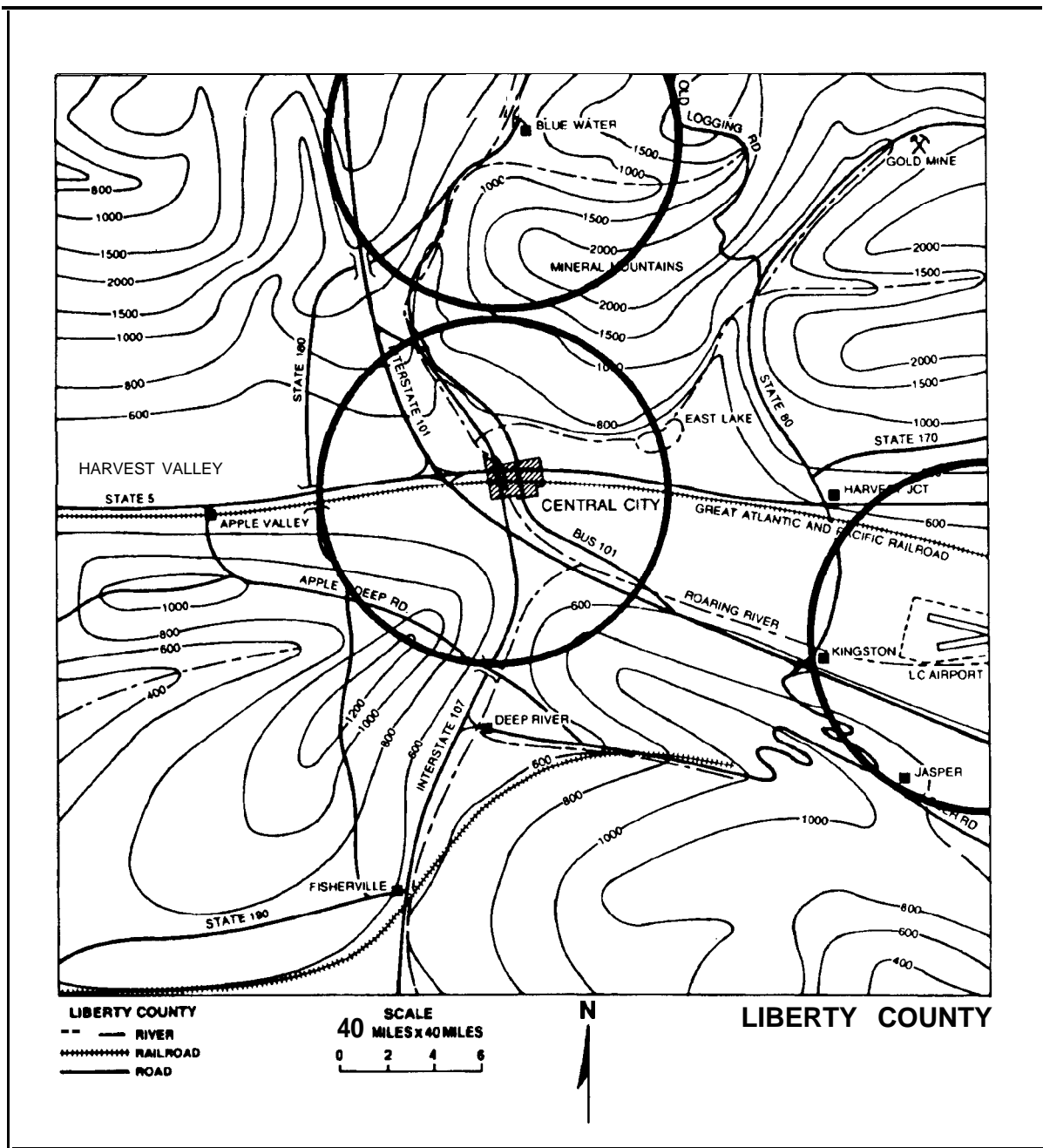
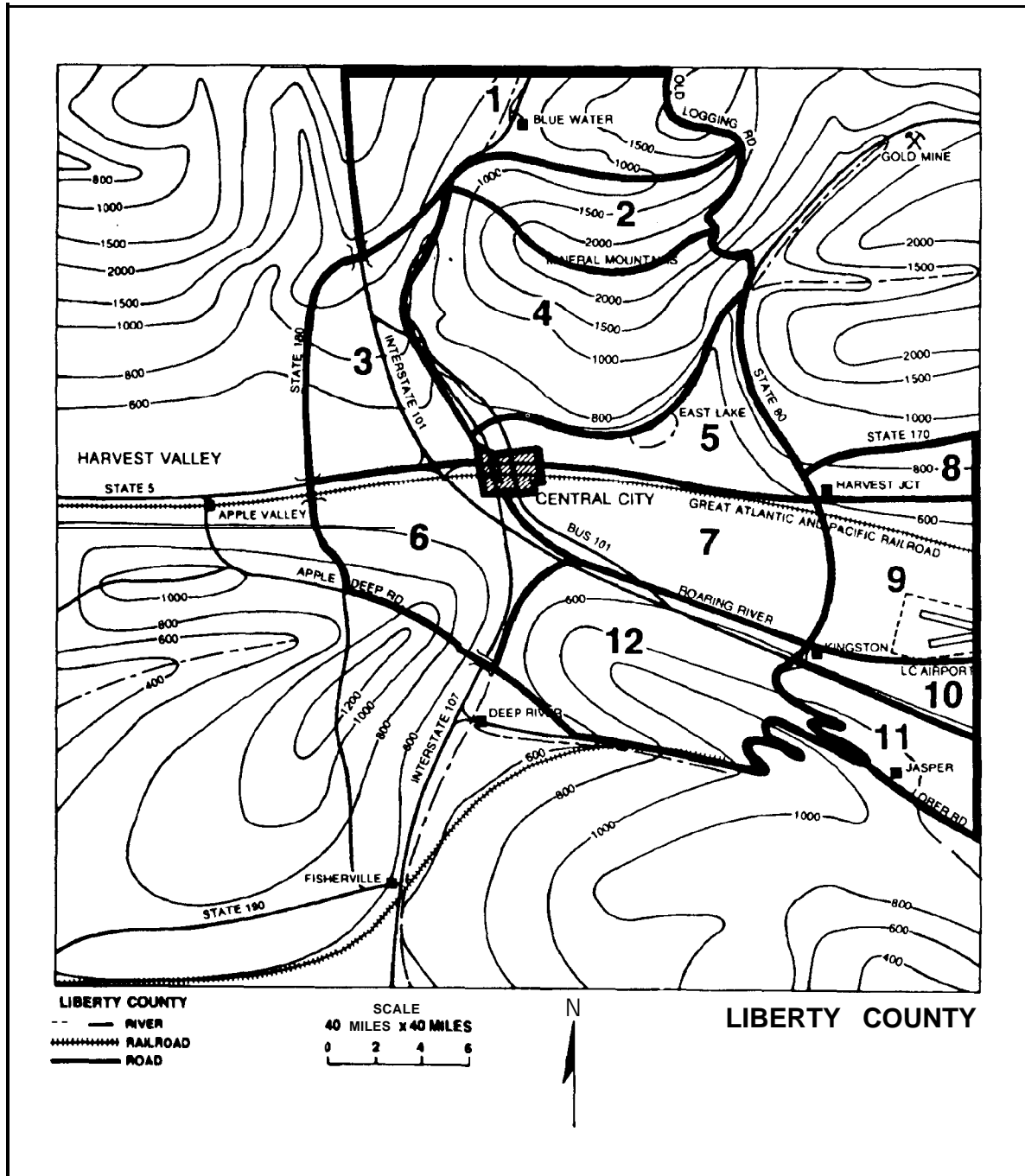


