

Annex 20, Registration and Information

NOTICE
to users of the National Plan
for Civil Defense and Defense Mobilization

Annex 20, Registration and Information, has been incorporated into Annex 19, Emergency Welfare.



Please retain this sheet with your annexes in the place of Annex 20.

THE NATIONAL PLAN
for
Civil Defense and Defense Mobilization

Annex 21

NATIONAL FIRE DEFENSE
PLAN



Executive Office of the President
OFFICE OF CIVIL AND DEFENSE MOBILIZATION

THE NATIONAL BUREAU OF INVESTIGATION

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THE NATIONAL BUREAU OF INVESTIGATION

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Office of the Director, FBI, Washington, D.C. 20535

Preface

This annex supports and amplifies the National Plan for Civil Defense and Defense Mobilization, particularly Part V, **Functions for Protection of Life and Property**, Section H, **Disaster Services**. It outlines the responsibilities, general guidance, and procedures for organized protection against the extraordinary effects of fire resulting from enemy attack. Some of these responsibilities and procedures are applicable also in major natural disasters.

Auxiliary documents, including Federal operations plans and prototype State and local operations plans, will be issued as necessary and will be subordinate to and compatible with this annex and the National Plan.

This annex is published in looseleaf form in order that pages may be added or replaced easily whenever revisions are made.



Director

Office of Civil and Defense Mobilization

Issued March 1960



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ANNEX 21

NATIONAL FIRE DEFENSE PLAN

I. Definitions

A. Fires, for purposes of this annex, are those resulting directly or indirectly from enemy attack, including both (1) urban-area fires, for the control of which organized fire departments are responsible, and (2) rural-area fires, for the control of which the rural fire defense organizations are responsible.

B. Fire defense, for purposes of this annex, refers to those extraordinary preparations and operations to prevent, contain, or curtail the destructive effects of fires directly or indirectly resulting from attack. It also includes other measures incident to firefighting under these conditions, such as training, rescue, salvage, water supply, reduction of fire potential, and fire-service chemical, biological, and radiological defense.

C. Rural areas, as referred to in this annex, include forests, other wild lands, and flammable-crop lands not under the jurisdiction of organized municipal fire departments.

II. Assumptions¹

A. Enemy-caused fires, from sabotage, incendiary weapons, and blast and thermal effects of nuclear weapons, would be a major destructive force in an attack upon the United States and would seriously impair survival and recovery activities. Fires resulting from combat operations would be another potential hazard. The

¹ See Annex 1, Planning Basis.



incidence of accidental fires and arson might well be greater during and soon after attack, because of then-existing confusion and disorder.

B. Fires under emergency conditions could exceed normal firefighting capability particularly when it is considered that ability to combat fires might be seriously impaired by radioactive fallout.

C. In general, primary reliance in combating such fires in urban areas would be placed in the capability of local firefighting organizations, aided where possible by related government services and by the available facilities of Federal, State, and other local governments.

III. General Responsibilities

A. Individuals and Families

Individuals and families are responsible for learning and applying the basic rules of fire prevention, for reporting fires, for extinguishing small fires, and for providing all possible assistance to their community fire protection efforts.

B. Industries and Other Organizations

Industries and other organizations are responsible for self protection against fires, including preventive measures and training, and for contributing to government fire protection efforts.

C. Local Governments

Local governments (county, metropolitan, or municipal) are responsible for providing fire defense for anticipated emergency needs within their jurisdictions, and for the active coordinated emergency planning among local fire, water supply, and health officials.

D. State Governments

State governments are responsible for assisting their counties and municipalities in developing capability for fire defense, for coordinating fire defense planning within their jurisdictions and with other States

and the Federal Government, and for making available to their political subdivisions, and when possible to other States, firefighting resources which can be spared. They are also responsible for direction of fire control on all State and private lands outside organized urban areas.

E. Federal Government

The Federal Government is responsible for the direction of fire control on all Federal lands outside organized urban areas. It is also responsible for guiding and coordinating fire defense planning with and among the States, for disseminating critical fire defense information, and for making available to the States in emergencies Federal firefighting resources and facilities not needed for military and other essential Federal requirements.

IV. Functions

A. Operations Preparedness

1. Objective

To assure practicable, coordinated, and efficient fire defense in a civil defense emergency.

2. Actions Required

a. Development and implementation of policies, organization, plans, and programs, consistent with planning assumptions, for fire defense operations. These plans should provide for:

- (1) Coordinated emergency action, including coordination of rural fire defense and organized fire department operations.
- (2) Facilities for direction and control.
- (3) Mutual aid.
- (4) Exchange of information on preattack conditions, postattack situations, and emergency operations.



