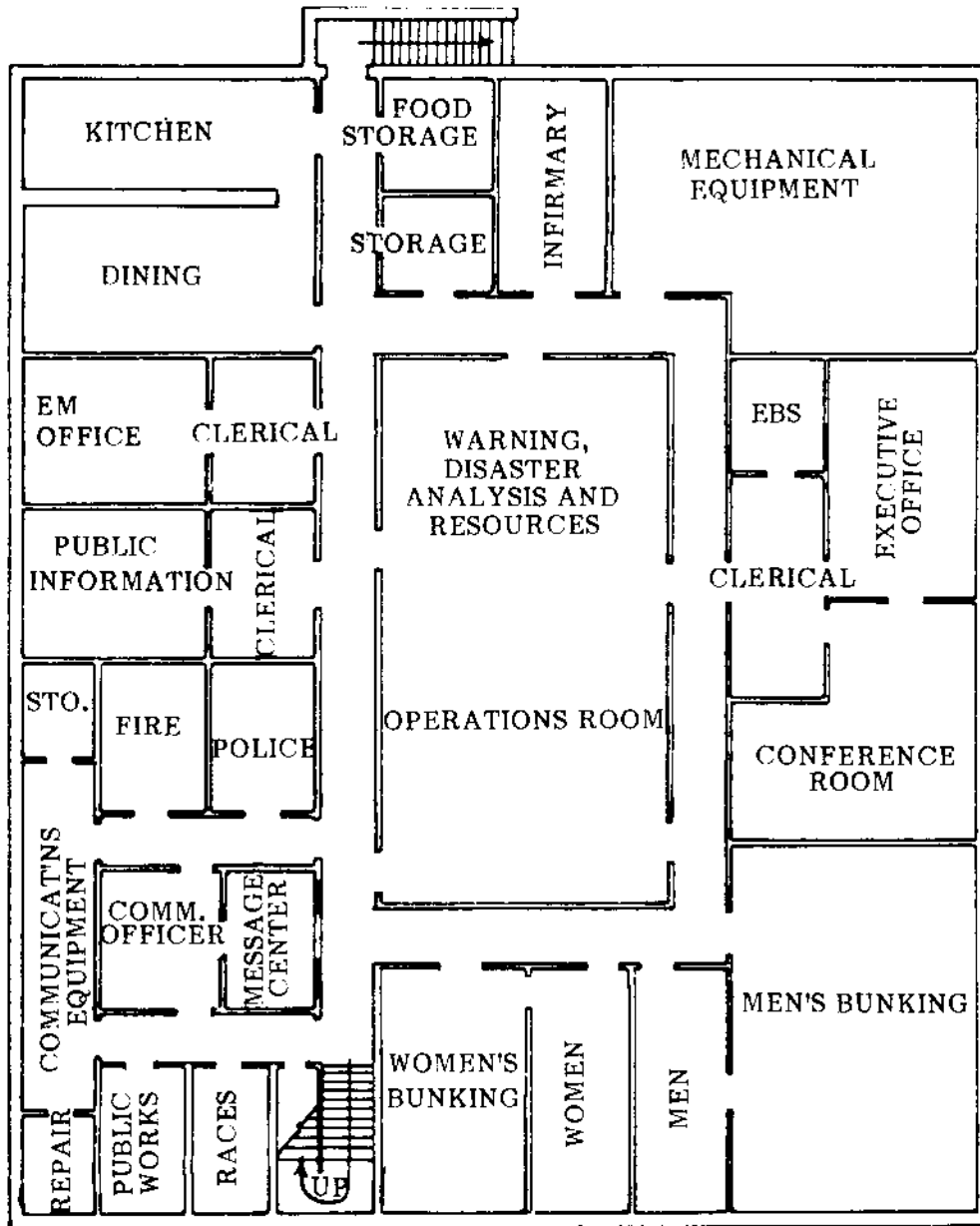
Scale:



FIGURE 16

EOC REPRESENTATIVE LAYOUT FOR 150,000 POPULATION

REPRESENTATIVE LAYOUT



Staff: 90

Area: 7,600 Sq. Feet

Scale:

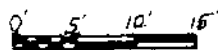
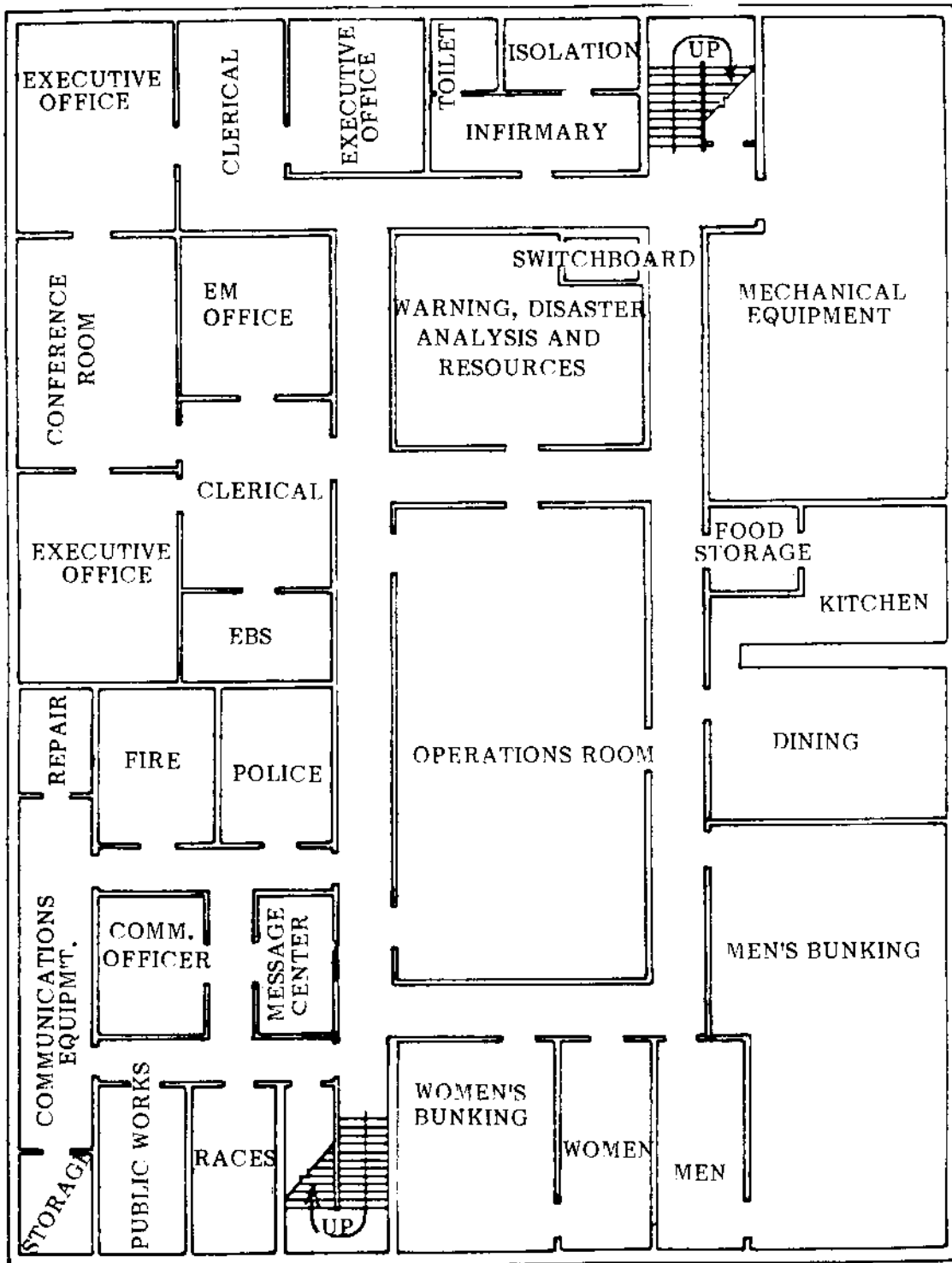