Tab 2 to Appendix E.1



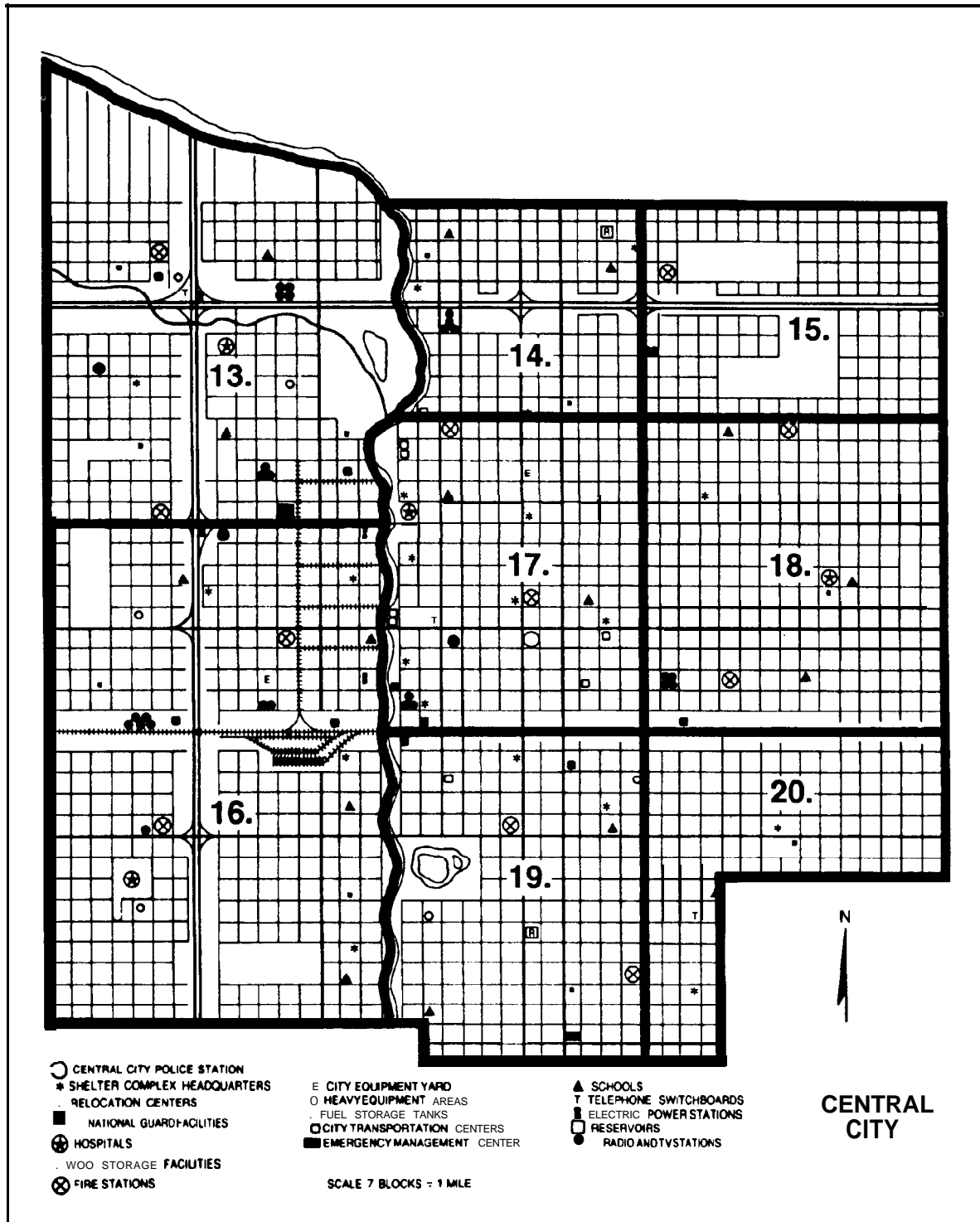
MAP 2. AREAS ASSUMED LIKELY TO RECEIVE TWO P.S.I. OR GREATER BLAST OVERPRESSURE





**MAP 3. NUCLEAR ATTACK HIGH-RISK
AREA EVACUATION DIVISIONS**

Tab 4 to Appendix E.1



MAP 4. HIGH-RISK AREA DIVISIONS IN CENTRAL CITY

TABLE 1					
RECEPTION AREAS					
Host Counties and Principal Towns	Resident Population	Organizational Relocates	Relocates By Bus	Relocates By Auto	Relocates Total
Stramford County	35,000	23,997	4,800	40,203	69,000
Orangeville	18,000	23,997		32,000	
Raymond	3,000		4,800	5,000	
Fallbrook	2,000			3,000	
Liberty County	55,000	35,727	7,600	64,673	108,000
Fisherville	22,000	19,537	5,400	42,000	
Apple Valley	4,000	4,989	1,000	8,000	
Deep River	3,000	3,266		5,000	
Gold Mine	5,000	1,935	1,200	10,000	
Apple County*	15,000	4,109	2,100	22,491	29,000
Strathmore		4,109	2,100	19,000	
Levering				4,000	
Green County*	6,000	2,015	760	9,225	12,000
Pinewood		2,015	760	9,225	
Totals	111,000	65,848	15,260	136,892	218,000

* Parts assigned to receive Liberty County evacuees.

TABLE 2

RELOCATION OF ORGANIZATIONS

A. Necessary High-Risk Area Operations

<u>Organization</u>	<u>Key Workers</u>	<u>Total Employees</u>	<u>Employees & Dependents</u>	<u>Host Area</u>
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B. Possible Additional High-Risk Area Operations, if Evacuation Period is Protracted

<u>Organization</u>	<u>Key Workers</u>	<u>Total Employees</u>	<u>Employees & Dependents</u>	<u>Host Area</u>
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C. Host Area Support Organizations

<u>Organization</u>	<u>Key Workers</u>	<u>Total Employees</u>	<u>Employees & Dependents</u>	<u>Host Area</u>
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Tab 7 to Appendix E.1

TABLE 3					
EVACUEES ANALYSIS					
Risk Area Division	Total Population	Organization Evacuees	Evacuees By Bus	Evacuees By Auto	Number of Autos
1	6,000	3,208	420	2,372	818
2	500	148	35	317	109
3	3,000	886	210	1,904	657
4	1,000	296	70	634	219
5	6,200	1,832	434	3,934	1,357
6	7,000	2,068	490	4,442	1,532
7	7,800	2,305	546	4,949	1,707
8	8,600	2,541	602	5,457	1,882
9	7,300	2,157	511	4,632	1,597
10	6,600	1,950	462	4,188	1,444
11	8,000	2,364	560	5,076	1,750
12	7,000	2,068	490	4,442	1,532
13	22,104	6,531	1,547	14,026	4,837
14	12,014	3,550	841	7,623	2,629
15	15,678	4,632	1,098	7,948	3,430
16	20,499	6,057	1,435	13,007	4,485
17	20,689	6,113	1,448	13,128	4,527
18	23,711	7,065	1,674	15,172	5,532
19	19,509	5,764	1,366	12,379	4,269
20	14,596	4,313	1,021	7,262	3,194
Totals	218,000	65,848	15,260	136,892	47,207

Tab 8 to Appendix E.I

TABLE 4					
ROUTE ANALYSIS					
Route	Lanes (Narrowest)	Capacity (Veh/Hr/Lane)	Risk Area Divisions	Number of Cars	Hours Required
SR 5 west	2 westbound	1,200	1,3,6,13,14	10,473	4.4
I-107 south	4 southbound	1,500	16,19,20,7,12, 15,17,18	28,376	4.7
I-101 east to SR 76 north	1 northbound	850	10,11	3,194	3.8
SR 68 north	1 northbound	850	2,4,5,8	3,567	4.2
SR 68 south and west	1 southbound	850	9	1,597	3.2

APPENDIX E.2

EVACUATION IN RESPONSE TO AN INCIDENT/ACCIDENT AT
BLUE WATER NUCLEAR POWER PLANT

This appendix shows how provisions dealing with the unique evacuation requirements of potential and real disasters caused by various hazards can be integrated into the multihazard plan. Planning and preparedness for the **offsite** effects of a radiological emergency associated with a commercial nuclear power facility must be carried out in accordance with 44 CFR parts 350,351, and 352 and the documents referenced in paragraph E.2.VII.B.

E.2.I. PURPOSE

This appendix provides information concerning the area in Liberty County for which evacuation should be considered in case of an incident/accident at the Blue Water Nuclear Power Plant (BWNPP) with potential or actual release of nuclear material. Evacuation planning for this hazard focuses on the 10-mile radius plume emergency planning zone (EPZ) which is shown in the map at Tab 1 to this appendix.

E.2.II. SITUATION AND ASSUMPTIONS

A. Situation. Evacuation may be the best available strategy for protecting the residents of the threatened area in case of a release, or the possibility of a release, of radioactive material from the Blue Water facility.

B. Assumptions.

1. One of the most serious problems involved in evacuation of the 10-mile (radius) EPZ is the possible necessity of evacuating Columbia State Prison. The prison has been designated a separate **and** distinct Planning and Operations (P&O) Zone. Operations relating to it are the responsibility of the prison authorities and other State officials. Operations, including movement of the prison inmates, will be fully coordinated with the local governments involved, and local governments will provide all possible support.

2. Mandatory evacuation is possible under laws of the State of Columbia. Whether or not these laws need to be invoked will be decided based on prevailing conditions in the particular emergency situation.

E.2.III. CONCEPT OF OPERATIONS

A. Establishment of Controlled Area. In the event of a Site Emergency or a General Emergency at the Bluewater Plant, a controlled area will be established around the existing or projected location of contamination, identified by sector and distance, to control access to the area and to control evacuation of the population if that becomes necessary.

1. Traffic Control Points (TCP's) will be established by law enforcement personnel at road intersections immediately outside the existing or projected contaminated area.

2. All vehicles approaching the controlled area will be stopped and will be advised of the hazard or denied access to the area depending on the severity of the emergency as determined by the Direction and Control organization. The only authorized access points to the controlled area will be designated by the on-scene control point, and emergency response forces will be directed to those locations.

3. Traffic on main arteries will be rerouted to avoid a controlled area and to prevent interference with emergency response forces and evacuation routes.

B. Evacuation. If an evacuation is ordered, the TCP's will mark the controlled area boundary. The on-scene control point will establish evacuation routes, direct evacuees to the designated reception areas and centers, and coordinate all evacuation activities. The evacuation areas in the Liberty County portion of the 10-mile EPZ, the evacuation routes available for each, and the destination relocation centers are shown in the map at tab 2 to this appendix. A table showing the populations of evacuation areas is included at tab 3 to this appendix.

1. Evacuation instructions and orders will be made in accordance with the procedures established in the Warning annex.

2. A roster of people with special needs who desire assistance in a potential or actual disaster situation is maintained by the Liberty County Department of Emergency Management. If an evacuation is required, the emergency program manager will coordinate the provision of assistance to any persons in the evacuation area whose mobility is impaired by disability or other causes.

3. The primary means of evacuation will be by private automobile. Persons without private automobiles will be assisted, as necessary, by law enforcement and fire and rescue personnel to reach staging areas designated by the county EOC. From there, they will be evacuated by buses to reception centers in safe areas of the county. A table showing evacuation routes, capacities, and estimates of the time required to clear the 10-mile EPZ is included as tab 4 to this appendix.

4. All vehicles leaving the controlled area will be stopped and inspected for possible radioactive contamination. Vehicles contaminated in excess of 220 DPM per 100 square centimeters will be impounded at the TCP on the evacuation route to prevent spreading the contamination.

5. All persons leaving the controlled area will be registered for possible future reentry clearance to assist in the control of farm animals, etc.

6. At the same time, all persons leaving the controlled area will be checked for possible radioactive contamination, as discussed in the Radiological Protection annex.

E.2.IV. Not used.

E.2.V. Not used.

E.2.VI. Not used.