- (5) Fire defense support programs, such as reduction of fire vulnerability, rescue, salvage, emergency water supply, emergency training, radiological monitoring and decontamination, and biological and chemical warfare defense measures.²
 - (6) Extraordinary rescue and salvage at fires, in areas subject to fire hazards, or under control of fire personnel.
 - (7) Standard operating procedures.
- b. Implementation and coordination by the various governments of emergency plans and programs for the defense of natural resources against fire.
 - c. Coordination of industrial and government fire defense activities with those of other emergency services within the particular jurisdiction.
 - d. Provision by the State and by the Federal Government, through the State as appropriate, of guidance and technical assistance through technical information and prototype plans, outlining standard operating procedures.
 - e. Periodic testing of operations plans by all fire defense agencies, singly and jointly.
 - f. Dissemination of information and promotion of programs for the removal or protection of combustibles and the reduction of fire vulnerability.³

² See Annexes 17, Disaster Services; 23, National Radiological Defense Plan; 24, National Biological and Chemical Warfare Defense Plan; 32, National Water Plan; and 37, Training and Education.

³ See Annex 9, Public Information.

- g. Compilation and maintenance of inventories of firefighting resources and other necessary operational data for use at government control centers.
- h. Establishment of automatic lines of succession for fire department officials, preservation of essential fire records, and establishment of appropriate alternative locations for emergency command and control of the fire organizations.⁴

B. Staffing and Equipment

1. Objective

To assure that firefighting forces have adequate personnel and equipment for essential fire defense activities during a civil defense emergency.

2. Actions Required

- a. Establishment and maintenance of emergency State, county, and municipal fire control facilities.
- b. Provision at each level of government of equipment and staffing necessary to carry out its emergency fire defense activities, and acquisition by industrial and other organizations of approved fire defense equipment, water supply, and emergency facilities as necessary.
- c. Strategic placement (including dispersal) of equipment and assignment of personnel by each fire defense organization in accordance with its fire defense plan and with mutual aid agreements.
- d. Maintenance of equipment in operable condition.



⁴ See Annex 8, Preparations for Continuity of Government.

- e. State and local participation in Federal grants-in-aid for emergency fire defense personnel and equipment in accordance with approved programs.
- f. Programs for recruitment and training of personnel to supplement, in an emergency, existing firefighting staffs.

C. Communications⁵

1. Objective

To develop adequate statewide and interstate fire defense communications systems, with provisions for effective coordination with Federal, State, and local control centers.

2. Actions Required

- a. Establishment and maintenance by the Federal Government, States, counties, municipalities, and industries of interconnected fire defense communications systems, including interstate and intercounty communications to implement mutual-aid agreements.
- b. Effective coordination by the Federal Government, States, and counties of fire defense communications within their jurisdictions.
- c. Provision of Federal technical and financial assistance to the States and their political subdivisions for fire communications.
- d. Federal authorization of fire defense communications networks.

D. Training⁶

1. Objective

To prepare fire defense personnel at each level of government for the performance of their functions under emergency conditions of extreme severity.

⁵ See Annex 15, Communications.

⁶ See Annex 37, Training and Education.

2. Actions Required

- a. Sponsorship, coordination, and extension of present fire defense training programs by Federal, State, and local governments, industries, and other organizations. Such expansion of existing training programs must be developed by qualified regular fire training officials and based on standard fire training programs, techniques, and procedures, expanded to cover applicable civil defense subjects, weapons effects, and the necessary staff and command requirements for large-scale emergency fire defense operations.
- b. Federal sponsorship of a fire defense training program extended to subjects not provided through regular fire defense sources.
- c. Training in technical fire prevention and protection, reduction of fire vulnerability, emergency water supply measures, rescue and salvage operations, and chemical, biological, and radiological defense.
- d. Retraining as necessary on the basis of tests and evaluations of emergency operations.
- e. Training of instructors to conduct local training courses in fire defense.
- f. Encouragement and assistance by the Federal Government and the States for approved fire defense training programs, including Federal financial assistance to the States and their political subdivisions for fire defense training and for construction of training facilities, and technical guidance and assistance in planning, designing, constructing, maintaining, and operating training facilities.



- g. Development and provision, by the Federal Government to the States and by the States to their political subdivisions, of training materials and other information pertinent to fire defense in civil defense emergencies.

V. Execution

In order to make the National Fire Defense Plan effective, it must be operated substantially as outlined below, and, where necessary, appropriate Federal, State, or local legislative action should be taken.

A. Industries and Other Organizations

Industries, institutions, and similar organizations should organize, train, and equip fire defense brigades or squads for self-help and mutual aid, and should coordinate with public fire departments.