FIGURE 17

EOC REPRESENTATIVE LAYOUT FOR 300,000 POPULATION

REPRESENTATIVE LAYOUT



Staff: 127

Area: 10,800 Sq. Feet

Scale:



## B. Operations Room Arrangement

1. The Operations Room is the nerve center of the EOC. It is a comparatively large area-usually centrally located-where operational decisions are made. Maps, charts, status boards, and other graphic aids for key officials are maintained in the Operations Room.

2. Figures 18 through 22 show suggested arrangements for an EOC Operations Room. In order to maintain a 24-hour operational capability the EOC should be divided into three functional areas: operational work area, support area, and equipment area.

## C. Support Arrangements

Support facilities must include provisions for:

1. Sleeping Accommodations. An EOC is a working facility and reasonable sleeping accommodations should be provided. To conserve space, two- or three-tier bunks are desirable and should be available for half the total number of staff.

2. Food Service. Facilities should be provided to feed the emergency staff for at least a 14-day period. The food service area should be located near the sleeping area. Multi-purpose areas, **such** as conference or briefing rooms, should be used for dining. Food storage space should be provided.

Equipment and supplies needed depend on the type of feeding. If pre-prepared or canned food supplies are used, conventional kitchen equipment is not necessary. Coffee urns and, possibly, hot plates would be desirable. If commercial foods are used, ranges, refrigerators, and sinks may be needed. Freeze-dried food is an option. Paper cups and plates and plastic eating utensils should be considered in lieu of dinnerware and silverware for compact storage, light weight, freedom from breakage, and economy. Arrangements must be made for disposal of trash and garbage.

3. Sanitary Facilities. These include toilets, showers, laundry facilities, and garbage disposal. Facilities should be located to avoid interference with the operations area.

4. Medical and Sanitary Supplies. Medical supplies should be limited to those required for a dispensary-type operation. Sanitary supplies should be sufficient to support the EOC for at least a two-week period. These supplies may be obtained from commercial sources.

5. Administrative Supplies. Supplies and services should be furnished in ample supply to allow efficient emergency EOC operations for at least a two-week period.

FIGURE 18  
 RECOMMENDED OPERATIONS ROOM ARRANGEMENT FOR A CITY OR COUNTY  
 OF APPROXIMATELY 50,000 TO 75,000 POPULATION

