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Annual Report 1960

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF CIVIL AND DEFENSE MOBILIZATION

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ANNUAL REPORT

of the

Office of Civil and Defense Mobilization

for

FISCAL YEAR 1960



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EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF CIVIL AND DEFENSE MOBILIZATION

LETTER OF TRANSMITTAL

The Honorable, The President of the United States.

The Honorable, The President of the Senate.

The Honorable, The Speaker of the House of Representatives.

I have the honor of transmitting to you the second Annual Report of the Office of Civil and Defense Mobilization. This report is submitted in conformity with section 406, Public Law 920, of the 81st Congress.

Respectfully,

A handwritten signature in cursive script, appearing to read "Leo A. Hoegh".

LEO A. HOEGH, *Director.*

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PREFACE

This report covers the period of July 1, 1959, through June 30, 1960. The report is in narrative summary form containing a minimum of statistical data. Greater statistical details are presented in the OCDM Annual Statistical Report available upon request.

Part I

INTRODUCTORY SUMMARY

The collapse of the Summit Conference in May 1960 was an emphatic reminder of the need to keep the Nation's total defense strong. Civil defense and defense mobilization remain a vital part of that defense.

FOUNDATION, PLANS, AND ACTION

By the end of FY 1960, OCDM had built a firm foundation for non-military defense. Some major basic elements of this foundation are:

1. *The increasing stature and unity of nonmilitary defense efforts resulting from creation of OCDM in the Executive Office of the President.*—FY 1960 was the second year of operations under the unified Federal direction and guidance stemming from this action.
2. *The National Plan for Civil Defense and Defense Mobilization.*—With its supporting annexes, the National Plan has guided the coordinated planning by governments at all levels, industry, families, and individuals. Each State, 240 metropolitan areas within the States, and approximately 50 percent of the counties have plans supporting it.
3. *Major changes in civil defense legislation effected by Public Law 85-606.*—After almost 2 years, the effects of these changes have become increasingly evident in contributing to carrying out the National Plan; e.g., increased Federal responsibility, and Federal procurement, maintenance, and distribution of radiological instruments and detection devices. On Jan. 1, 1961, when a \$6 million appropriation becomes available for making Federal financial contributions to the States for civil defense personnel and administrative expenses, the State and local governments will be able to support and implement the National Plan more vigorously.
4. *Operating plans.*—OCDM maintained a continuing review and analysis of the two principal operating plans for mobilization readiness: (1) Plan C for use in a limited war involving United States military action overseas with increased threat of attack on the continental United States, and (2) Plan D-Minus for use in the event of devastating attack directly upon the United States.
5. *The major OCDM programs being carried on throughout the Nation with increasing vigor and support.*—Parts II, III, and

IV of this report summarize accomplishments in carrying out the objectives and functions of these programs.

Foundations and plans for nonmilitary defense are of value to the Nation only to the extent that they are instrumental in producing action. As related in the remaining parts of this report, plans have been and are being converted into action on all fronts of civil defense and defense mobilization programs. Principal results of these actions are:

1. *An excellent warning system.*—Warning can be sent to 377 points in 15 seconds and to 5,000 local points in an average time of 7 minutes.
2. *An excellent communications network.*—Wire communications connecting OCDM's relocation site, Operational Headquarters, regional offices, and State civil defense offices are being backed up by a radio network.
3. *Successful preparations for the continuity of governments.*—The executive branch of the Federal Government has active programs in all phases of these preparations. Most States and many local governments are following this example.
4. *An expanding radiological defense monitoring system.*—An estimated 1,500 Federal and 18,000 State and local monitoring stations are in existence.
5. *Strong field organization.*—The eight Regional Offices of OCDM have been strengthened with the help of other Federal departments. Protected sites have been planned for all Regional Offices and construction on one site is to begin in December of 1960.
6. *The National Shelter Policy.*—Through the Federal role of education, example, and leadership, the National Shelter Policy has generally been accepted. A recent Gallup Poll reported that 71 percent of the population favor fallout shelters. Thousands of persons are building shelters, and many industries are providing shelters.
7. *Civil defense stockpile.*—The stockpile of survival items contains medical supplies and engineering equipment, including approximately 1,400 prepositioned emergency hospitals.
8. *Stockpiles of strategic and critical materials and food.*—Government inventories of specification-grade strategic and critical materials stored for emergency use totaled more than \$7 billion at June 30, 1960, market prices. In addition, the Commodity Credit Corporation stockpile contained sufficient food supplies for postattack recovery.
9. *National Defense Executive Reserve.*—Approximately 2,250 leaders from industry, labor, business, education, and various

organizations are prepared to help carry out the emergency mobilization functions of the Federal Government.

10. *Industry readiness.*—Many industries are prepared for emergency operations and are leading the Nation by example and accomplishments in their preparedness programs.

The actions and accomplishments at the end of FY 1960 show that the foundation and the plans for the Nation's nonmilitary defense are sound. The building and strengthening of the OCDM action programs based on this foundation and these plans must continue, with unceasing vigor, to correct deficiencies as they arise and provide dynamic leadership for the future.

FINANCIAL SUMMARY

Funds from regular appropriations available to OCDM during FY 1960 totaled more than \$54.7 million, including new appropriations of \$52,885,000. At the end of the year, OCDM had obligated more than \$49 million. More than \$5.5 million remained unobligated, as shown in table 1.