B. Municipal Governments

1. Enact ordinances and establish policies for joint action among industrial fire brigades, municipal fire forces and other departments, and county and State fire defense organizations.
2. Participate in mutual aid arrangements and agreements required to implement county or area fire defense plans.
3. Assign responsibility to the chief fire officer for recruiting, training, equipping, supervising, and directing adequate personnel to fulfill the mission of fire defense.
4. Establish line-of-command succession for municipal fire officers.
5. Preserve essential fire department records.
6. Establish, where authorized, a municipal fire defense advisory committee.

C. County Governments

1. Arrange for and participate in mutual aid or area agreements required to implement State fire defense plans.
2. Obtain or establish authority required for development of county firefighting resources and for participation in mutual aid agreements.
3. Designate a fire official as county fire coordinator or equivalent, responsible for development of effective fire defense against enemy attack, and establish line-of-command succession for him and key members of his staff.
4. Preserve essential fire defense records.
5. Establish, where authorized, a county fire defense advisory committee with representation from participating units.

D. State Governments

1. Assist counties and municipalities to expand normal fire defense capabilities, including operations plans, resources, training, and procedures for mutual aid and unified command, to meet requirements of enemy attack.
2. Review existing State statutes to determine whether municipalities and counties within the State may, by local law or ordinance, adopt provisions authorizing interjurisdictional actions concerning fire defense.
3. Establish State areas, where necessary, for implementing State fire defense policies, plans, and programs, and for coordinating county and municipal fire defense plans and programs, within the areas' geographic limits.
4. Designate a State fire coordinator and establish line-of-command succession for that position and key members of his staff.



5. Delegate to the fire coordinator the authority necessary for discharging his responsibilities and developing a staff commensurate with the requirements for total State fire defense.
6. Establish a State fire advisory committee composed primarily of outstanding State fire organization officials and fire chiefs of probable target areas within the State.
7. Participate in mutual aid arrangements and agreements with other States and the Federal Government.

E. Office of Civil and Defense Mobilization

The Director, OCDM, shall direct and coordinate the National Fire Defense Plan for the Federal Government. OCDM shall:

1. Assist the State and local governments in developing fire defense plans and training programs.
2. Guide and coordinate fire defense activities of Federal agencies and their field establishments.
3. Assign to appropriate Federal agencies those functions required to implement the National Fire Defense Plan.
4. Provide necessary facilities and staffing at OCDM National, Operational, and Regional Headquarters and direct other appropriate Federal agencies to provide adequate emergency relocation sites and staffs, as appropriate, to assure operational capability for discharging their national fire defense responsibilities.
5. Coordinate a Federal research and development program to determine optimum methods, materiel, and facilities for the fire defense of the Nation⁷

⁷ See Annex 36, Research and Development.

and promulgate significant advancements in technical matters and operating procedures for fire defense.

6. Provide technical and financial assistance, including grants-in-aid, to the States and their political subdivisions for personnel, communications, equipment, and training.⁸
7. Evaluate periodic tests called for by State fire defense plans.⁹
8. In event of a civil defense emergency, evaluate the national fire situation postattack and disseminate this information to the States.¹⁰

F. Other Federal Agencies¹¹

1. The Department of Agriculture shall provide fire defense for all rural lands under its jurisdiction. In cooperation with local, State, and other Federal agencies, the Department shall develop a national program and direct Federal activities relating to the prevention and control of fires caused by the effects of enemy attack in rural areas of the United States.
2. The Department of the Interior shall provide fire defense for all rural lands under its jurisdiction and, as coordinated by the Department of Agriculture, shall function in the rural fire defense program as provided in national, regional, and State rural fire defense plans.¹²
3. Under the directive authority of OCDM, other Federal agencies shall participate in applicable programs of the National Fire Defense Plan.



⁸ See Annex 38, Federal Assistance.

⁹ See Annex 39, Review, Tests, and Inspection.

¹⁰ See Annex 14, Damage Assessment.

¹¹ See Annex 7, Role of the Military.

¹² Listed in an appendix to this annex.

THE NATIONAL PLAN
for
Civil Defense and Defense Mobilization

Annex 22

EXPLOSIVE ORDNANCE
RECONNAISSANCE



Executive Office of the President
OFFICE OF CIVIL AND DEFENSE MOBILIZATION

OFFICE OF CIVIL AND MILITARY MOBILIZATION

Executive Order of the President



RECORDS ADMINISTRATION
EXPERIMENTAL UNIT

June 55

Final Report and Progress Report

101

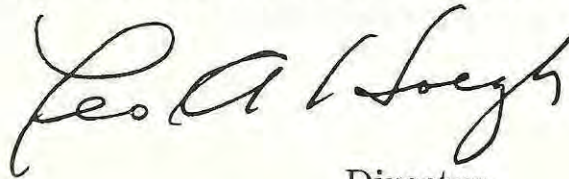
THE NATIONAL BUREAU

Preface

This annex supports and amplifies the National Plan for Civil Defense and Defense Mobilization, particularly Part V, Section I, **Functions for Protection of Life and Property**. It states the principles, responsibilities, requirements, and broad courses of action for the development of explosive ordnance reconnaissance capability.