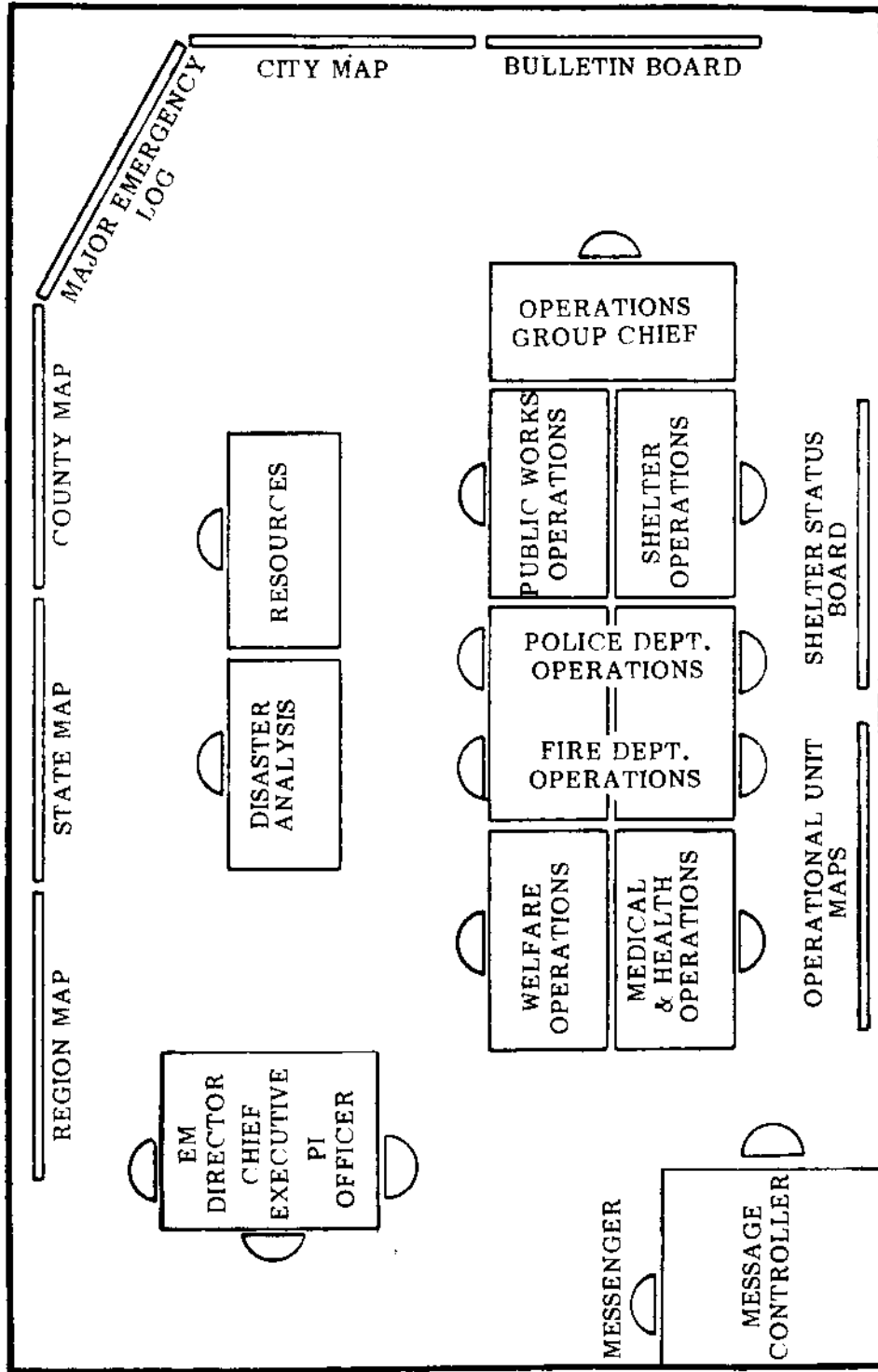


FIGURE 19  
RECOMMENDED OPERATIONS ROOM ARRANGEMENT FOR A CITY OR COUNTY  
OF APPROXIMATELY 75,000 TO 150,000 POPULATION

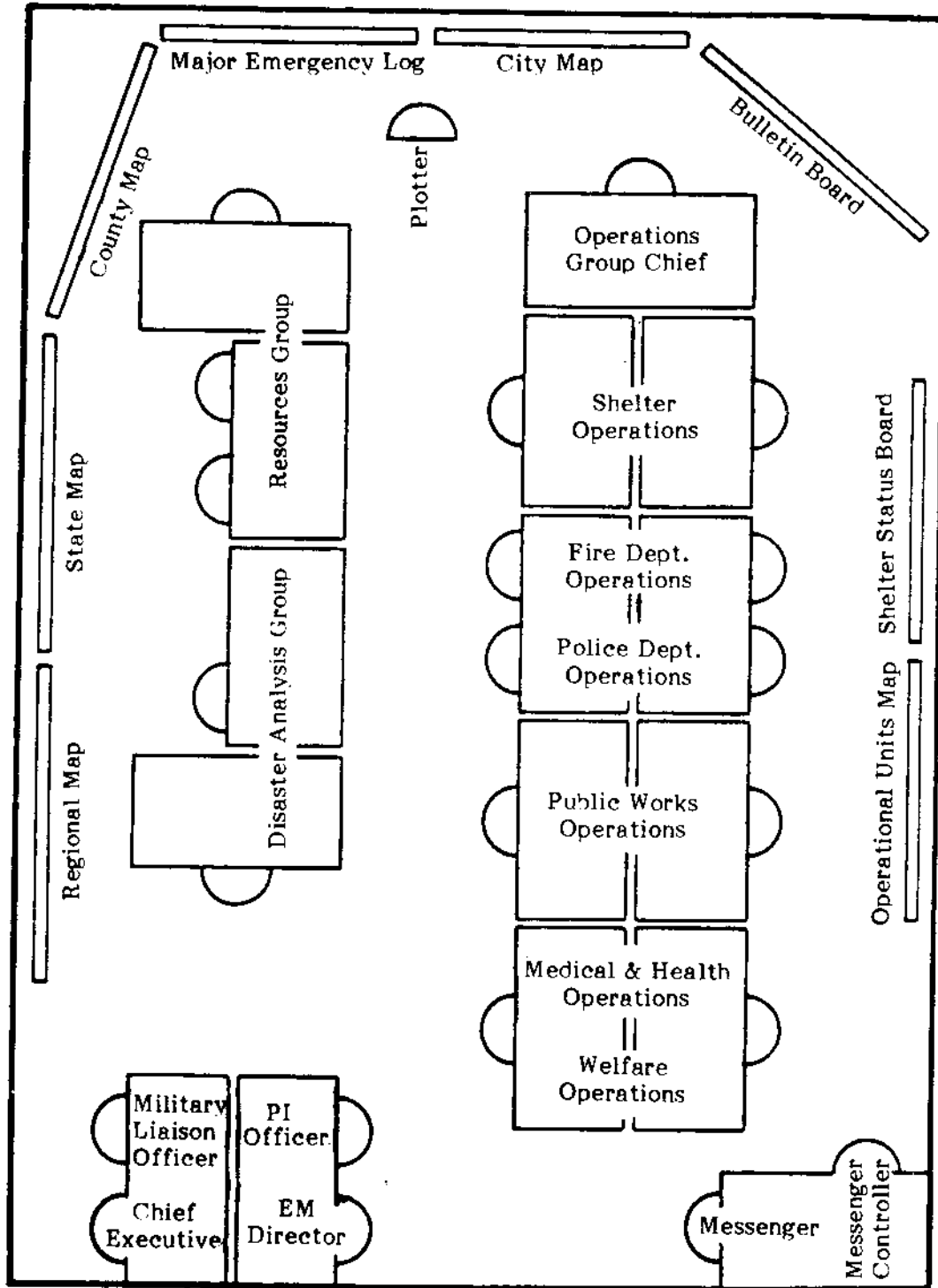