E.2.VII. AUTHORITIES AND REFERENCES

A. Authorities. Not used.

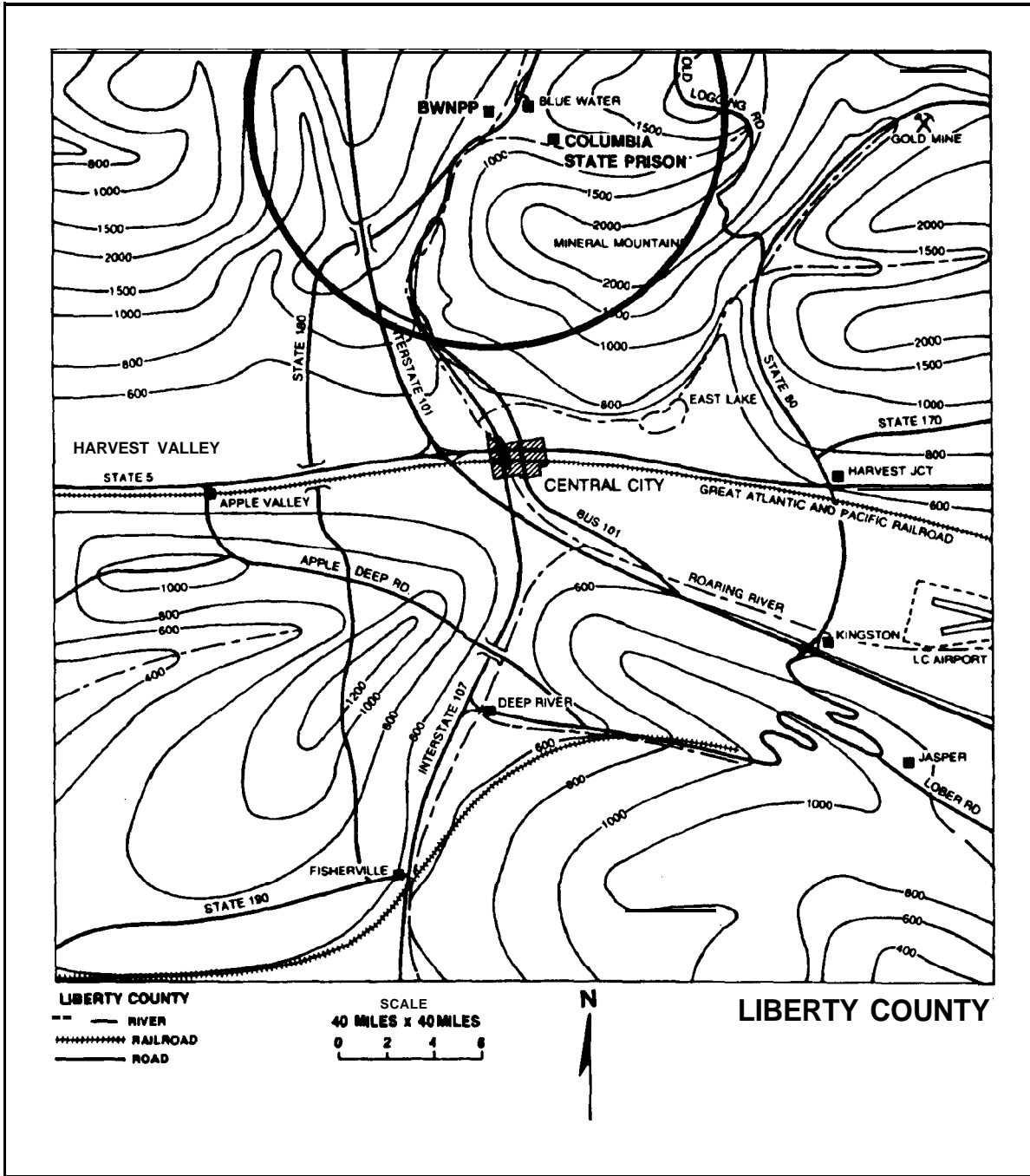
B. Reference.

Federal Emergency Management Agency and U. S. Nuclear Regulatory Commission. Criteria For Preparation and Evaluation of Radiological **Emergency** Response Plans and Preparedness in Support of Nuclear Power Plants, NUREG-0654/FEMA-REP-1, Washington, D.C., 1980, and NUREG-0654/FEMA-REP-1, Supplement 1, Washington, D.C., 1988.

E.2.VIII DEFINITION

Emergency Planning Zone (EPZ). A generic area defined about a nuclear facility to facilitate offsite emergency planning and develop a significant response base. It is defined for the plume and ingestion exposure pathways. During an emergency response, best efforts are made making use of plan action criteria without regard to whether particular areas are inside or outside **EPZ's**.

Tab 1 to Appendix E.2



**BLUE WATER NUCLEAR POWER PLANT
10-MILE (RADIUS) PLUME EMERGENCY PLANNING ZONE (EPZ)**

Tab 2 to Appendix E.2

Include a map showing evacuation areas, evacuation routes, and reception centers.

Tab 3 to Appendix E.2

Include a table showing the populations of evacuation areas.

Tab 4 to Appendix E.2

Include a table showing the results of a traffic analysis for emergency evacuation.

ANNEX G

IN-PLACE PROTECTIVE SHELTER

G.I. PURPOSE

The purpose of this annex is to establish an option for the Liberty County emergency organization of protecting people from the effects of any disaster agent that threatens or actually strikes the community by placing them in suitable shelter facilities.

G.II. SITUATION AND ASSUMPTIONS

A. Situation. Protective shelter is a population protection option that may be needed in disasters or disaster-threat situations caused by numerous disaster agents including most of those identified in the Liberty County hazards analysis. Protective shelter is especially applicable in emergencies or disasters caused by nuclear attack, hazardous materials accidents, tornadoes, hurricanes, and peacetime nuclear incidents or accidents.

B. Assumptions. If the population of Liberty County is endangered by the effects of any disaster agent, the Liberty County emergency organization under the direction of elected public officials will attempt to determine the optimal strategy for ensuring the safety of the public and will take action to implement that strategy.

G.III. CONCEPT OF OPERATIONS

A. Direction and Control. A disaster or potential disaster that generates a requirement for protecting people from a harmful environment is of sufficient seriousness to justify activation of the Liberty County emergency organization. Situation analysis, planning, policy making, coordination, and ultimate direction and control will be carried out from the central EOC in accordance with the Direction and Control Annex to this plan. Field operations will continue to be managed using the procedures and interorganizational coordination methods established under Liberty County's Incident Command System.

B. Population Protection Options. The two principal alternatives for population protection are evacuation and shelter. In an actual disaster or disaster-threatening situation, Liberty County officials would use one or the other or possibly both options, depending on the best available estimate of the situation, to minimize injury to the people involved. Evacuation is usually the preferred option, but it must be evaluated in terms of the overall benefit to the evacuees, taking into account the conditions at the selected destination and any risk of exposure to the disaster agent while in route. For consideration of sheltering in place, it is important to determine the relative protection from potential disaster agents provided by the available residential, commercial, and recreational structures in the community and to identify special facility populations, e.g., the hospitalized and the incarcerated, for whom in-place shelter may be the only available option. The two options have traditionally been treated separately, because many disasters seem likely to require strategies that heavily emphasize one or the other option. It is also true that treating the two options separately permits the jurisdiction to establish a useful division of labor in planning and preparedness for population protection. It is important to remember, however, that in an actual emergency the two population protection options are very closely related and might well have to be invoked simultaneously. The separate planning and capability-building processes for the two options are complementary. Neither one, standing alone, adequately addresses the needs generated by many disaster situations, but together they cover almost any contingency reasonably well.

C. Relationship to Temporary Housing/Mass Care. In the multihazard planning context, temporary housing and mass care for people displaced from their homes by disaster effects are most often functions of private relief organizations. Providing protective shelter on an emergency basis is clearly a responsi-

bility of government. The two functions are treated separately, therefore, in the Liberty County EOP. There is, however, a close relationship between these functions. It is essential that the organizations primarily responsible for them work closely together and carry on preparedness activities in close coordination.

D. Interjurisdictional Relationships. The county and the three municipalities in the county that have emergency management departments will develop and maintain the capability to provide protective shelter for the population in any situation for which such action is appropriate. In localized emergencies, the municipality involved may respond independently while the others stand by to provide assistance if required. The Liberty County Emergency Organization will be responsible for any situation that occurs outside the boundaries of the municipalities that have protective shelter systems. In very large-scale emergencies, the resources of the county and of all the municipalities in the county will be activated and will be centrally controlled from the county EOC or an alternate. This includes a nuclear attack emergency situation as described in appendix G.1 to this annex.

G.IV. ORGANIZATION AND ASSIGNMENT OF RESPONSIBILITIES

A. Organization. Liberty County's organization for protective shelter is the same as the Liberty County Emergency Organization described in annex A to this plan.

B. Responsibilities.

1. Protective shelter systems will be developed and maintained by the Liberty County Emergency Organization and by the emergency organizations of Central City, Fishetville, and Harvest Junction.

2. The warden of the Columbia State Prison is responsible for providing a protective shelter system for the staff and inmates of the prison. While Liberty County officials have no jurisdiction with respect to the prison, it is State policy to maintain a close working relationship between State facilities and neighboring local governments. The county and prison authorities have agreed, therefore, to work cooperatively and provide mutual support in all phases of emergency management.

3. The Liberty County Emergency Program Manager (EPM) will be responsible for:

a. Developing and maintaining a protective shelter system to protect the population from the effects of a nuclear attack.

b. Developing a system and procedures for evaluating the evacuation and in-place shelter options in the event of a large-scale hazardous materials spill or release or in the event of a peacetime nuclear incident or accident. The time available in which to decide whether to evacuate or shelter in place in a hazardous materials or peacetime nuclear incident is often very limited, and it may be necessary for first responders to make an immediate decision. Factors such as the nature of the material or materials, the atmospheric conditions, the threat of **fire** or explosion, and estimated duration of toxic effects can influence the final determination. For large-scale incidents or incidents with the potential to seriously affect large populations, the EPM will be prepared to assemble appropriately qualified advisors, to obtain information for analysis, to evaluate the protective actions already taken by first responders, and to develop recommendations on remedial or further actions for the coordination group in the county EOC. This decision support system and procedures will be incorporated into the Direction and Control Annex of this plan and into hazard-specific appendixes as required.