Auxiliary documents, including prototype State and local operational plans, will be issued when necessary and will be subordinate to and compatible with the National Plan and this annex.

The annex is published in looseleaf form in order that pages may be added or replaced whenever revisions are made.



Director

Office of Civil and Defense Mobilization

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ANNEX 22
EXPLOSIVE ORDNANCE
RECONNAISSANCE

I. Definitions

A. Explosive ordnance includes unexploded bombs; artillery, mortar, and rocket projectiles; land mines; antipersonnel and demolition charges; grenades; pyrotechnics; aerial and naval mines, torpedo and depth charges; guided missiles; nuclear weapons; and all similar or related items or components.

B. Explosive ordnance reconnaissance consists of the detection, investigation, location, verification, marking, identification, and reporting of unexploded ordnance, including the initial evacuation of personnel.

C. Disposal refers to various measures to render explosive ordnance safe.

II. Assumptions

A. A potential enemy has the capability of launching a large scale, varied form of attack against the continental United States.

B. Such an attack would produce a number of unexploded ordnance incidents, including:

1. Unexploded bombs, shells, mines, and torpedoes.

¹See Annex 1, Planning Basis.



2. Downed friendly and enemy aircraft containing unexploded ordnance.
3. Malfunctional and unexploded missiles, both friendly and enemy.
4. Stocks of explosive material in fires and explosions resulting from military attacks.
5. Numerous false reports of all of the above types.

III. General Responsibilities

A. Public

The public shares the responsibility with the military, law enforcement agencies, and civil defense organizations for reporting the presence of unexploded ordnance or other suspected weapons or explosive devices to local law enforcement or other appropriate authorities.

B. State and Local

State and local governments are responsible for the detection and reporting of unexploded ordnance to the proper Federal authorities, for the initial evacuation of personnel from endangered areas, and for the disposal of *commercial type non-nuclear explosive devices* in areas under civil jurisdiction. Local actions under these responsibilities should conform to State plans.

C. Federal

The Department of Defense, through its component Military Departments, conducts explosive ordnance

disposal² and provides training and operational assistance to civilian agencies in the performance of responsibilities outlined above. Within the Department of Defense, the Department of the Army provides assistance, upon request of civil defense authorities, in training civilian personnel in explosive ordnance reconnaissance; and, in conjunction with the other Military Departments and with civil defense agencies, assists in the establishment and operation of an explosive ordnance reconnaissance and incident reporting system.³

IV. Functions

A. Planning and Operations

1. Objectives

- a. To enable prompt, effective action in reporting the presence of ordnance or other explosives that threaten the public safety or in minimizing the damage likely to occur if a detonation takes place.
- b. To develop a nationwide civil capability to cope with hazards inherent in the handling of unexploded ordnance.

²The Atomic Energy Commission would take custody and dispose of fissionable materials from any type of unexploded ordnance.

³See Annex 7, Role of the Military.



2. Actions Required

a. Public

- (1) Report promptly to proper authorities the location of unexploded ordnance, and if possible mark the site to warn others of the danger.
- (2) Observe instructions and orders of police or other authorities in charge at the sites of incidents for evacuation and other actions, including giving assistance as requested and appropriate.⁴

b. State and Local

- (1) Develop capability and competency for the immediate detection, recognition, identification, evaluation, and reporting of explosive ordnance and weapons incidents, and for disposal of *commercial type non-nuclear explosives and devices* in areas under civil jurisdiction. (The Atomic Energy Commission would take custody and dispose of fissionable materials from any type of unexploded ordnance.)
- (2) Establish standard operating procedures, working relationships, and communications procedures between civil and military authorities to facilitate the implementation of the explosive ordnance reconnaissance and disposal function.

⁴See Annex 16, Maintenance of Law and Order.

- (3) Undertake evacuation and related measures to protect the public, reconnaissance personnel and equipment, and other property from the effects of possible explosions and to avoid actions that may cause or contribute to causing explosions. These measures include determination of safety distances for specific types of identifiable unexploded ordnance and erection of protective works, such as sandbags, blasting mats, and embankments, to deflect or block blast waves in event a detonation takes place.

c. Federal⁵

- (1) Direction and coordination by OCDM of the civilian aspects of the explosive ordnance reconnaissance program, to assure maximum results.
- (2) Completion of operational plans and procedures, in coordination with State and local governments, which will insure a capability for explosive ordnance reconnaissance and disposal.
- (3) Final reconnaissance, identification, safe recovery, and field evaluation of United States and foreign explosive ordnance.