FIGURE 20  
OPTIONAL OPERATIONS ROOM ARRANGEMENT FOR A CITY OR COUNTY  
OF APPROXIMATELY 150,000 TO 300,000 POPULATION

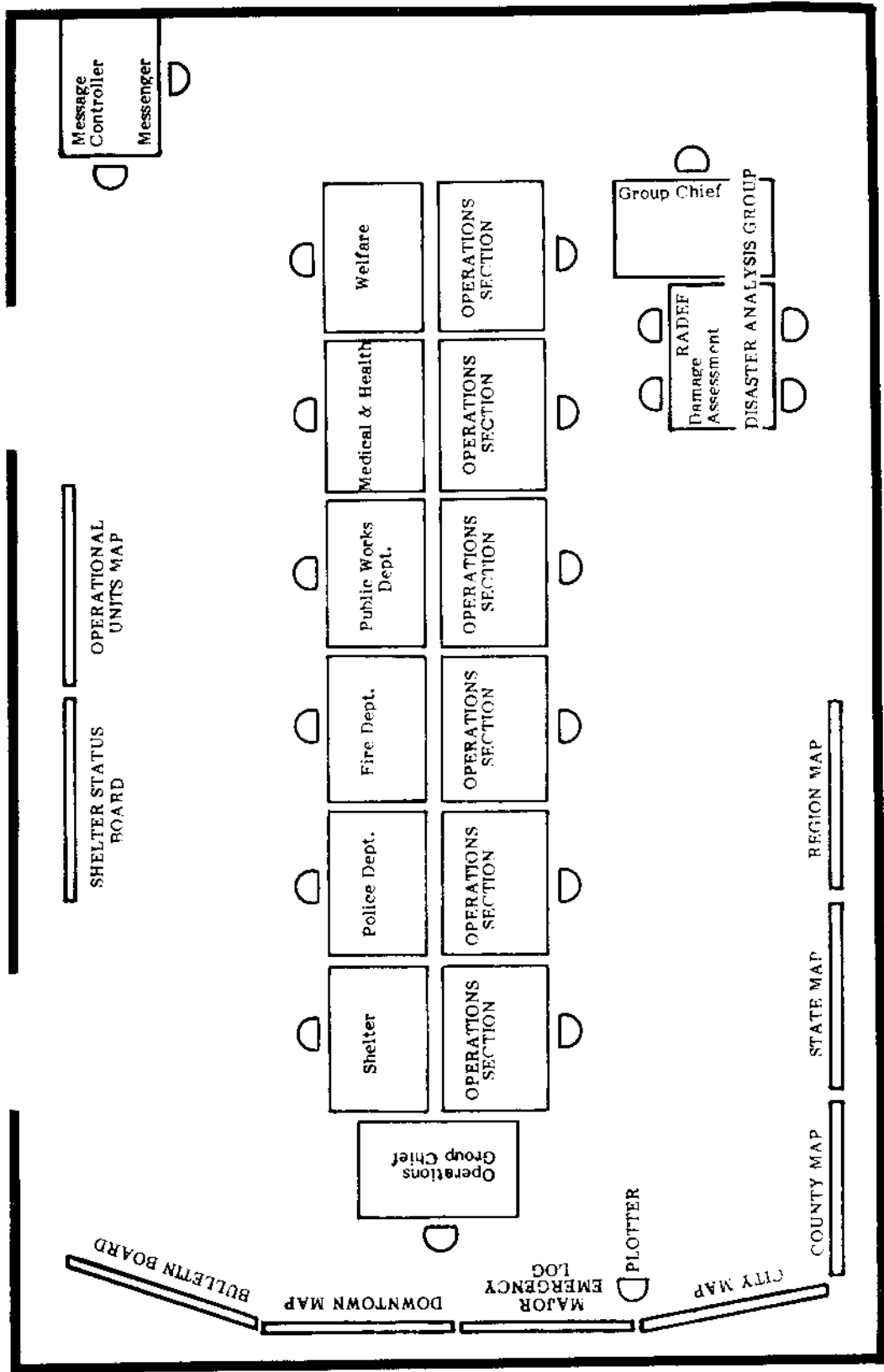