4. The Liberty County Public Health Officer will be responsible for developing and maintaining a Protective Action Guide (PAG) on protective shelter for a fixed nuclear facility accident at the Blue Water Nuclear Power Plant. This PAG will serve as the basis for a hazard-specific appendix to this annex.

5. The Liberty County Public Works Director will be responsible for developing a list of the best available tornado shelters in the county to serve as the basis for a hazard specific appendix to this annex.

Include assignments of responsibilities for other officials and agencies as appropriate.

G.V. ADMINISTRATION AND LOGISTICS

Functions related to administration and logistics are frequently carried out by members of the Liberty County emergency organization working at the county EOC, even in emergency situations that do not call for complete activation of the emergency organization. In situations that involve use of in-place protective shelter, measures to meet these requirements generally will be centrally carried out and controlled by a group working under the direction of the County Manager or official designee in accordance with the Basic Plan and Resource Management Annex of this plan.

G.VI. PLAN DEVELOPMENT AND MAINTENANCE

This annex was developed and is maintained by the Liberty County Department of Emergency Management. All departments and agencies assigned responsibilities in paragraph G.IV. are expected to develop and maintain implementing plans and procedures to support their roles in coordination with the county emergency program manager. Development and maintenance of hazard-specific appendixes are covered in the appendixes.

G.VII. AUTHORITIES AND REFERENCES

A. Authorities. Not used. See paragraph VII of the Basic Plan.

B. Reference.

Federal Emergency Management Agency, U.S. Department of Transportation, and U.S. Environmental Protection Agency. Handbook of Chemical Hazard Analysis Procedures, Appendix C., "Overview of 'Shelter in Place' Concept."

G.VIII. DEFINITION

Protective Shelter. An enclosed area that will protect occupants against specified disaster effects up to a given intensity.

APPENDIX G.1

IN-PLACE PROTECTIVE SHELTER FOR NUCLEAR ATTACK

G.1.I. PURPOSE

The purpose of this appendix is to document Liberty County's approach to providing the population shelter protection from any effects of nuclear weapons that might be experienced in the jurisdiction.

G. 1.11. SITUATION AND ASSUMPTIONS

A. Situation.

1. While it is not considered very likely, it is possible that a nuclear attack could be launched against the United States with little or no warning. If this did occur, there would be no alternative but to shelter the people in the best available protective facilities near their locations at the time.

2. Part of Liberty County has been designated a nuclear attack high-risk area. It is considered probable that a nuclear attack would be preceded by a period of escalating tensions and crisis. It is likely that an enemy's intention to attack would be detected in time to evacuate the residents of high-risk areas to host areas in parts of the State less likely to be directly attacked. Evacuation is Liberty County's primary population protection option for residents of high-risk areas. (Evacuation is covered in annex E to this plan.)

3. In-place protection in shelter facilities located in high-risk areas offers much less assurance of survival than evacuation, but it has the potential of saving many lives that would otherwise be lost in a nuclear attack.

B. Assumptions.

1. It is prudent to assume that the high-risk area near the Liberty County Airport is a high priority target area, since the enemy might wish to deny use of this facility to our military forces and might strike it in a preemptive attack.

2. It is reasonable to assume that the remaining target areas in Liberty County are of lesser priority than the airport and would likely be struck only in case of an all-out nuclear war.

G.1.III. CONCEPT OF OPERATIONS

A. Protecting the population in-place from the effects of a nuclear attack involves four principal functions or activities: (1) Warning the population, (2) directing them to the best available shelter protection, (3) supporting the sheltered population within the limitations imposed by the environment, and (4) releasing the surviving population from shelter when weapon-caused hazards are no longer a threat to survival.

B. Phases of Shelter Operations. The phases of shelter operations and the actions appropriate to each phase are as follows:

1. Warning Phase. This phase begins with the receipt of attack warning or upon observation of a nuclear detonation and ends when movement to shelter begins. (The warning function is covered in annex C to this plan.) Actions in this phase include, to the extent possible, any of the following not completed during the increased-readiness period (if there is any): Receipt and dissemination of warning; preparation by county and municipal emergency organizations to assist the population to move to public shelters; full

staffing of the EOC, shelter complex headquarters (SCH's), and other control facilities; activation of public shelters; activation of emergency communications; and implementation of emergency shutdown by industries, utilities, and other appropriate installations.

2. Movement-to-Shelter Phase. This phase begins when people start moving to public shelters and ends when movement to shelters is complete or when operations to assist movement must cease because of attack effects. Primary actions in this phase include: Control and coordination of pedestrian and vehicular traffic and protection of vital community resources, facilities, and services. If a nuclear detonation occurs in or near the county during this phase, the surviving population will be directed to resume movement as rapidly as possible to the best fallout protection they can reach in no more than 20 minutes, to their allocated shelters if it is possible to reach them in that time. Operations stress the need (a) to place the shelterees in **maximum blast/fallout protective posture** IMMEDIATELY upon shelter occupancy; (b) take fire **prevention actions** if not done previously (close all window blinds and shades) in all home or public shelters; and (c) be prepared to **extinguish attack-caused ignitions** IMMEDIATELY in all home or public shelters.

3. In-Shelter Phase.

a. This phase begins when a substantial portion of the population has arrived at public fallout shelters and ends when a major portion of the population can leave shelter for short periods. The in-shelter phase may continue from 1 or 2 to as many as 14 days after movement to shelter, depending upon fallout intensity. Operations are carried out to the extent possible in the general areas of radiological monitoring, shelter management, intershelter and remedial movements, immediate rescue, care of the sick and injured, shelter resupply, and provision of emergency information to the population. Additional information on all of these areas of activity is included in the appropriate annexes and appendixes to this plan and in references cited in the authorities and references paragraphs throughout the plan.

b. Operations stress keeping shelterees in **maximum fallout protective posture** in all home or public shelters and using Emergency Broadcast System (EBS) radio and, for public shelters, communications from the EOC or SCH's to shelters to provide as much information as possible on the emergency situation.

c. Radiological Defense (RADEF) functions will be carried out in accordance with annex L to this plan. In-shelter radiation measurements will be used as a basis for determining the best-protected shelter areas in the facility, using adjoining areas of the facility to alleviate crowding when radiation intensities permit, maintaining radiation exposure records for shelter occupants, determining feasibility of emergency excursions outside of shelter, providing information as requested to the SCH and the EOC, requesting advice from the SCH and the EOC on emergency actions in extreme situations, and providing situation information to the shelter occupants.

d. If the county or parts of the county receive no fallout during the first 24 hours of an attack on the United States, the population will, nevertheless, be kept in shelter for an additional 1 or more days or until information is received from higher levels that no additional detonations are expected. County and municipal emergency services on instructions from the EOC will carry out essential operations such as firefighting, public safety patrols, adjusting population distribution in shelters, improving food and water supplies, controlling essential utilities, and caring for the sick and injured.

e. Fire-suppression operations will emphasize maximum self-help by the people, including shelter fire control teams organized in public shelters, in addition to operations by the county's professional and volunteer fire companies.

Fallout Situation	Fire Situation		
	Negligible	Controllable ²	Uncontrollable ²
Negligible (under 0.5 R/hr)	<u>Negligible Fallout- Negligible Fire</u> Maintain initial shelter posture; provide aid to other jurisdictions as feasible; prepare for reception of survivors.	<u>Negligible Fallout- Controllable Fire</u> Control or suppress fires; treat injured; maintain population in shelter.	<u>Negligible Fallout- Uncontrollable Fire</u> <u>Moderate Fallout- Uncontrollable Fire</u> <u>Severe Fallout- Uncontrollable Fire</u> People in public shelters rated as having high fire risk will be moved to alternate shelters as specified on Map 3 as soon as uncontrollable fire situation is anticipated or develops. Movement will commence upon order from county authorities at the EOC, upon the initiative of shelter complex directors, shelter managers, or government employees in the high-fire-risk shelters.
Moderate (0.5 to 50 R/hr) (Note: Actions under moderate fallout conditions should be predicated on the assumption that severe fallout may occur.)	<u>Moderate Fallout- Negligible Fire</u> Protect population in shelter, conduct 'dose-limited' essential operations; provide aid to other jurisdictions as feasible.	<u>Moderate Fallout- Controllable Fire</u> Control or suppress fires on a 'dose-limited' basis; treat injured; maintain population in shelter.	
Severe (over 50 R/hr) (Note: Usually preceded by 5 to 30 minutes of moderate fallout.)	<u>Severe Fallout- Negligible Fire</u> Make maximum use of available shelter; conserve shelter resources; minimize outside operations.	<u>Severe Fallout- Controllable Fire</u> Suppression or control of fires must be undertaken by shelter population and fire personnel; treat injured; stay in shelter.	

¹Dose in shelter, plus operational mission dose to operational personnel, will be limited to 100 R in the first 5 days after attack, unless specific authorization to exceed this limit is given by county authorities at the EOC.

²In jurisdictions where plans do not cover fire and blast contingencies, omit the 2 right-hand columns.

Figure G-1. In-Shelter Phase Priority Actions

f. Unless directed otherwise by the policy group in the EOC, priority actions will be taken during the in-shelter phase of shelter operations as shown in the table in figure G-1.