B. Training and Information⁶

1. Objective

To provide a program for training civil explosive ordnance reconnaissance agents that will

⁵Federal responsibility for explosive ordnance disposal will be carried out by the Department of Defense. See Annex 7, Role of the Military.

⁶See Annex 37, Training and Education.

fulfill the responsibilities of civil authorities for accurate reporting and reconnaissance activities on unexploded ordnance, and thereby to assure the military the information and coordination necessary to conduct effective disposal operations in civil areas.

2. Actions Required

a. Public

(1) Become generally informed concerning the explosive ordnance reconnaissance program—what it is, who is involved, what its objective is, and what the public's responsibility is in relation to the program.[†]

(2) Inform themselves through normal news and other media concerning the nature of explosive ordnance incidents and of their responsibilities in respect thereto.

b. State and Local

(1) Direct the initial effort to the training of active law enforcement personnel. This category affords the most dependable agent—accustomed to handling emergency situations, and with the authority and facilities to enforce reconnaissance decisions. It is intended not to preclude the concurrent training of other civil defense personnel but to place the emphasis on active duty police personnel.

[†]See Annex 9, Public Information.

- (2) Support the training and qualification of approximately 10 percent of all regular police and other law enforcement officers in the explosive ordnance reconnaissance function.⁸
- (3) Encourage and support training of regular police as required to accomplish the disposal responsibilities outlined in Section III.B.
- (4) Assist in detailed explosive ordnance reconnaissance program coordination and scheduling, to provide the maximum product from the Army explosive ordnance reconnaissance training.
- (5) Coordinate in the preparation and release of information concerning the explosive ordnance reconnaissance program so as to apprise the public concerning their responsibilities in the matter.

c. Federal

- (1) Develop and disseminate—by OCDM—suitable public information materials for use by Federal, State, and local governments in promoting understanding of this aspect of defense.

⁸Police selected for this training will be 10% of departments in metropolitan areas of 100,000 population and over, 20% of State police departments, and 10% of other departments including county sheriffs' departments and police from other than metropolitan areas. The total to be qualified will approximate 10% of all Federal, State, and local law enforcement personnel.



- (2) Train sufficient personnel—by field establishments of Federal agencies with responsibilities for explosive ordnance reconnaissance.

V. Execution

A. Execution of State and local government and individual responsibilities is in accordance with Part IV, Section B, and Part V, Section I, Subsection 2, of the National Plan and in coordination with authorities applicable to execution of Federal responsibilities.

B. The Federal Government and States shall provide, as appropriate, stimulation, coordination, guidance, and assistance in the execution of explosive ordnance reconnaissance training programs.

C. The Federal Government shall carry out training and education programs to discharge its military and nonmilitary defense responsibilities, functions, and activities for explosive ordnance reconnaissance.

THE NATIONAL PLAN
for
Civil Defense and Defense Mobilization

Annex 23

NATIONAL RADIOLOGICAL
DEFENSE PLAN



Executive Office of the President
OFFICE OF CIVIL AND DEFENSE MOBILIZATION

THE NATIONAL PLAN

for

The Defense and Science Mobilization

Program

1950-1955

1950-1955



Department of Defense
Washington, D. C.

Preface

This annex supports and amplifies the National Plan for Civil Defense and Defense Mobilization, particularly Part V, Section I, **Emergency Protection from Delayed or Unconventional Weapons Effects**, Subsection 2, **Radiation**. It states the principles, responsibilities, requirements, and broad courses of nonmilitary action incident to *radiological defense in the event of nuclear attack or major nuclear disaster*. The National Health Plan, Annex 18, contains the provisions for protection against the health hazards of radiological contamination.

Auxiliary documents will be issued as necessary and will be subordinate to and compatible with this annex and the National Plan.

The annex is published in looseleaf form in order that pages may be added or replaced easily whenever revisions are made.



Director

Office of Civil and Defense Mobilization



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ANNEX 23

NATIONAL RADIOLOGICAL DEFENSE PLAN

I. Definition

A. Radiological Defense

“Radiological defense” is the organized effort, through detection, warning, and preventive and remedial measures, to minimize the effect, on the people and resources of the United States, of nuclear radiation in the event of enemy attack or other major nuclear disaster.

B. Radioactive Fallout

Radioactive fallout is the surface deposition of radioactive material which has been explosively distributed in the atmosphere by the detonation of a nuclear weapon. When a bomb is detonated at heights which allow the fireball to come in contact with the ground, great quantities of pulverized and vaporized material are carried up in the atmosphere. The cloud then contains a vast amount of radioactive dust particles of all sizes, from submicroscopic specks to visible grains or flakes. The larger particles settle to the ground rapidly, the smaller more slowly. The particles of earth are not in themselves radioactive, but fragments of bomb materials adhere to them and fall to the ground. This is fallout.