TABLE 1.—*Financial summary for FY 1960*

Appropriation title	Funds available	Funds obligated	Unobligated balance
Salaries and Expenses.....	\$29, 555, 000	\$29, 260, 146	\$294, 854
Federal Contributions.....	10, 000, 000	9, 943, 893	56, 107
Emergency Supplies and Equipment..	6, 950, 000	6, 757, 666	192, 334
Research and Development.....	5, 862, 170	3, 187, 922	¹ 2, 674, 248
Construction of Facilities.....	2, 400, 000	104, 969	² 2, 295, 031
Total.....	54, 767, 170	49, 254, 596	5, 512, 574

¹ To be obligated early in FY 1961 primarily for projects on prototype fallout shelter models and shelter availability surveys.

² To be obligated in FY 1961 for construction of OCDM regional underground control center at Denton, Tex.

In addition to the regular appropriation funds shown in table 1, OCDM had appropriated funds for use in natural disaster aid under Public Law 875, as follows:

Appropriated through FY 1960.....	\$115, 300, 000
Obligated through FY 1959.....	98, 784, 581
Unobligated in FY 1960.....	16, 515, 419
Recovery from prior obligations.....	1, 482, 365
Available for FY 1960.....	17, 997, 784
Obligated in FY 1960.....	4, 539, 825
Unobligated balance, end of FY 1960.....	13, 457, 959

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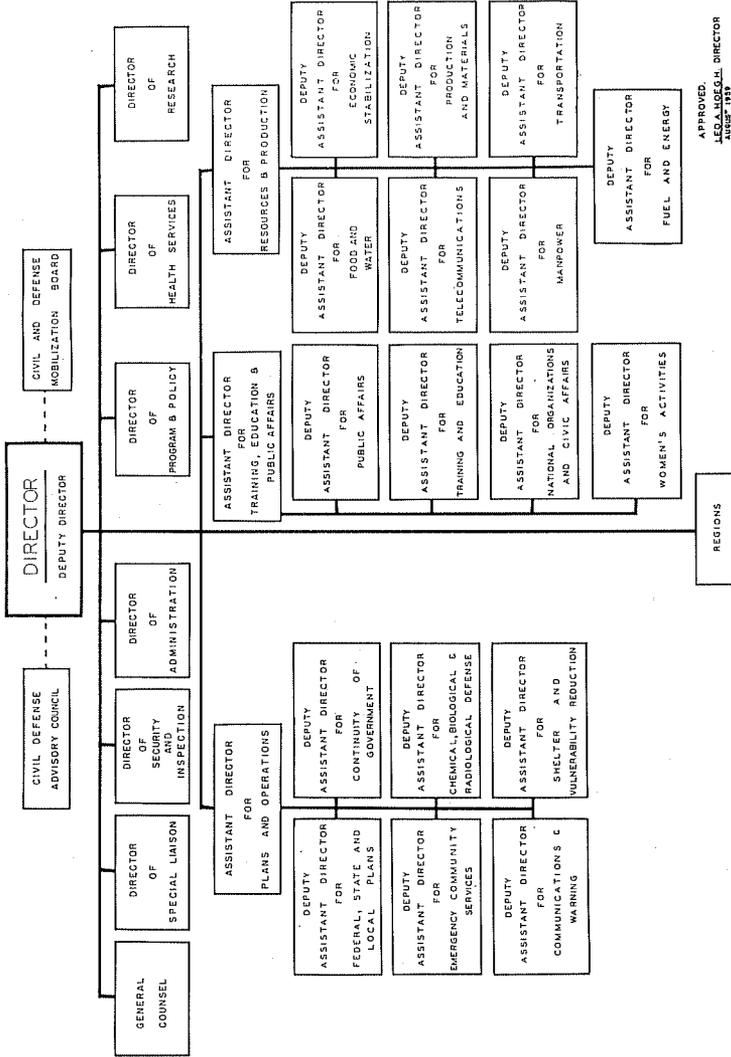


FIGURE 1.—OCDM organization chart.