4. Shelter-Emergence Phase. This phase begins when a major portion of the population can leave shelter for short periods. The end of this phase is dependent upon the postattack condition of the community.

a. If Liberty County has suffered no physical damage in the attack, this phase will end as soon as radiation no longer constitutes a significant hazard; utilities are functioning on a minimum essential basis; and county and municipal emergency services personnel are ready to control movement of individuals to their homes and to provide such essential services as firefighting, law enforcement, decontamination, welfare, and health and medical treatment.

b. If any part of the county is damaged by blast and fire, the surviving population of such areas will be cared for in public shelters until more satisfactory arrangements can be made. The Liberty County emergency organization will be reconstituted as required and will continue emergency operations using local resources and any support that may be available.

c. Radiological decontamination other than of personnel will not be attempted except as directed from the EOC.

d. If postshelter residual radiation levels in any part of Liberty County are relatively high, remedial movement of the population may be required. Remedial movement will be planned in coordination with Mutual Aid Region 4 and may be carried out within the county or to a neighboring county.

e. The population for which remedial movement is not required will be instructed on measures to minimize radiation exposure prior to release from shelters. This instruction will be reinforced and elaborated in a continuing public information effort.

C. Continuity of Government. Maintaining continuity of local government under law is problematical in a situation that requires in-place protective shelter under threat of nuclear attack. Both the Liberty County and Central City EOC's are in an area that has been designated a "Very High Direct Effects Risk Area" in the Federal Emergency Management Agency's guidance on nuclear attack risk assumptions. The Kingston EOC is in an area that has been designated a "Medium Direct Effects Risk Area" in the same guidance. The Harvest Junction EOC is in a "Low Direct Effects Risk Area," and the Fisherville EOC is outside of any area defined as direct effects risk in the Federal guidance. All of these EOC's except Fisherville are within the high-risk area defined for evacuation in this plan. It must be remembered, however, that neither the Federal Government guidance nor the local plans developed with State assistance attempts to predict what an actual nuclear attack would be like. No one knows what targets would be hit in a nuclear attack on this country. It follows that no one can predict which, if any, of the EOC's in Liberty County would be directly affected by weapons effects in a nuclear attack. Evacuation provides a greater degree of certainty of survival for most of the risk area population, but in-place protection for the population and for government forces should never be thought of as futile or as not worth the trouble. Even if the worst-case assumptions proved to be valid, some lives would be saved by making the best possible use of available shelter. The approach to maintaining continuity of government described in annex A to this plan is valid, therefore, for a situation that requires the county emergency organization to use an in-place protective shelter strategy to protect the population.

G.1.IV. ORGANIZATION AND ASSIGNMENT OF RESPONSIBILITIES

A. Organization. If a situation exists in which it is necessary to use in-place shelter to protect the population from nuclear weapons effects, it is very likely--though not certain--that the Liberty County emergency organization including all eight planning and operations (P&O) zones would already be fully activated. If the emergency organization is not activated and any P&O zones are not operational at the time of attack warning, they should immediately and spontaneously take action to become so.

B. Assignment of Responsibilities.

1. Development and maintenance of the in-place protective shelter system is a responsibility of the Liberty County Department of Emergency Management (LCDEM).

2. The Liberty County Emergency Program Manager (EPM) is responsible for:

a. Coordinating with officials of the municipalities within Liberty County and with heads of other departments of county government and with representatives of appropriate private sector organizations on the development and maintenance of an in-place protective sheltering capability.

b. Maintaining an inventory of the nuclear attack shelter facilities in the county.

c. Developing a nuclear attack population protection strategy which establishes multiple options to be applied selectively depending on the specific circumstances of the actual emergency.

d. Developing an allocation of the entire population of Liberty County to the facilities included in the shelter inventory.

e. Designating a Shelter System Officer for the county.

3. The Shelter System Officer (SSO) is responsible for supporting the EPM in carrying out the responsibilities enumerated in **G.1.IV.B.2.** and is specifically responsible for:

a. Inspecting shelter facilities and verifying their usability, capacity, and accessibility (especially to the handicapped or other people with special needs);

b. Developing agreements for shelter use;

c. Marking and stocking shelters and/or developing plans to mark and stock shelters during a crisis period;

d. Coordinating and participating in the training of shelter managers;

e. Developing and coordinating the effort to develop new shelters to alleviate identified deficits and to increase the level of protection provided by the shelters included in the resource inventory; and

f. Serving, in an actual emergency, in the EOC as the coordinator of all shelter activities in the county.

Provide assignments of responsibilities for other organizations as required.

G.I.V. ADMINISTRATION AND LOGISTICS

Not used. See Paragraph G.V. of Annex G.

G.1.VI. PLAN DEVELOPMENT AND MAINTENANCE

This appendix is maintained by LCDEM. The county EPM will determine requirements for implementing plans and procedures to support protective shelter operations and will provide guidance to officials of P&O Zones, to other departments of county government, and to appropriate private sector organizations. It should be noted that protective shelter planning for the nuclear attack hazard is an intergovernmental process. The response to such a catastrophe would have to be fully integrated and coordinated across all levels of government. The Federal Government's primary contribution to this plan is the guidance that was used to develop the nuclear attack risk assumptions upon which it is based and guidance on plan content which is intended to promote substantial compatibility of plans and systems nationwide. State emergency management planners contributed in a major way to the development of this plan by preparing the initial versions of the shelter lists and shelter allocation that appear in the tabs to this appendix. Numerous other important parts of the total planning structure that supports the shelter capability do not appear in this plan. These include most of the implementing plans and procedures

which have been, or must be, developed and maintained by all operating units that have responsibilities for any parts of the shelter system.

G.1.VII. AUTHORITIES AND REFERENCES

A. Authorities. See Paragraph VII., Section A. of the Basic Plan.

B. References.

Federal Emergency Management Agency. Guidance for Development of an Emergency Fallout Shelter Stocking Plan, CPG 1-19, Washington, D. C.

Federal Emergency Management Agency. Shelter Management Handbook, FEMA-59, Washington, D. C.

Federal Emergency Management Agency. Sheltering and Care Operations, CPG 2-8, Chapters 7 and 8, Washington, D. C.

Federal Emergency Management Agency. Life Support Operations in Shelters, CPG 2-20, Washington, D. C.

Federal Emergency Management Agency. Habitability and Human Problems in Shelters, CPG 2-21, Washington, D. C.

G.1.VIII. DEFINITION OF TERMS

High-Risk Area (Nuclear Attack). An area defined in a valid emergency operations plan, or in Federal planning guidance, for which it is a national policy to prepare to protect the population from the direct effects of nuclear detonations as well as from fallout. The principal criterion for defining these areas is that they are relatively more likely than others to be subject to blast overpressures of 2 pounds per square inch (psi) or more in a large-scale nuclear attack. An area that receives 2 psi or more blast overpressure would also be likely to experience other direct weapons effects, particularly large fires.

High Fallout Risk Area (Nuclear Attack). An area defined in a valid emergency operations plan, or in Federal Guidance, which has the potential for receiving exceptionally high levels of fallout radiation but is not designated a high-risk area, i.e., an area considered likely to experience 2 psi blast overpressure and other direct weapons effects in a large-scale nuclear attack. The principal criterion for designating an area as a high fallout risk area is a calculated 1-week total fallout radiation dose of 6,000 R or more from a computer analysis that assumes a nuclear attack with surface-burst weapons on the peacetime locations of US strategic retaliatory forces, wind patterns that are typical of the area involved in any one or all 12 months of the year, and a commonly used set of ideal assumptions concerning the terrain and other characteristics of the area affected.

Tab 1 to Appendix G.1

Provide a table listing all facilities used in the shelter allocation, showing the number of spaces by PF Category, the fire code, and the relative blast protected spaces if appropriate.

Tab 2 to Appendix G.1

Provide a table summarizing the allocation of the population to shelter facilities and indicating the number of people that could not be allocated to existing public shelter facilities.

Tab 3 to Appendix G.1

Provide a map that shows the shelter facilities, the shelter complexes if any, and the areas for which the population is allocated to a given shelter or complex.

Provide hazard-specific appendixes for other hazards as required.

Summary of In-Place Shelter Allocation Process

The in-place shelter allocation is ordinarily developed by, or with substantial direct assistance from, federally-funded State-level emergency management planners. This summary is provided to briefly describe this complicated process to any readers who are not familiar with the Civil Defense Program or its approach for developing an in-place shelter capability as an option for protecting the population from the effects of a nuclear attack.

1. Obtain a copy of the National Shelter Survey (NSS) all facility listing for the county that is the subject of the allocation.
2. Obtain detailed maps of the county, usually from the highway department, including reproducible base maps to be used for plotting allocation information. Obtain the latest census data and maps.
3. Working with local officials, identify any facilities on the NSS listing that cannot be included in the county shelter list, because they must be reserved for priority emergency functions such as military operations and medical treatment facilities.
4. Visually inspect (windshield survey) the remaining facilities to determine that they are suitable for shelters, number them, and plot them on a map.
5. Identify barriers to movement, if any, and represent them on the map.
6. Make a preliminary comparison of shelter spaces and population. This can be done at the census tract level.
7. Working with local officials, determine planning factors and policies that will make best use of the shelter resource as estimated in the preliminary analysis. Decisions must be made on travel distance and time for movement to shelter. The population distributions to be considered; i.e., peak, resident, day/night, and special event; must be identified. Develop a policy on how to care for children if attack warning sounds during school hours.
8. Make a detailed allocation of the population to shelter.
9. Develop a summary, using tables and maps, showing the population allocated and not allocated to shelter.
10. Develop recommendations on measures for coping with shelter deficits.
11. Develop Emergency Public Information materials to tell the public where to go and what to do when warned of an imminent nuclear attack.
12. Prepare a detailed report on the in-place shelter allocation for government officials to use in developing and maintaining emergency operations plans.

ANNEX H

HEALTH AND MEDICAL

H.I. PURPOSE

This annex includes provisions for accomplishing those necessary actions related to lifesaving, transport, evacuation, and treatment of the injured, disposition of the dead, and disease control activities related to sanitation, preventing contamination of water and food supplies, etc., during response operations and in a postdisaster environment. This annex focuses on health and medical problems under emergency conditions of varying scopes. This annex describes policies and procedures for mobilizing medical resources under disaster conditions and public health problems in major emergencies, especially in mass-care facilities. Approaches for dealing with mass-casualty and mass-fatality situations are fully covered.