II. Assumptions¹

A. Enemy Nuclear Attack

An attack with surface-burst nuclear weapons on the United States would seriously contaminate vast areas of the Nation with radioactive fallout. Radiological contamination would be widespread and in many situations long-lasting and intense. It would cause substantial numbers of casualties. Serious radiation dosages could lessen the survivors' ability to work. The radiation hazard could also deny access to some areas for months for living or employment purposes and for many years for certain farming purposes.

B. Major Nuclear Disaster

Serious contamination could result from nuclear detonations elsewhere, from sabotage, or, despite every precaution, from nuclear accidents in this country.

III. General Responsibilities

A. Federal

1. Office of Civil and Defense Mobilization

The Director, OCDM, is responsible for overall nonmilitary radiological defense planning, leadership, and coordination with respect to nuclear disasters caused by enemy attack and for nuclear accidents declared major disasters by the President.

2. Other Federal Agencies

All Federal agencies are responsible for protection of personnel at their own facilities against radiological contamination and for performing assigned nonmilitary radiological defense functions.

¹See Annex 1, Planning Basis.

B. State and Local

State and local governments are responsible for the development and implementation of nonmilitary operational radiological defense plans and programs under their jurisdiction.

C. Industrial, Institutional, and Individual

Industries and institutions are responsible for protecting personnel at their facilities against radiological contamination and for assisting the community radiological defense effort. Individuals and families are responsible for learning and conducting personal measures to minimize radiation effects, and for supporting and assisting the community radiological defense program.²

IV. Elements of Radiological Defense

A. Detection and Reporting of Radiological Hazards

1. Presence of Radiation

For civil defense and defense mobilization purposes, the radiological hazard is of two kinds—that which comes directly from the weapon or device and that which is carried to earth on particles of matter thrown aloft by the explosion. The latter, fallout, is of greatest concern to civil defense and defense mobilization. The amount of radioactivity from a nuclear detonation varies, depending on such factors as design and size of the weapon, and the environment in which it is detonated (i.e., kind of ground surface, height of burst,

²See Annexes 2, Individual Action; 10, National Shelter Plan; and 11, Protection of Essential Facilities.



windspeed and direction, etc.). Direct radiation is usually confined to the area of blast, but fallout from a single weapon can occur over thousands of square miles.

2. Prediction of Radiation Areas

Weather Bureau and other reports of climatic and atmospheric conditions are used to *predict*, for research and testing, *probable* areas of fallout using assumed data on detonation. These reports would also be used to make rough *approximations* of the radiological hazard resulting from attack, until actual information can be obtained through monitoring.

3. Detection

Radioactivity cannot be detected by the senses, but instruments can detect and measure it. These include *dosimeters*, which measure accumulated dose, and *rate meters*, in the form of (1) fixed-station monitoring devices for remote reading without exposure to the operator, (2) aerial survey instruments for general estimation of radiation levels over a wide area from aircraft, and (3) survey meters for use by trained monitors.

4. Monitoring Systems

Monitoring systems will be developed at all levels of government to detect and evaluate the hazards resulting from an attack. They will use radio, teletype, and telephone for the two-way exchange of radiological intelligence and warning. The fixed-station Federal monitoring network, ultimately consisting of over 3,000 stations (one per county), will provide early *general* assessment

of the fallout situation. State and local systems will provide detailed monitoring services for operational use.

5. Data Evaluation

Radiation intensity reports will be evaluated at the control centers of each level of government by specially trained radiological defense officers, to assist in determining protective, remedial, and recovery actions. Summaries of these data will be provided to the next higher level of government.

B. Protection from Radiation

Protective measures against fallout radiation involve two courses of action—shelter and evacuation.³

Radiation shelter is anything that decreases the amount of harmful radiation reaching the persons or objects involved. While specially constructed shelters are best, any shielding material affords some degree of protection, increasing with its thickness. Denser materials absorb more radiation and therefore provide more protection. Programs to provide improvised shelters in private homes and public buildings are strongly encouraged. When attack is imminent, everyone must seek and remain in a place providing the best protection available. Hours may elapse before the arrival of fallout from a detonation many miles away.

Evacuation from shelter in a contaminated area must not occur unless and until it is certain that the exposure during evacuation is not more dangerous than the consequences of remaining sheltered.

³See Annex 10, National Shelter Plan, and Annex 12, Directed Movement.