APPROVED:
JAMES H. MOHR, DIRECTOR
AUGUST 1961

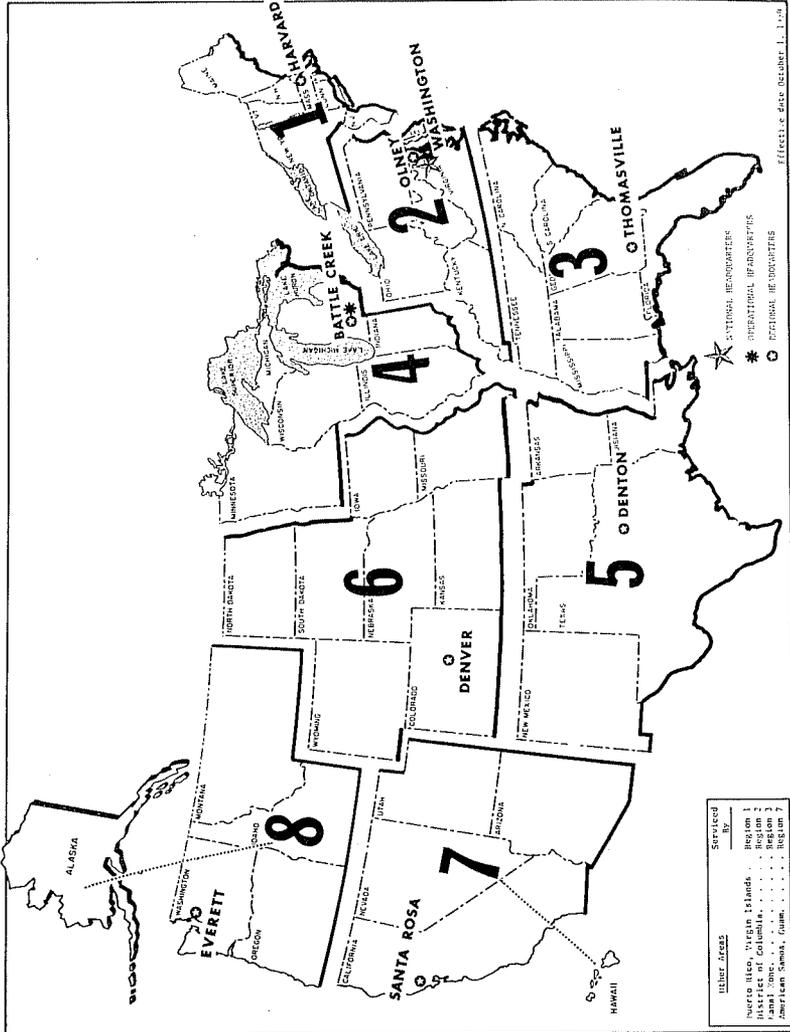


FIGURE 2.—OCDM regions.

HEER CODES	Served By
Puerto Rico, Virgin Islands	Region 1
District of Columbia	Region 2
American Samoa, Guam	Region 3
	Region 4
	Region 5
	Region 6
	Region 7
	Region 8

Effective date: December 1, 1964

The national stockpile of strategic and critical materials accumulated according to the Stock Piling Act (Public Law 520, 79th Congress) was valued at \$6 billion based on June 30, 1960, market prices. In FY 1960, storage and handling costs totaled \$16 million and the net costs for rotation of materials subject to deterioration totaled \$23 million.

Major FY 1960 expenditures under the Defense Production Act program were for the acquisition costs of DPA inventories. Net DPA program expenditures totaled \$130 million for the year.

Part II

PROTECTION OF LIFE AND PROPERTY

A major civil defense and defense mobilization mission is the protection of life and property. OCDM sought to accomplish this mission through persistent strengthening and expansion of the programs outlined for the protection of life and property in the National Plan. By assistance, guidance, and example, OCDM has shared the responsibility for achieving this mission with the State and local governments. This part of the report summarizes the FY 1960 progress and status of the principal OCDM programs for the protection of life and property.

CONTINUITY OF GOVERNMENT

The Continuity of Government Program is based on the principle that the Nation's nonmilitary defenses must be developed within the framework of Federal, State, and local governments. It is designed to insure the survival and effective operation of civil government in case of attack and thereby improve emergency operational capability, prevent unlawful assumption of authority, and reduce the necessity for martial rule. The four major goals of this program as set forth in part V, section A, and Annex 8 of the National Plan are:

Establishment of Automatic Lines of Succession for Key Officials and Employees in All Three Branches of Government.—The departments and agencies of the executive branch of the Federal Government have generally established adequate emergency lines of succession. Provisions also exist for filling vacancies in the Federal judiciary and in the Senate. An amendment to the United States Constitution is required to insure the effective operation of the House of Representatives under nuclear attack conditions.

The Council of State Governments has adopted as suggested State legislation, OCDM-sponsored sample acts to: (1) Provide for automatic lines of succession in all three branches of State government, (2) enable local governments to take similar measures, and (3) provide for the temporary relocation of the seat of State and local governments. In addition, an enabling constitutional amendment has also been recommended by the Council. To date, 38 States have adopted part or all of this suggested legislation. Fourteen of these States will submit the constitutional amendment to the voters for ratification in

the November 1960 elections. A sample local ordinance covering lines of succession has been developed in cooperation with the National Association of County Officials and the National Institute of Municipal Law Officers and other interested organizations.

Preservation of Essential Records.—Most Federal departments and agencies recently reported to OCDM that their Essential Records Preservation Program was satisfactory. The remaining agencies are taking immediate steps to improve their programs. All agencies having personnel assigned to the OCDM Classified Location are making certain that copies of their essential records needed for the first 30 days of operations under attack conditions are stored in this protected facility.

In the past year Columbia and DePaul Universities, under contract to OCDM, completed sample State acts covering records management and preservation of essential records. These sample acts have been approved by the Council of State Governments and made a part of their *Suggested State Legislation Program for 1960*. Work also began this year on the development of a model ordinance for use by cities and counties in establishing their own records programs.

Establishment of Emergency Operating Centers.—All Federal agencies have selected emergency relocation sites for their headquarters operations. All Federal agencies having principal emergency responsibilities have been assigned operating space at the OCDM Classified Location and have designated personnel prepared for a 30-day emergency period of operations. Many of the principal agencies have personnel regularly stationed at the Classified Location.

Construction of the first OCDM regional underground control center is scheduled to begin in December 1960, at Denton, Texas. The \$2.4 million center will provide full fallout protection, a minimum of 30 pounds per square inch overpressure blast protection, and an effective filter system for protection against radiation, chemical, and biological hazards. The protected control center will be the hub of all Federal regional nonmilitary emergency activities. OCDM has approved plans for constructing similar underground centers for its other seven regions and will request construction funds in future budgets.

Until protected regional centers are available, OCDM and the other departments and agencies will use unprotected relocation sites outside probable target areas for their field operations under emergency conditions. In FY 1960, permanently assigned representatives of other Federal agencies were stationed at OCDM regional centers for the first time. This step produced a marked increase in the emergency operational capability of these centers.

The 51st Governors' Conference in 1959 adopted a resolution calling on each State to provide a protected seat for the State government. Five States have protected facilities in which their executive branches

can operate in an emergency. Six states have protected emergency operating centers under development. Thirteen local governments have adequately protected emergency operating centers, and an additional 18 have centers under development.