H.II. SITUATION AND ASSUMPTIONS

A. Situation. This section describes the jurisdiction's existing health and medical capabilities. It provides a general assessment and overview on the aggregate capability of the jurisdiction's emergency medical, hospital, health, and mortuary services to provide medical care, treatment, and support to victims, response personnel, and the general public during the response and post-disaster recovery phases associated with the emergency situations that threaten the jurisdiction.

B. Assumptions.

1. The annex applies primarily to large-scale jurisdictionwide and single point mass-casualty disaster events that would cause sufficient casualties and/ or fatalities to overwhelm local medical, health, and mortuary services capabilities.

2. Available public and private medical, health, and mortuary services resources located in the jurisdiction will be provided for use during disaster situations.

3. Resources available through area and regional medical, health, and mortuary services mutual aid agreements will be provided.

4. Catastrophic disasters such as nuclear war and earthquakes will affect large areas of the jurisdiction and State. Consequently, it is likely that some planned for medical resources may be damaged, destroyed, or unavailable. Further, in an attack situation it may be necessary to relocate hospital facilities under austere conditions to buildings that will provide patients and medical, staff adequate protection from blast and fallout.

H.III. CONCEPT OF OPERATIONS

A. This **section** provides a description of the authorities, departments and agencies, responsibilities, and interagency relationships and arrangements that have been developed for each level of government and each provider involved with health and medical activities for predisaster, transdisaster, and postdisaster operations. This should include:

1. Elected officials;
2. Government departments and agencies;

3. Health and medical agencies;
 - a. Public
 - b. Private (industry)
4. Emergency Support Services (police, fire, public works, etc.);
5. Voluntary agencies; and
6. Interagency liaison

B. This section describes the procedures for mobilizing health and medical resources. Further, it identifies who will be in charge of directing health and medical operations, outlines the procedures for transfer of authority, and provides a general overview on how the following activities will be accomplished:

1. Field medical care for mass-casualty events including:
 - a. Establishing an **onscene** medical command post with a single individual in charge of all medical operations;
 - b. Coordinating response team efforts;
 - c. Patient triage, holding, and treatment areas;
 - d. Ambulance dispatch;
 - e. Coordination with receiving hospitals; and
 - f. Communications procedures for responding medical units.
2. Medical transport for the injured and deceased.
3. Definitive care for the injured.
4. Identification and disposition of the injured.
5. Identification and care of human remains, determining the cause of death, inventory and protection of deceased's personal effects, and locating and notifying the next of kin.
6. Logistical support:
 - a. Acquisition of medical/health equipment and supplies.
 - b. Transportation of medical/health supplies, personnel, and equipment.
 - c. Shelter and feeding of field, health, and medical personnel and patients.
 - d. Acquisition of suitable morgue facilities, embalming supplies, body bags, and necessary heavy equipment suitable for preparing mass-grave sites.
7. Patient distribution.

8. Patient transfer.

9. Integration of local hospital plans.

10. Identification and control of environmental health hazards.

11. Health advisories to the public on emergency water supplies, waste disposal, mass-feeding services, vectors, immunizations, and disinfection.

12. Communications between responding health and medical organizations, other emergency support services (fire, police, public works, etc), field deployed units, and the jurisdiction's emergency operations center (EOC).

13. Requesting interjurisdictional medical mutual aid when required.

C. This section outlines the jurisdiction's provisions for responding to mass-casualty events. It includes:

1. Establishing an **onscene** medical command post with a single individual in charge of all medical operations.

2. Coordinating response team efforts;

3. Patient triage, holding, and treatment areas;

4. Ambulance dispatch;

5. Coordination with receiving hospitals; and

6. Communications procedures for responding medical units.

H.IV. ORGANIZATION AND ASSIGNMENT OF RESPONSIBILITIES

A. This section addresses the organizational framework for obtaining emergency health and medical services in the jurisdiction. It outlines the chain of command, organizational responsibilities, and clearly details each organization's functions during response operations and the postdisaster recovery period.

B. Normally, the jurisdiction's public health chief is responsible for the planning and coordination of all public health services on a daily basis and is responsible for direct operational response of department personnel during a major emergency. This official has lead responsibility for organization, supervision, and coordination of the emergency health, environmental health, and mortuary services in the jurisdiction. An organizational chart that delineates lines of succession should be included as an appendix to the annex. All health and medical support services that will be available from public and nonprofit organizations should be included in this section. The health officer or official designee should report to the jurisdiction's EOC during disaster operations.

C. Each health and medical organization should coordinate with the jurisdiction's emergency management agency officials to ensure provisions have been made to evacuate and/or shelter, as appropriate, patients, staff members, equipment, supplies, and vehicles before, during, and after nuclear attack, natural disaster, and technological accidents.

D. Specific assignments and responsibilities include:

1. Emergency Medical Services (EMS)

- a. Responding with emergency rescue, medical, and ambulance units;
- b. Providing personnel to administer emergency medical assistance at the disaster scene;
- c. Implementing a medical incident management system such as the Incident Command System (ICS) within the overall framework of the jurisdiction's emergency management system;
- d. Providing first aid/medical supplies for disaster use;
- e. Maintaining updated resource inventories on medical supplies and equipment;
- f. Maintaining a casualty tracking system;
- g. Establishing and maintaining field communications and coordination with other responding forces (medical, fire, police, public works, etc.), and radio or telephone communication with hospitals as appropriate;
- h. Maintaining liaison with American Red Cross and volunteer service agencies within the jurisdiction;
- i. Coordinating with business and industry medical units; and
- j. Coordinating procurement, screening, and allocation of critical public and private resources required to support disaster related health and medical care operations.

2. Hospitals

- a. Implementing hospital's disaster plan;
- b. Providing medical guidance, as needed, to EMS units, field collection and/or treatment locations, et cetera;
- c. Distributing patients to and among hospitals based on capability to treat and bed capacity, including transfers out of the area and/or rerouting to alternative facilities;
- d. Establishing and maintaining field and interhospital medical communications;
- e. Coordinating transportation of casualties and medical resources to health care facilities and to or from other areas as required;
- f. Making available upon request qualified medical personnel, supplies, and equipment available within the jurisdiction;
- g. Coordinating with other area hospitals involved in caring for the injured; and
- h. Maintaining liaison with the coordinators of other emergency services such as: fire and rescue departments, law enforcement, public works, emergency management agency, et cetera.

3. County Coroner/Medical Examiner

- a. Coordinating local resources utilized for the collection, identification, and disposition of deceased persons and human tissue;
- b. Selecting an adequate number of qualified personnel to start temporary morgue sites;
- c. Establishing collection points to facilitate recovery operations;
- d. Coordinating with search and rescue teams;
- e. Determining cause of death;
- f. Designating an adequate number of persons to perform the duties of Deputy Coroners;
- g. Identifying mass-burial sites;
- h. Protecting the property and personal effects of the deceased;
- i. Notifying relatives;
- j. Establishing and maintaining a comprehensive recordkeeping system for continuous updating and recording of fatality numbers;
- k. Submitting requests for mutual aid assistance, if required;
- 1. Providing emergency information to the news media on the number of deaths, morgue operations, etc., as appropriate. Whenever feasible, all information should be provided to the public and the media through the Joint Information Center (JIC) serving the emergency. At the very least, coordination with the JIC must be effected whenever information is released to the public and/or the media; and
- m. Coordinating services of: funeral directors, ambulances, and morticians; other pathologists, the American Red Cross for location and notification of relatives, dentist and x-ray technicians for purposes of identification; law enforcement agencies for security, property protection, and evidence collection; and mutual aid provision to other counties upon request.

4. Public Health

- a. Providing for the monitoring and evaluation of environmental health risks or hazards as required and take or assign appropriate correctional measures;
- b. Inspecting for purity and usability and quality control of vital food stuffs, water, drugs, and other consumables;
- c. Coordinating with the water, public works or sanitation departments, as appropriate, to ensure the availability of potable water and an effective sewage system, sanitary garbage disposal, and the removal of dead animals;
- d. Detecting and inspecting sources of contamination dangerous to the general public's physical and mental health;
- e. Establishing preventive health services, including the control of communicable diseases;

- f. Inspecting damaged buildings for health hazards;
- g. Providing epidemiologic surveillance, case investigating, and followup;
- h. Providing laboratory services for identification required to support emergency health and emergency medical services;
- i. Monitoring food handling and mass feeding sanitation service in emergency facilities, including increased attention to sanitation in commercial feeding and facilities;
- j. Providing the public advice on general sanitation matters. Whenever feasible, all information should be provided to the public and the media through the JIC serving the emergency. At the very least, coordination with the JIC must be effected whenever information is released to the public and/or the media;
- k. Ensuring adequate sanitary facilities are provided in emergency shelters;
- l. Implementing action to prevent or control vectors such as flies, mosquitoes, rodents, and working with veterinarians to prevent the spread of disease through animals;
- m. Coordinating with the neighboring areas and State Public Health Coordinator on matters requiring assistance from other jurisdictions;
- n. Coordination of health-related activities among other local public and private response agencies or groups (to include veterinarians); and
- o. Coordinating operations for general or mass emergency immunizations or quarantine procedures.

5. Support Services

- a. American Red Cross
 - (1) Providing food for emergency workers and patients;
 - (2) Maintaining a medical evacuee tracking system;
 - (3) Providing blood, blood substitutes, and blood byproducts, and/or implementing reciprocal agreements for replacement of blood items;
 - (4) Providing medical support at temporary treatment centers, as requested, and within capability;
 - (5) Providing supplementary medical, nursing aid, and other health services upon request, and within capability;
 - (6) Providing assistance for the special needs of the handicapped, elderly, orphaned children, and those children separated from their parents; and
 - (7) Assisting in the notification of the next of kin.

b. Mental Health Agencies

(1) Ensuring professional psychological support is available for victims and involved personnel (on an as needed basis) during all phases of the disaster.