Exposure time, as well as allowable dose, would depend on the urgency of the situation, previous exposure, and other factors. Both monitors and the general public **MUST AVOID ALL UNNECESSARY EXPOSURE.**

C. Radioactive Decay

Following the bomb burst, radiation intensities fall off (or decay) very rapidly. Decay is expressed in terms of half-life, the time required for the radioactivity of a given quantity of a particular radioisotope to decrease or decay to half its value. A close approximation of the decay principle can be obtained by assuming that the dose rate will decrease by a factor of 10 for every seven-fold increase of time. Using this assumption, a dose rate of 1,000 roentgens per hour at H + 1 hour will decay to 100 r/hr at H + 7 hours, to 10 r/hr at H + 49 hours, and to 1 r/hr at H + 343 hours (approximately 2 weeks). This assumption is satisfactory for planning purposes for the first month or two postattack but should be used with extreme caution for operational purposes.⁴

Only repeated monitoring will indicate the actual dose rate and variations resulting from overlap, decay, and weathering.

D. Decontamination

Radiological decontamination is the reduction or removal of contaminating radioactive material from a structure, area, object, or person. Radioactivity cannot be destroyed. Decontamination may be accomplished by

⁴See OCDM Technical Bulletin 11-22, *Radiation Physics and Bomb Phenomenology*, and *Effects of Nuclear Weapons* (Department of Defense and Atomic Energy Commission, June 1957).

(1) treating the surface so as to remove or decrease the contamination, (2) letting the material stand so that the radioactivity is decreased by natural decay, or (3) covering the contamination so as to decrease the radiation hazard. The method of decontamination depends on the extent of contamination, the type of surface contaminated, and the availability of decontamination personnel, materials, and equipment.

Decontamination may be partial or complete. Partial decontamination is the rapid, partial removal or covering of contamination on a large scale, in order to reduce the radiation dose rate as quickly as possible to a point where priority work can be accomplished with reasonable safety. Subsequent complete decontamination is accomplished as required to reduce further the radiation hazard and would be based on the relative importance of the contaminated areas or objects and on other considerations such as man-hours required, resources available, and alternative possible solutions.

Certain vital areas, such as communications centers or control centers, and essential equipment, such as fire-fighting apparatus and ambulances, may require immediate decontamination so that they can be employed in civil defense activities. Personnel decontamination would similarly be initiated as soon as possible. However, general decontamination should not be started until authorities responsible for radiological defense have determined the extent of the hazard presented by the contamination. Decontamination efforts usually involve a risk to the personnel and should be deferred as long as possible, consistent with the importance of the mission, to take advantage of natural radioactive decay.



V. Functions

A. Public Information and Education⁵

1. Objectives

- a. To increase public knowledge of the nature and hazards of radiation and its effects.
- b. To provide public instruction in the preattack and postattack measures to combat the effects of radiation.

2. Action Required

In accordance with the general responsibilities provided in Part III above, Federal, State, and local governments will instruct the people on the nature of radiation and fallout, such as general rate of decay; the effects of radiation on people, plants, and animals; and the principles of protection from radiation, including avoidance, shielding (including shelter), and removal of source (decontamination). Primary means of public instruction are public schools, adult education, use of all appropriate public information media, and use of industries, institutions, and all other organizations—national, State, and local—to reach the community and neighborhood leaders.

B. Technical Training⁶

1. Objective

To develop the technically qualified personnel required for the operation and maintenance of radiological defense systems, equipment, and facilities.

⁵See Annex 9, Public Information, and Annex 37, Training and Education.

⁶See Annex 37, Training and Education, and Annex 38, Federal Assistance.

2. Actions Required

In accordance with the general responsibilities provided in Part III above, Federal, State, and local governments will:

- a. Establish curricula and devise course content for all levels of instruction (including schools, colleges, and adult education) and maintain curricula and course content that will accurately reflect operational requirements and scientific and technological progress. (In addition to providing curricula and course content for Federal training facilities, the Federal Government, under the general direction of OCDM and through appropriate Federal agencies, will provide technical and financial assistance to State governments.)
- b. Establish training schools, training teams, and informal instructional systems to train radiological defense instructors, monitors, and radiological defense officers. (The Federal Government provides instruction in radiological defense at the OCDM Radiological Defense School at Battle Creek, Mich., at the OCDM Regional Offices, at the OCDM training centers at Manhattan Beach, N. Y., and Alameda, Calif., and throughout the country by traveling teams. Instruction is also provided through training programs sponsored and conducted by other Federal agencies and by State and local governments, to which the Federal Government will contribute technical advice and financial assistance.)



- c. Recruit trainees, insure the continued applicability of their state of training, and retrain where necessary.
- d. Encourage designation and training of personnel for radiological defense in industries, institutions, and government departments and agencies.

C. Radiological Defense Equipment and Facilities⁷

1. Objectives

- a. To insure the operational availability of radiological defense and decontamination equipment, facilities, systems, and production materials in such quantities and of such quality as to make maximum use of the trained or qualified personnel available at any time.
- b. To provide radiological defense equipment, facilities, and systems adequate for training and public education needs and for research, development, testing, and exercises. This includes, but is not limited to, instruments and course materials provided to high schools and colleges for public education needs and radiological defense equipment provided to government agencies for research and for training and exercises.