Preparing To Make Full Use of Government Personnel, Facilities, and Equipment for Emergency Operations.—Table 2 shows the 33 principal Federal departments and agencies assigned primary responsibilities and support roles for emergency operations in designated activities or resource areas. In addition, there are 24 departments and agencies in the executive branch which will be given predetermined emergency instructions. The assignments to each of the executive units will be confirmed by Executive orders, official instructions, or notices of transfer to other agencies for postattack operations.

State and local governments have assigned emergency functions to a substantial percentage of their employees. Most city governments have recognized the need to make full use of their manpower for carrying out emergency responsibilities. Facilities and equipment normally used by employees are generally assigned with them to emergency functions.

PUBLIC INFORMATION AND EDUCATION

OCDM used every public information media available and within its means to develop public awareness and action in response to the National Shelter Policy and the self-help aspects of the National Plan. Notable examples were the broadcast of three weekly radio shows entitled "Stars for Defense," "Entertainment USA," and "Star-time USA;" regular use of radio and television station-break announcements; and frequent presentation of radio skits and animated commercials.

Approximately 6.75 million persons saw 16 major OCDM exhibits throughout the Nation in FY 1960. A tastefully decorated shelter exhibit (see fig. 3) built in cooperation with the American Institute of Decorators was first shown in January at the Annual Furniture and Home Decoration Market of the Chicago Merchandise Mart. Since that time, more than a half million persons have inspected this colorful shelter exhibit in New York City, Detroit, Milwaukee, Los Angeles, and Miami. OCDM has arranged similar shelter promotion projects with the Structural Clay Products Institute, the National Concrete Masonry Association, the Portland Cement Association, the National Lumber Manufacturers Association, and other organizations.

Demonstration units of prototype shelters in the form of mockup and cutaway shelter displays exhibited at home shows were the forerunners of prototype shelter construction projects planned for each State, most major cities, and many rural areas.

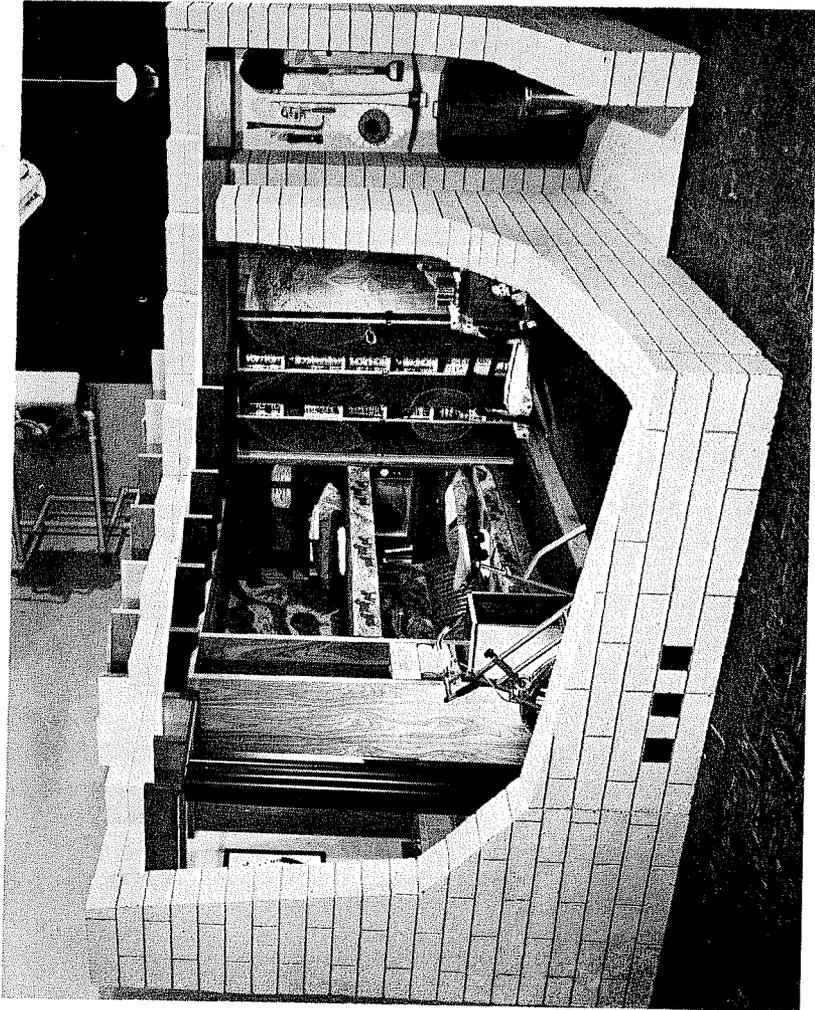


FIGURE 3.—Family home shelter of tomorrow.