(2) Inpatient Facilities

(a) Caring for patients who reside in mental health facilities during disaster and emergency conditions;

(b) Implementing the mental health facility disaster plan;

(c) Coordinating the evacuation of patients from damaged or threatened mental health facilities;

(d) Protecting and providing security for those people committed to inpatient mental health facilities; and

(e) Preparing for and coordinating the reception of mental patients evacuated from other such facilities.

c. Other Services

(1) Providing nonemergency transportation of medical personnel, patients, supplies, and equipment;

(2) Maintaining emergency health and environmental health services at correctional facilities; and

(3) Maintaining vital statistics including birth and death certificates and exposure records.

H.V. ADMINISTRATION AND LOGISTICS

A. This section focuses *on* the administrative management of health and medical resources. It addresses the general support requirements and identifies sources that will be relied upon to obtain personnel, equipment, and supplies, transportation, facilities, services, and other resources required to support disaster response and recovery operations.

B. Specific requirements include:

1. Medical Response Teams. This section should first identify preorganized disaster teams available from health care institutions within the jurisdiction. Then it should sketch arrangements for requesting mutual aid teams from neighboring jurisdictions, from State sources, such as State Guard or militia units, and from Federal sources, such as military and National Disaster Medical System sources.

2. Augmentation Personnel. This section should **describe** sources of health and medical personnel to augment disaster medical teams, drawn from the following sources:

a. Local government emergency medical services personnel (general physicians, specialists, nurses, laboratory and x-ray technicians, emergency ambulance crews, et cetera) from medical and public health agencies and fire, police, public work, and other emergency services departments;

b. State employed general physicians, specialists, nurses, laboratory and x-ray technicians, emergency ambulance crews, et cetera;

- c. Volunteer general physicians, specialists, nurses, laboratory and x-ray technicians, emergency ambulance crews, et cetera;
- d. Medical school residents and teaching staff from throughout the State;
- e. **US Public Health Service** (to include sponsored disaster/medical assistance teams);
- f. Other volunteer medical personnel from throughout the State;
- g. US Armed Forces;
- h. The Indian Health Service;
- i. US Coast Guard;
- j. Veterans Administration personnel;
- k. Volunteer medical personnel from other States; and
- l. Business and industry medical departments.

3. Supplies and Equipment

- a. Medical supplies and equipment:
 - (1) Initial supply and resupply for **field** medical operations;
 - (2) Initial supply and resupply for mortuary and health services;
 - (3) Resupply of functioning hospitals in the affected areas; and
 - (4) Resupply of hospitals and other facilities outside the disaster areas receiving casualties.
- b. Sources of medical supplies and equipment:
 - (1) Other local stores (hospitals, pharmacies, emergency vehicles, local government resources, et cetera);
 - (2) County stored first aid stations, where available and usable;
 - (3) Mutual aid from unaffected areas;
 - (4) Private sector suppliers in the State;
 - (5) Private sector health care organizations that maintain a supply system for medical supplies and equipment; and
 - (6) National Disaster Medical System (Includes US Department of Defense, Department of Health and Human Services, Department of Veterans Affairs, and FEMA) Note: Local jurisdictions should work through their State emergency management agency and FEMA to obtain resources under the control of the Federal Government.

4. Transportation

- a. Local government-owned and commercial fixed-wing aircraft, trucks, and buses;
- b. US Armed Forces fixed-wing aircraft, helicopters, and trucks;
- c. Private and public ambulance companies;
- d. Water transport;
- e. Limousine and taxi companies;
- f. Mortuaries (for hearses); and
- g. Four-wheel and high-centered vehicles for medical evacuations under bad weather or terrain conditions.

H.VI. PLAN DEVELOPMENT AND MAINTENANCE

Jurisdictions that possess large, independent, and fully staffed health, medical, and mortuary services organizations may want to prepare separate annexes for the emergency medical officer, public health officer, and mortuary officer functions. Further, tasked organizations and agencies will prepare detailed standard operating procedures that include; call-down rosters for notifying personnel, step-by-step procedures for performing assigned tasks, telephone numbers and addresses/locations of other jurisdictions, area and local stores (grocery and drug), and medical warehouses that will provide pharmaceutical and medical supplies, telephone numbers, addresses, type, quantity, location, and procedures for obtaining transportation resources from Federal, State, local, and private organizations, and a listing of the radio communication call signs that each responding organization uses.

H.VII. AUTHORITIES AND REFERENCE

A. Authorities. This section should highlight those statutes, regulations, administrative orders, et cetera, which provide authority for:

1. The preparation of medical and health services disaster plans;
2. Designating the name of the agency and/or title of the officials that are to be responsible for management of medical and health services during disaster response and recovery operations;
3. Authorities as applicable to coroner/medical examiner and mortuary services during disaster response and recovery operations;
4. Authorities that provide for access to, use of, and reimbursement for private sector resources in an emergency, and for emergency procurement procedures; and
5. Authorities that provide for emergency powers under which emergency medical and public health activities are authorized. Also, the extent of liability and/or immunity status of emergency medical, public health, and mortuary services workers.

B. References. This section should cite references that were used to prepare the health and medical annex.

H.VIII. DEFINITION OF TERMS

Emergency Health Services. Services required to prevent and treat the damaging health effects of an emergency, including communicable disease control, immunization, laboratory services, dental and nutritional services; providing first aid for treatment of ambulatory patients and those with minor injuries; providing public health information on emergency treatment, prevention, and control; and providing administrative support including maintenance of vital records and providing for a conduit of emergency health funds from State and Federal Governments.

Emergency Environmental Health Services. Services required to correct or improve damaging environmental health effects on humans, including inspection for food contamination, inspection for water contamination, and vector control; providing for sewage and solid waste inspection and disposal; clean up and disposal of hazardous materials and sanitation inspection for emergency shelter facilities.

Emergency Medical Services. Services, including personnel, facilities, and equipment required to ensure proper medical care for the sick and injured from the time of injury to the time of final disposition, including medical disposition within a hospital, temporary medical facility, or special care facility, release from site, or declared dead. Further, emergency medical services specifically include those services immediately required to ensure proper medical care and specialized treatment for patients in a hospital and coordination of related hospital services.

Emergency Mortuary Services. Services required to assure adequate death investigation, identification, and disposition of bodies; removal, temporary storage, and transportation of bodies to temporary morgue facilities; notification of next of kin; and coordination of mortuary services and burial of unclaimed bodies.

ANNEXL

RADIOLOGICAL DEFENSE (RADEF)

L.I. PURPOSE

This annex provides for the organized effort necessary to minimize the effects of radiation on the people and resources of Liberty County through detection and implementation of preventive and remedial measures.

L.II. SITUATION AND ASSUMPTIONS

A. Situation.

1. Various radioactive materials are used in Liberty County and are transported into, out of, and through the county. There is a significant possibility of occurrence of incidents or accidents in the transportation and use of these materials; and while it is unlikely that such events would pose a serious threat to the health and safety of the population, it is necessary that the local government be able to detect radiation, to assess its seriousness, and to take appropriate protective and remedial actions.

2. Large stockpiles of nuclear weapons are maintained by our own country and a number of foreign powers. The possibility of one or more of these weapons being detonated accidentally or deliberately, cannot be ignored. Even if nuclear detonations were distant from this area, a protection system would be necessary for detection and assessment of a radiation hazard and might be essential to save the lives of, and prevent injury to, the people in Liberty County.

B. Assumptions.

1. In the event of a very serious peacetime nuclear accident, Liberty County could receive assistance from State and Federal governments and from the nuclear industry, all of whom have highly sophisticated systems in being to detect radiation, monitor it, and predict its spread.

2. Outside assistance would complement, and not supplant, Liberty County's own operating systems.

L.III. CONCEPT OF OPERATIONS

A. General.

1. The management of radiological emergencies involves three critical activities: (1) environmental surveillance, (2) personnel exposure control, and (3) protective measures.

2. In a large-scale emergency involving radioactive materials, many elements of local government will be integrated into a coherent RADEF system with the following components: (1) facilities, (2) equipment, (3) trained personnel, (4) communications, and (5) plans and procedures.

B. Execution.

1. RADEF operations for any large-scale radiological emergency will be directed and controlled from the EOC.

2. RADEF personnel will collect, analyze, and report radiological information. They will develop projections of hazard levels and areas affected and will make recommendations for personnel exposure control, continuing environmental monitoring, and protective measures.

3. The Radiological Defense Officer (RDO) will coordinate with all county departments and agencies to ensure maximum safety for operations personnel.

4. The locations of facilities which routinely use radioactive materials and are, therefore, considered more likely than others to be sites of radiological incidents are given in Tab 2.

5. Radiological decontamination will be conducted in accordance with the detailed RADEF procedures, included in Tab 3.

L.IV. ORGANIZATION AND RESPONSIBILITIES

A. Organization. A chart showing the county RADEF organization is provided in Tab 1.

B. Responsibilities. This section concerns RADEF operations in the general case. Additional information relating to particular hazards is included in appendixes to this annex.

1. Emergency Management

- a. Coordinate all RADEF activities;
- b. Establish a data analysis and damage assessment capability;
- c. Provide monitoring equipment (obtained through the State office); and
- d. Establish a comprehensive RADEF training program at the local level.

Provide appropriate assignments of responsibilities for all elements of the county emergency organization.
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L.V. ADMINISTRATION AND LOGISTICS

A. The RADEF program is administered by the Liberty County Department of Emergency Management.

B. The State of Columbia Emergency Management Agency is responsible for maintenance and calibration of Civil Defense radiological monitoring instruments.

L.VI. PLAN DEVELOPMENT AND MAINTENANCE

A. This Annex is maintained by the County Department of Emergency Management.

B. The County RDO develops and maintains a detailed RADEF SOP's. These procedures are attached to this annex in Tab 3.

C. All organizations in Liberty County with emergency management responsibilities will develop procedures for carrying out their roles in the RADEF system.