2. Actions Required

- a. Under coordination by OCDM, Federal, State, and local governments, to the extent of their capability, will:

⁷See Annex 38, Federal Assistance.

- (1) Stimulate the production of improved radiological defense equipment, decontaminants, facilities, and systems through technical assistance to producers of such items and through such financial incentives as Federal loans or guarantees under the Defense Production Act.
 - (2) Procure and distribute survey meters, dosimeters, and other special radiological defense equipment and supplies for training, testing, and operational purposes.
 - (3) Encourage industries and appropriate organizations to become a part of the organized State or local civil defense effort and to equip and train personnel in the use of radiological defense instruments and procedures for protecting their facilities and supplementing government capabilities.
 - (4) Activate, equip, and maintain calibration and repair centers for radiological defense instruments and equipment. At least one such center should be maintained in each State and, where appropriate, in cities. (The Federal Government provides technical and financial assistance to the States for the development and maintenance of these centers and maintains its own centers in Federal warehouses.)
- b. The Federal Government will develop and maintain a Federal fixed-station radiological defense monitoring capability in each county of the United States. Appropriate Federal agencies



will work with and assist OCDM in establishing this monitoring capability.⁸

- c. Individual householders are responsible for procuring a citizen's dosimeter and survey meter when these become available.

D. Research and Development

1. Objectives

- a. To increase knowledge of the effects of radiation on humans, animals, plants, foods, drugs, and other materials.
- b. To devise improved methods and equipment for the identification, evaluation, and reporting of radiological hazards.
- c. To investigate all possible means of preventing, diminishing, or removing radiological hazards and to devise methods and equipment for employing those means found to be effective and practical.

2. Actions Required⁹

- a. The Federal Government will:
 - (1) Conduct or arrange for research into radiological effects and defenses against them for civil defense and defense mobilization purposes.
 - (2) Recommend to State and local governments and to private organizations, and where appropriate provide technical and financial

⁸See Annex 5, Federal Delegations and Assignments.

⁹See Annex 36, Research and Development.

assistance for, research studies and experimentation which they might conduct, including but not limited to criteria for personnel exposure, shielding factors, instrumentation, decontamination, prediction, and operational procedures.

- b. The governments of States and their political subdivisions, to the extent of their capability and in accordance with their operational requirements, will conduct or arrange for research applicable to their jurisdictions.

VI. Execution

A. Actions taken under the National Radiological Defense Plan shall be directed and coordinated by the Director, Office of Civil and Defense Mobilization, as measures essential for the protection of life and property in accordance with Part IV, Section A; and Part V, Section I, Subsection 2, of the National Plan, and Annex 5, Federal Delegations and Assignments.

OCDM shall allocate radiological defense and decontamination equipment to the Federal, State, and local governments under provisions of the loan and grant or transfer programs and shall match funds for procurement under the Federal Contributions Program.

B. Execution of Federal responsibilities not reserved by the Director shall be in accordance with Part IV, Section A; and Part V, Section I, Subsection 2, of the National Plan; and Annex 5, Federal Delegations and Assignments.



1. The Department of Defense monitors and reports, through military weather teletype circuits, observed radiation intensities at all locations served by the Air Weather Service.¹⁰
2. The Department of Commerce shall provide forecasts of likely fallout areas, establish radiological monitoring and reporting capabilities at the Weather Bureau Observatories, assist in the testing of monitoring equipment, and furnish information on radiation protection.
3. The Federal Aviation Agency shall establish radiological monitoring and reporting capabilities at its facilities.
4. The Atomic Energy Commission shall continue to develop and provide pertinent information on weapons effects and other matters related to radiological defense.
5. The Department of Agriculture shall prepare national emergency plans and develop preparedness programs for radiological defense as it affects livestock, crops, meat and poultry, and agriculture generally.
6. The Department of Health, Education, and Welfare shall provide results of research on biological effects of radiation and on the effects of radioactive contamination on food, drugs, and water (except that covered by USDA), develop standard procedures for collection and laboratory analysis of food, drug, and water samples, and assist in personnel training in the monitoring of water, food, and drugs.

¹⁰See Annex 7, Role of the Military.

7. The Department of Labor shall inform prospective workers, recruited for assignments involving exposure to radiological hazards, of the extent of such risks; and shall assist in the development of programs for training monitors and other technicians requiring specialized skills for radiological defense.

C. Execution of responsibilities of State and local governments, private organizations, and individuals shall be in accordance with Part IV, Section B; and Part V, Section I, Subsection 2, of the National Plan.