TABLE 2—Emergency assignments of Federal departments and agencies¹

Department or Agency	Emergency assignments																		
	Food	Water	Housing	Health	Power	Fuel	Other essential commodities	Welfare	Manpower	Radar monitoring	CW, BW defense ²	Communications	Transportation	Survival information	Stabilization	Economic warfare	Damage assessment	Law enforcement ³	
Executive Departments:																			
Agriculture.....	P																		
Commerce.....																			
Defense.....																			
Health, Education, and Welfare.....																			
Interior.....																			
Justice.....																			
Labor.....																			
Post Office.....																			
State.....																			
Treasury.....																			
Independent Agencies:																			
Atomic Energy Commission.....																			
Civil Aeronautics Board.....																			
Export-Import Bank of Washington.....																			
Farm Credit Administration.....	S																		
Federal Aviation Agency.....																			
Federal Communications Commission.....																			
Federal Deposit Insurance Corporation.....																			
Federal Home Loan Bank Board.....																			
Federal Reserve System.....																			
Federal Reserve Administration.....																			
General Services Administration.....																			
Housing and Home Finance Agency.....	S	P																	
Interstate Commerce Commission.....																			
National Aeronautics and Space Administration.....																			
National Science Foundation.....																			
National Railroad Retirement Board.....																			
Railroad Retirement Board.....																			
Securities and Exchange Commission.....																			
Selective Service System.....																			
Small Business Administration.....																			
Tennessee Valley Authority.....																			
U.S. Civil Service Commission.....	S																		
U.S. Information Agency.....																			
Veterans Administration.....																			

Legend: P—Primary responsibility. S—Support responsibility.
 1 OCDM has primary responsibility for communications, transportation, stabilization, damage assessment, and radiological defense (radef) monitoring.
 2 DHEW has primary responsibility to develop and direct nationwide programs for the prevention, detection, and identification of human exposure to BW and CW agents, including that from food and drugs. USDA has similar responsibility in the area of animals, crops, or products thereof.
 3 State and local governments have primary responsibility for maintaining law and order.

By the end of FY 1960, approximately 14.5 million copies of "The Family Fallout Shelter," a publication containing plans for five basic types of shelters, had been distributed. Trade groups and industrial corporations circulated similar publications. One association produced its own shelter film and another organization has a similar film under production. As a public service, the outdoor advertising industry posted approximately 4,600 family fallout shelter posters throughout the Nation. In addition, the building of family fallout shelters was specially emphasized on National Civil Defense Day, Dec. 7, 1959.

General distribution of the basic National Plan was made in FY 1959. To supplement the Plan, OCDM distributed about 2.9 million copies of Annexes and about 1.8 million copies of Appendixes in FY 1960. Distribution of all types of publications by OCDM in FY 1960 totaled approximately 77.7 million. By the end of June 1960, the wallet-size preparedness card first issued in 1958 had been sent at public request to about 54 million persons.

More than 195 requested articles and stories on OCDM programs appeared in the Nation's magazines, encyclopedias, and yearbooks. OCDM regularly sent a news feature and picture page to 11,000 weekly and daily newspapers. The fruitfulness of the public information program is illustrated by OCDM's records showing at least 20 thousand news stories on shelters in FY 1960, an increase of more than 50 percent since the previous year.

OCDM tried to inform every American about civil defense. More than 37,700 industrial and community leaders attended at least one of 887 OCDM-conducted briefings. A pamphlet describing a pilot rural civil defense program in Gratiot County, Mich., was distributed to more than 84,700 farm families. About 22,000 kits on rural civil defense were distributed to all the counties in the United States. These kits contained a filmstrip, briefing materials, workshop guides, exhibits, and supporting publications. To intensify American family preparations, and to encourage the women's participation in this effort, OCDM packaged more than 3 million award kits for FY 1960 distribution to housewives whose families were encouraged to meet certain standards of civil defense home preparedness.

A daylight nationwide 30-minute test of the CONELRAD (Control of Electromagnetic Radiations) system highlighted Operation Alert 1960. The President, the Secretary of Defense, and the Director of OCDM dramatized the importance of this system by using the occasion to address the American people.

VULNERABILITY REDUCTION

National vulnerability reduction basically requires balanced action programs on the part of governments, families or individuals, and in-

dustry. Major means for reducing vulnerability are fallout shelters, hardened or dispersed facilities, controlled movement of people and materials, and adequate survival item stockpiles. This section of the report is limited primarily to fallout shelters, dispersion, and industry defense; other means of vulnerability reduction are discussed in other sections dealing with programs with which they are closely associated.

National Shelter Policy

Progress in implementing the National Shelter Policy since its announcement 2 years ago is evident from increased requests for information on shelters, frequent news and editorial items in newspapers and periodicals, and the lively interest shown by the construction industry. Most government and outstanding national organization leaders have endorsed the policy.

Current research and information have made the problem of population shielding more manageable. Although new findings have helped simplify the radiation protection problem, the need for fallout shelter remains urgent. Studies by the National Resource Evaluation Center (formerly the National Damage Assessment Center), the RAND Corporation, the Stanford Research Institute, and others have shown that a good system of fallout shelters can reduce casualties by 50 percent or more. OCDM surveys have indicated that existing shielding is sufficient to protect 25 percent of the population under optimum conditions; e.g., accessibility to shelter areas adequately stocked with survival items.

OCDM's actions to implement the National Shelter Policy included:

1. *Informing the Public.*—A vigorous public information program was continued, with emphasis on informing all persons of fallout danger and how to build and equip shelters to obtain maximum protection. (See *Public Information and Education.*) Scientific information was made available to architects and engineers by means of conferences, workshops, and distribution of technical literature. A grant has been made to Pennsylvania State University for the development of curricula for radiological shielding as applied to protective construction, with others to follow at selected universities.
2. *Shelter Surveys.*—Based on 1958 and 1959 shelter surveys and studies, OCDM published survey guides for executives, and for architects and engineers. These guides outline planning and conduct of community fallout shelter surveys; and determination of the effectiveness of existing structures against radioactive fallout and how to modify, equip, and improve structures for this purpose. Current surveys costing about \$600,000 will include New York City, Los Angeles, Tallahassee, and the State of Delaware. To accelerate the State and local survey program,

OCDM planned that at least one city in each State would begin its own survey before Dec. 31, 1960. OCDM has requested each State Governor to have all State-owned buildings surveyed in keeping with the resolution adopted at the Governors' Conference in August 1959.