L.VII. AUTHORITIES AND REFERENCES

A. Authorities. Not used. See Section VII of the Basic Plan.

B. References.

Federal Emergency Management Agency. Disaster Operations--A Handbook for Local Governments, CPG 1-6, Washington, D.C.

Federal Emergency Management Agency. Radiological Defense Preparedness, CPG 2-1, Washington, D.C.

Federal Emergency Management Agency. Guide for Design and Development of a Local Radiological Defense Support System, CPG 1-30, Washington, D.C.

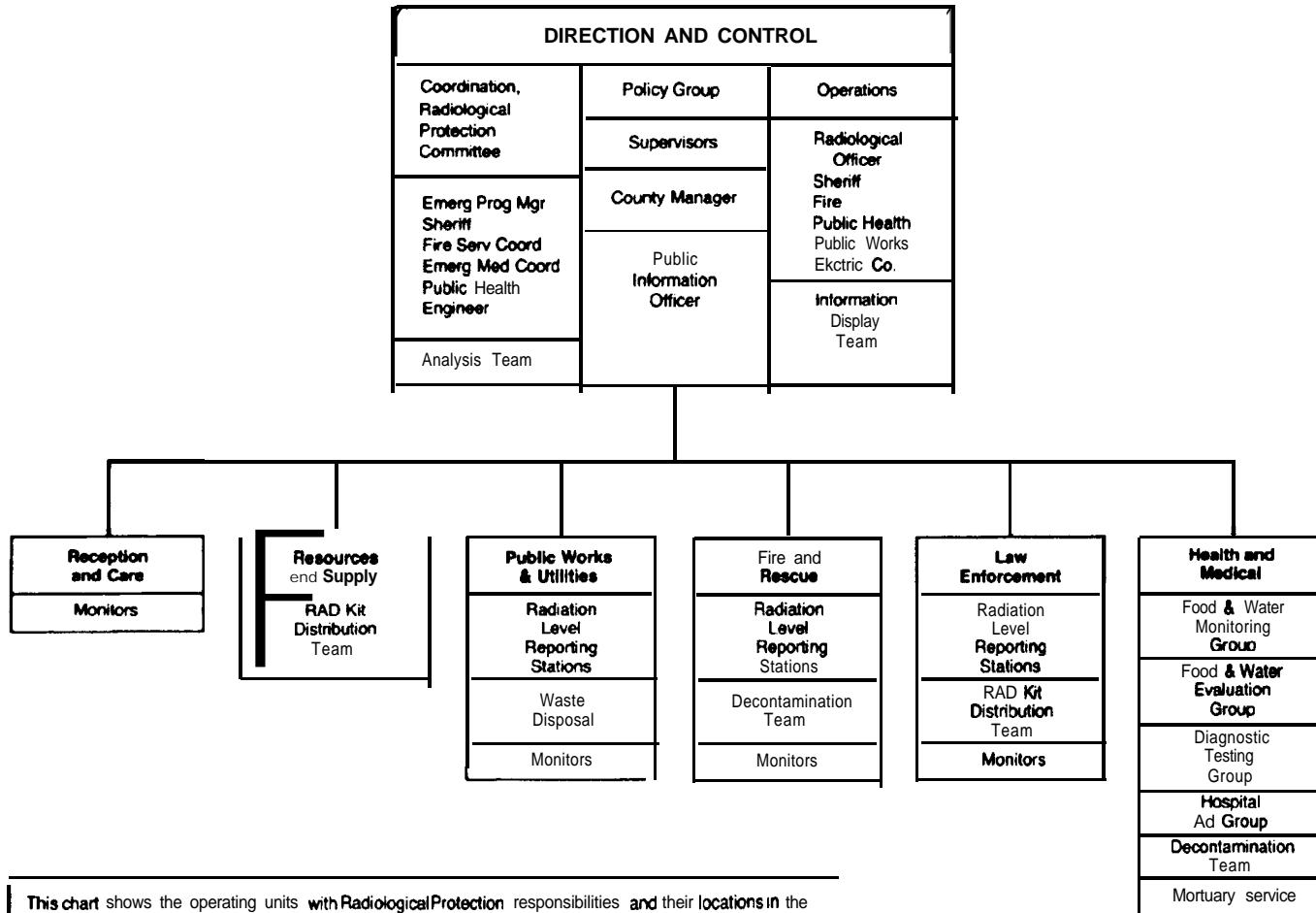
Federal Emergency Management Agency. Guidance for Developing State and Local Radiological Emergency Response Plans and Preparedness for Transportation Accidents, FEMA-REP-5, Washington, D.C.

L.VIII. DEFINITION OF TERMS

Radiological Defense Officer (RDO). The RDO is that State or local government official responsible for planning, developing, implementing, and maintaining a comprehensive RADEF system within a jurisdiction. At either level of government responsibility, the RDO leads in the deployment of viable RADEF emergency response capabilities. Technical knowledge is essential in addition to managerial skills, since the RDO functions as the resident expert on the effects and mitigation of high levels of radiation expected from nuclear attack.

Radiological Monitor (RM). An individual trained to measure, record, and report radiation exposure and exposure rates, and to provide limited field guidance on radiation hazards associated with the assigned operation.

Liberty County Emergency Organization for Radiological Protection



This chart shows the operating units with Radiological Protection responsibilities and their locations in the Liberty County Emergency Organization

Tab 1 to Annex H

L-4

Tab 2 to Annex L

LOCATION OF RADIOLOGICAL HAZARDS

1. Blue Water Nuclear Power Plant - Class I
2. Liberty County General Hospital - Class III

Additional locations are possible. All locations, e.g., education facilities, engineering companies, research facilities, should be indicated in this listing and on an accompanying map.

Tab 3 to Annex L

RADEF STANDARD OPERATING PROCEDURES (RADEF-SOP'S)

Procedures are critically important parts of the jurisdiction's emergency planning. The procedures, or key parts of them, should be attached to the RADEF Annex. Guidance on development of SOP's is included in the documents referenced in Paragraph L.VII.

APPENDIX L.1

RADEF FOR THE NUCLEAR ATTACK HAZARD

L.1.I. PURPOSE

This appendix covers RADEF relating to unique demands expected to be generated by a nuclear attack situation.

L.1.II. SITUATION AND ASSUMPTIONS

A. Situation.

1. The detonation of a nuclear weapon would cause a radiological hazard that differs markedly from that posed by peacetime hazards in the extent of the area affected and in the intensity of the radiation.

2. It is not possible to predict the size of an attack or the specific areas that would be directly affected. The number of weapons could be one, as in an accidental launch or terrorist incident, or it could be many, as in an all-out attack on **military** and economic targets. Development of a nuclear attack RADEF system will remain an advisable activity as long as stockpiles of nuclear weapons exist and the number of nations with sufficient technological development to produce nuclear weapons continues to grow.

B. Assumptions.

1. Liberty County can develop a RADEF System which meets all nuclear attack and peacetime radiological hazard requirements.

L.1.III. CONCEPT OF OPERATIONS

A. General. The stages of a Nuclear Defense Emergency are as described in the Direction and Control Annex, Appendix A.1. In the **preemergency** phase, an inherently expandable RADEF system will be maintained. The principal elements of this system are procedures, facilities, equipment, communications, and trained personnel.

B. Nuclear Defense Emergency Phase.

1. The emergency phase of a nuclear defense situation includes an increased readiness period, during which all elements of the RADEF system will be expanded, training will be conducted, and drills will be carried out to refine the capabilities of the system. A listing of radiation level reporting locations for a nuclear defense emergency is provided in a table in Tab 1 to this appendix.

2. If an attack actually occurs, all elements of the emergency organization will be dependent on the RADEF system for information to determine when emergency actions can be undertaken and to minimize the radiation danger to emergency services personnel.

3. The RADEF organization will be integrated across the board with the emergency management organization as a whole, i.e., personnel of all elements will be trained to monitor and interpret radiological data, so that radiological situation information will be available throughout the organization even during periods of seriously degraded communications.

C. Continuity of Government. The RADEF System will be carefully coordinated with Continuity of Government planning to provide enough information, analysis, and decontamination capability to ensure survival of personnel and continuation of essential functions of local government.

D. Shelter System Support. Radiological Information may be the key to survival for people in fallout shelters. A listing of instruments and monitors assigned by shelter facility is given in Tab 2 to this appendix.

L.1.IV. ORGANIZATION AND ASSIGNMENT OF RESPONSIBILITIES

A. Organization. Not used. See L.IV.

B. Assignment of Responsibilities.

1. Emergency Management. Coordinate with the State Emergency Management Agency and with neighboring jurisdictions on development of the RADEF system.

2. RDO.

a. Maintains rosters of the RADEF personnel.

b. Maintains inventories of RADEF equipment.

c. Provides RADEF training.

d. Supervises the radiological situation analysis team.

e. Prepares outgoing reports on the radiological situation.

f. Receives and analyzes reports and briefs Direction and Control staff on the radiological situation.

Provide other assignments of responsibilities specifically related to RADEF for the nuclear attack hazard.

L.1.V. Not used. See L.V.

L.1.VI. PLAN DEVELOPMENT AND MAINTENANCE

Procedural material covering specific hazards is included in the detailed RADEF-SOP under Tab 3 to Annex L.

L.1.VII. Not used. See L.VII.

L.1.VIII. Not used. See L.VIII.

Tab 1 to Appendix L.1

TABLE 1				
RADIATION LEVEL REPORTING LOCATIONS				
Jurisdiction:		Prepared By:		Date:
Name of Facility	Location	Type of Communications	Phone #, Radio Freq. & Call Sign	Name of Monitor

Tab 2 to Appendix L.1

TABLE 2									
SHELTER RADEF CAPABILITY									
Jurisdiction:		Prepared By:				Date:			
Facility	Address	Spaces	Type	Comm	Instrument sets			Monitors	
					Reqd.	Avail.	Stored	Reqd.	Avail.

Additional appendixes should be developed to cover unique aspects of radiological protection for other specific hazards.