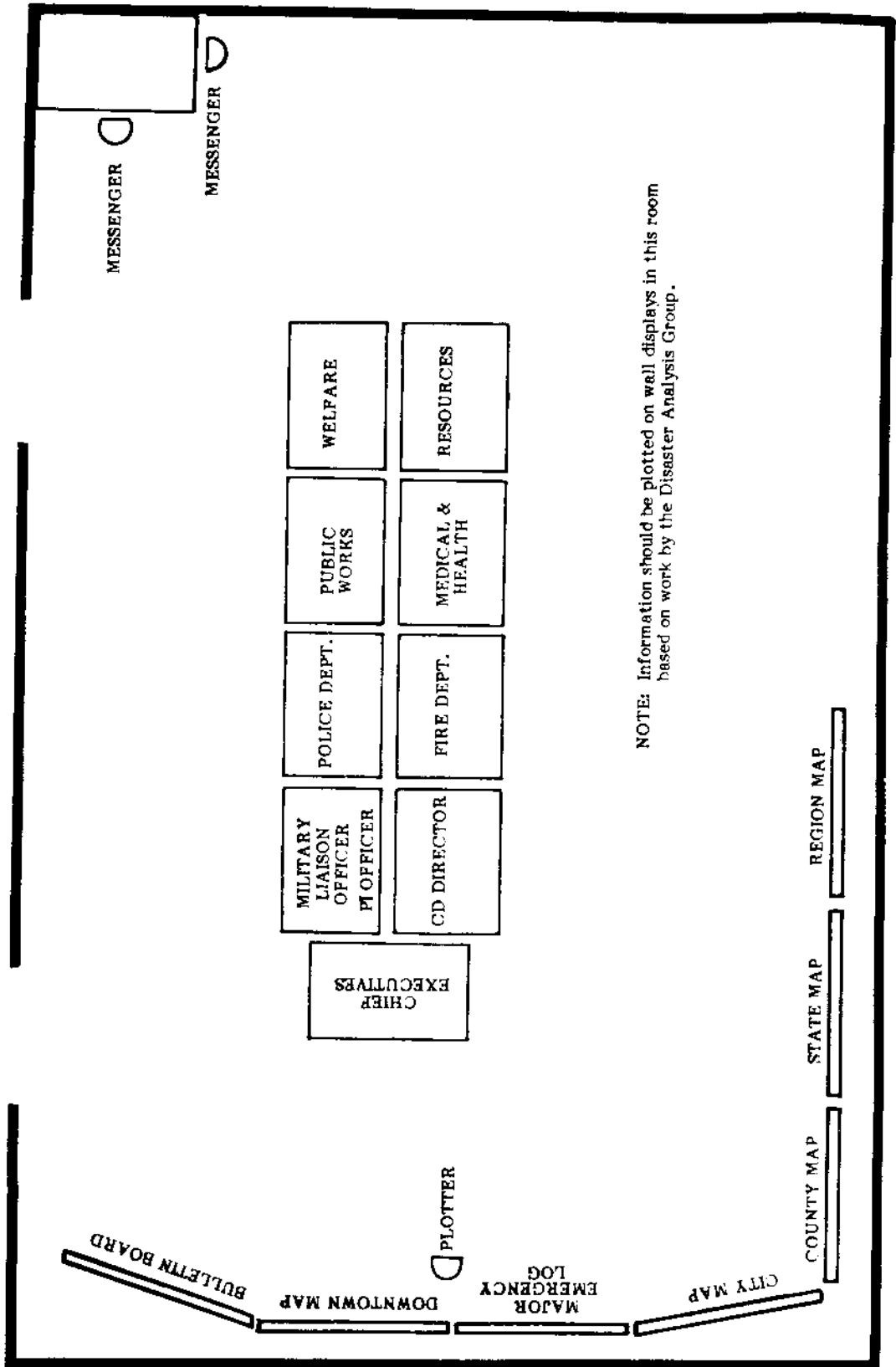




FIGURE 21  
 OPTIONAL EXECUTIVE ROOM ARRANGEMENT FOR A CITY OR COUNTY  
 OF APPROXIMATELY 150,000 TO 300,000 POPULATION



NOTE: Information should be plotted on wall displays in this room based on work by the Disaster Analysis Group.

FIGURE 22  
OPTIONAL RESOURCE ROOM ARRANGEMENT FOR A CITY OR COUNTY  
OF APPROXIMATELY 150,000 TO 300,000 POPULATION