3. *Prototype Shelter Construction.*—A \$5 million, 2-year prototype shelter construction program is underway. In FY 1960, \$2.5 million was expended on this program which includes about 100 family shelters, 37 50-man community shelters, and other types of shelters. Construction was completed on 43 of the family shelters in FY 1960. (See *Research and Development.*) These prototype shelters will be widely displayed and demonstrated to the public. Industrial, union, and other local organizations also have agreed to build demonstration shelters in many cities.
4. *Shelters for Federal Buildings.*—A directive to all Federal departments and agencies requires them to include fallout shelter design and construction costs in their budget estimates for appropriate new Federal buildings, beginning with FY 1960.
5. *Loan and Grant Programs.*—Formerly, only Federal Housing Administration home improvement loans were available for shelter construction. At the urging of OCDM and consistent with the National Shelter Policy, the Federal Housing Administration and the Veterans Administration now include the cost of fallout shelter in their determinations of property valuations for housing and loan guarantee programs. The Community Facilities Administration under the Housing and Home Finance Administration has also agreed to make fallout shelters eligible as part of the College Housing and Public Facility Loan Programs and in granting advance funds for project planning. The Public Health Service permits fallout shelters as an optional item in making grants for hospital construction and other health facilities. In addition, the Urban Renewal Administration has agreed to encourage shelter planning in making grants for master urban renewal plans, and in crediting shelter construction as site improvements to the extent of one-third of the local share in urban renewal cost. These Federal incentives should eventually stimulate shelter construction substantially throughout the Nation.

The 1960 Governors' Conference adopted a resolution requesting that Federal, State, and local building code requirements be revised to provide for fallout shelters. Some local governments have made the requested revisions. Other local governments have enacted laws exempting shelter construction from increasing the property tax. OCDM has prepared a Model Shelter Incentive Act for consideration by the Council of State Governments.

Dispersion

Dispersion is recognized as a means of vulnerability reduction in (1) the 1956 amendment to the Defense Production Act, (2) Defense Mobilization Order I-19 of 1956, and (3) Annex 11 to the National Plan. Dispersion has been practiced successfully in storing strategic materials and civil defense supplies, although the program has been less effective with respect to government, military, and industrial establishments.

As a policy, dispersion has many limitations. Few facilities can be relocated outside vulnerable areas in peacetime without excessive reduction in efficiency, usefulness, and value. Although some dispersion of industry has naturally resulted from economic trends and growth, most of the apparent gain has been offset by the continued increase of economic advantages centered around the 200 metropolitan areas and the interdependence of the Nation's complex economy.

Industry Defense¹

Under the National Plan, and as amplified in Annex 11, responsibility for protecting essential facilities is divided between government and private enterprise. While leadership is primarily government's responsibility, the success of the program depends upon the active and concerted participation of private industries, institutions, and organizations.

Substantial progress was made in persuading industry to accept its share of responsibility for the protection of life and property against the possibility of attack. Many industrial establishments have logically extended their plans for protection against industrial hazards and natural disasters to include this responsibility.

OCDM issued information and guidance materials to industry covering subjects such as the following: Effects of attack on industry by chemical, radiological, and nuclear weapons; planning and organizing for self-help in plants; warning and communications systems for industrial plants; training plant protective services; testing the plant emergency organization; fallout shelters for employees; prevention of sabotage and espionage; industrial mutual aid associations for civil defense; continuity of industrial management; protection of records, and planning for emergency repair and restoration. Assistance was also provided to State and local governments in organizing industry defense programs.

In FY 1960, OCDM sponsored four Staff College courses in industry defense and mobilization, which were attended by key industrial leaders. One additional major exhibit and 10 additional portable in-

¹ See also *Nongovernment Organizations*.

dustry defense exhibits were developed and provided for use by State and local governments.

Approximately 1,500 national industrial trade associations and professional organizations have been encouraged to assist in promoting industry defense. Many have sponsored special training conferences. Individual companies such as Standard Oil Co. of New Jersey and Jones and Laughlin Steel Corp. provided persuasive examples of "industry talking to industry" by inviting other industry executives to look at their preparedness plans.

Several hundred prominent industrial, business, and commercial establishments participated in Operation Alert in 1960 by holding drills at their plants. Many establishments conducted postattack exercises at their company emergency headquarters, using information relayed to them by executive reserve personnel at OCDM Regional Offices.

Local units of national industrial organizations are cooperating with local authorities to strengthen local capabilities for handling emergencies. The Associated General Contractors of America has prepared a disaster plan by which contractors can make their equipment, skills, and manpower promptly available to local governments during emergencies. The Mechanical Contractors Association is providing similar assistance.

In addition to OCDM activities in this field, the Business and Defense Services Administration of the Department of Commerce, the Departments of Agriculture, Commerce, and Defense, and other Federal agencies having day-to-day contacts with industry have cooperated closely in the industry defense program.

WARNING OF ATTACK

The National Warning System (NAWAS) consists of 6 OCDM Warning Centers (see fig. 4) at major North American Air Defense Command (NORAD) installations, 48 State Warning Points, and 329 other Warning Points. This network of over 36,000 miles is capable of sending a warning to all 377 Warning Points in about 15 seconds. Plans have been made to increase the number of Warning Points to 447 by the end of FY 1961.

In conformance with Annex 13, part V, to the National Plan, OCDM provides warning and warning information to Federal agencies which request this service and install and maintain warning systems. In FY 1960, 26 Federal agency Warning Points were established.

The States can relay warnings to about 5,000 local points in an average time of 7 minutes. Technical assistance and Federal matching funds should improve this condition substantially. The Washington, D.C., warning system is about 98 percent complete.

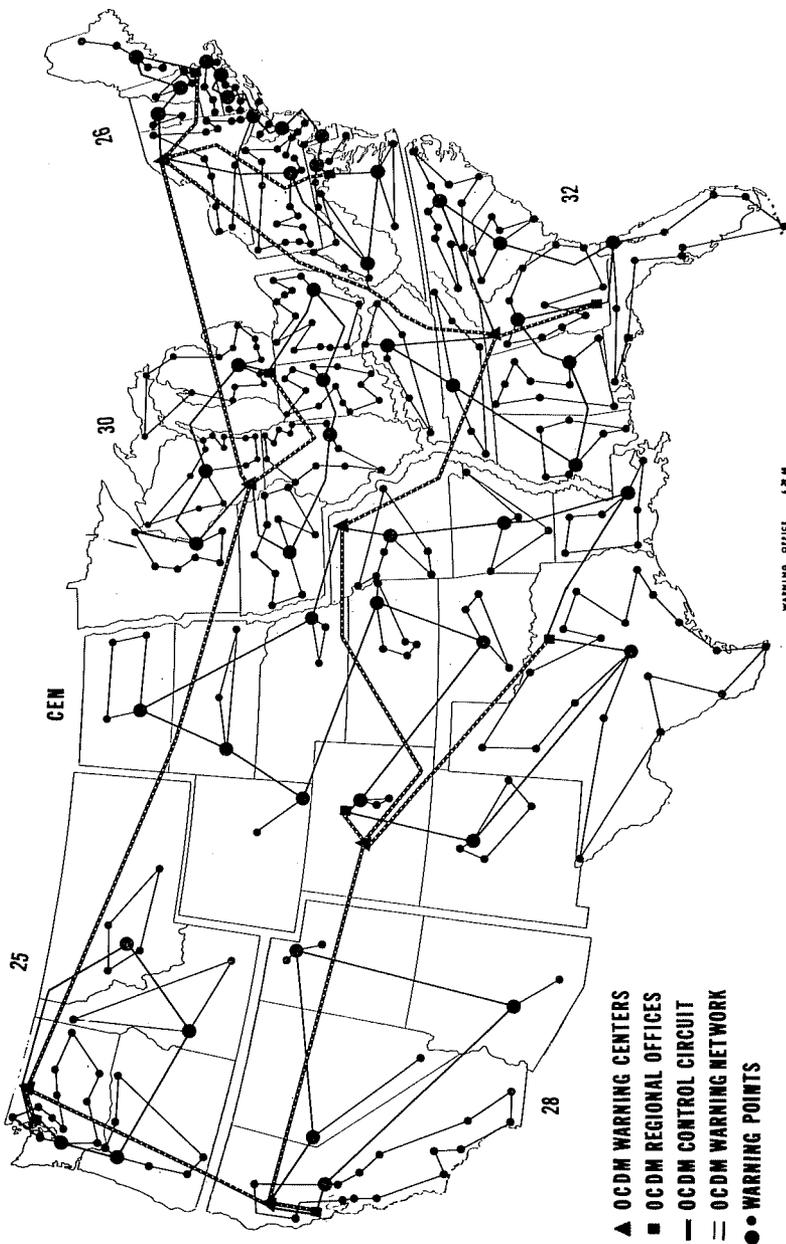


Figure 4.—The National Warning System.

NAWAS is frequently used to disseminate severe weather advisory and warning messages from the United States Weather Bureau and from the Seismic Seawave Warning Service of the Coast and Geodetic Survey. It is also used to coordinate search and rescue missions for aircraft reported missing.

Outdoor warning systems are generally inadequate for persons inside buildings. The National Emergency Alarm Repeater (NEAR) system has been developed for indoor warnings. Nationwide coverage by the system will require an expenditure of \$40 to \$60 million for generating equipment. In addition, plug-in alarms will need to be purchased for homes and offices to make this system operative. Two thousand NEAR receivers have been purchased for demonstrating the system at Charlotte, Michigan, during FY 1961. Experience from this operation will be used to develop policies for nationwide use of the NEAR system.

RESOURCE EVALUATION

Resource evaluation (formerly termed "damage assessment") is a process of determining the effects of enemy attack upon the human and material resources of the Nation and establishing the amount and location of the remaining resources so that intelligent decisions for the survival and recovery of the Nation can be made. Both electronic and manual methods are used in this process.

The National Resource Evaluation Center (formerly the National Damage Assessment Center), with its electronic computers and associated machine techniques, is designed to provide the most urgent needs of the Federal agencies for preattack estimates of attack hazards and postattack estimates of resource status.

Federal agencies participating in this work and other agencies supply data on U.S. resources for which they have responsibility. In FY 1960, the constantly maintained and updated file of resource data was increased from 75 resource categories at 250,000 locations to 91 resource categories at approximately 400,000 locations.

In collaboration with the Department of Defense, OCDM completed a study of attack hazards, providing quantitative evaluations of blast and radioactive fallout effects at approximately 6,500 locations in the United States. OCDM and other Federal agencies used these data for nonmilitary defense planning. NREC supplied data for several studies of the effects of hypothetical attacks; e.g., damage assessment and hazard probability estimates to the New York Governor's Committee on Fallout Protection and to various Federal executive committees.

Basic NREC programs are designed to make detailed and shortcut estimates of fallout intensities, blast effects, and fire probability under designated attack conditions. Substantial progress has resulted in

evaluating indirect effects of weapons and postattack resource management, in developing simplified procedures for staging enemy attack patterns, and in making more complex appraisals of blast and radioactive fallout probabilities. Major future developments have been started for estimating: (1) Nuclear weapons effects on network targets, such as transportation, communications, electric power, water, and sewage systems; (2) the extent and effects of spreading fires in urban and rural areas; (3) the effects of biological attacks; (4) the genetic and other long-range effects of massive nuclear attacks; and (5) the effects of massive nuclear attack on continuity of government, civilian morale, and social institutions.

Manual resource evaluation methods are used by all levels of government. Systems have been established which provide methods for performing initial assessments of damage to many resources as well as providing the necessary backup to the electronic computer system. A manual is being prepared which will provide methods and procedures as well as the necessary overlays, maps, and templates for performing manual assessments on a limited number of resources at Federal, State, and local governmental levels.

COMMUNICATIONS²

OCDM's primary system of operational communications is the National Communications System No. 1 (NACOM 1). (See fig. 5.) It consists of about 20,000 miles of leased-wire facilities—private line telephone and teletypewriter services set up on an engineered military circuit (EMC) basis—connecting OCDM's relocation site with Battle Creek, the regional offices, and State civil defense offices.

OCDM plans to convert the Federal portion of the standby system (NACOM 1), including the regional headquarters, into protected circuits in October 1960. This action will provide for selected hardened routes and eliminate the delay encountered in activating the present EMC circuitry.

OCDM continued the installation of National Communications System No. 2 (NACOM 2) in FY 1960. (See fig. 6.) It is a radio network to back up NACOM 1 for communications with State and regional offices. NACOM 2 is scheduled to be in operation in six of the eight OCDM regions and several of the States by July 1, 1961. The system will be implemented in the other regions and States in succeeding fiscal years.

An Interagency Communications System (ICS) connects the relocation sites in the Federal arc and interconnects with NACOM 1. OCDM plans to connect ICS to NACOM 2 during FY 1961. Other Federal agency communications systems will be tied into a unified

² For additional communications information, see *Telecommunications*.

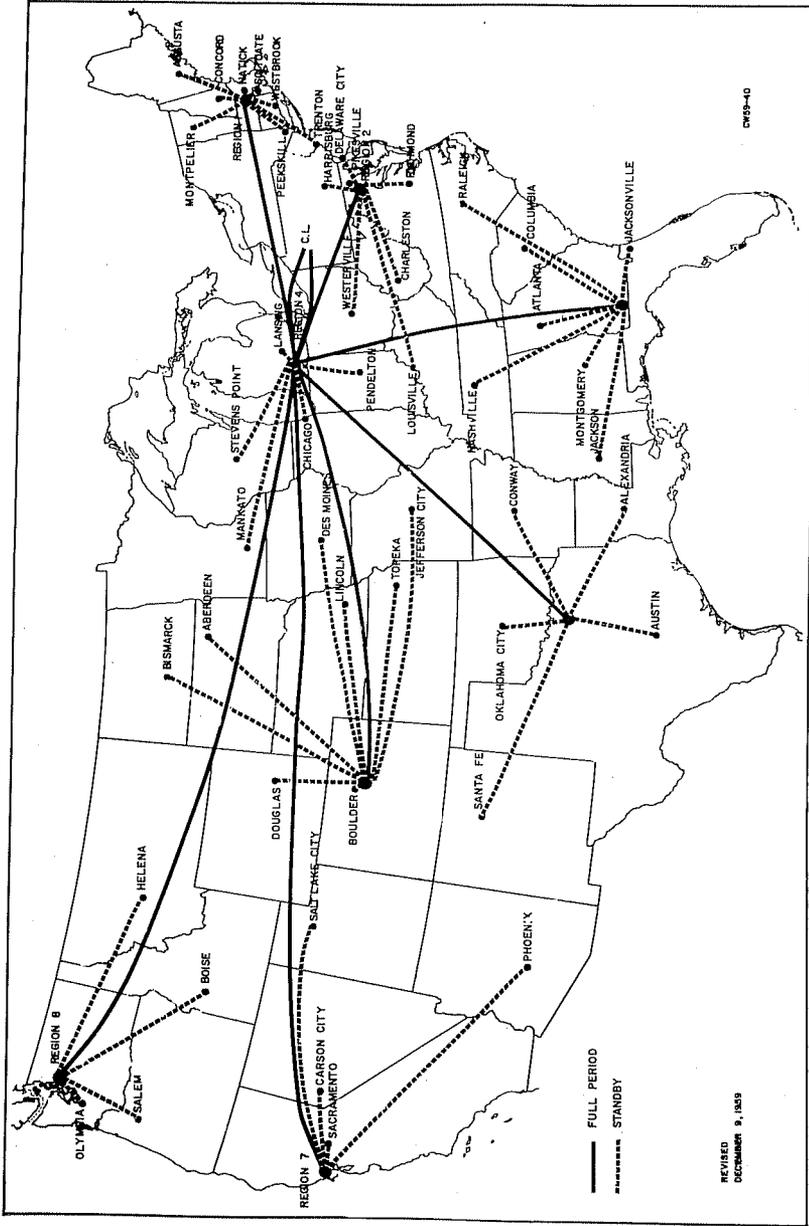


Figure 5.—National Communications System (NACOM) No. 1.

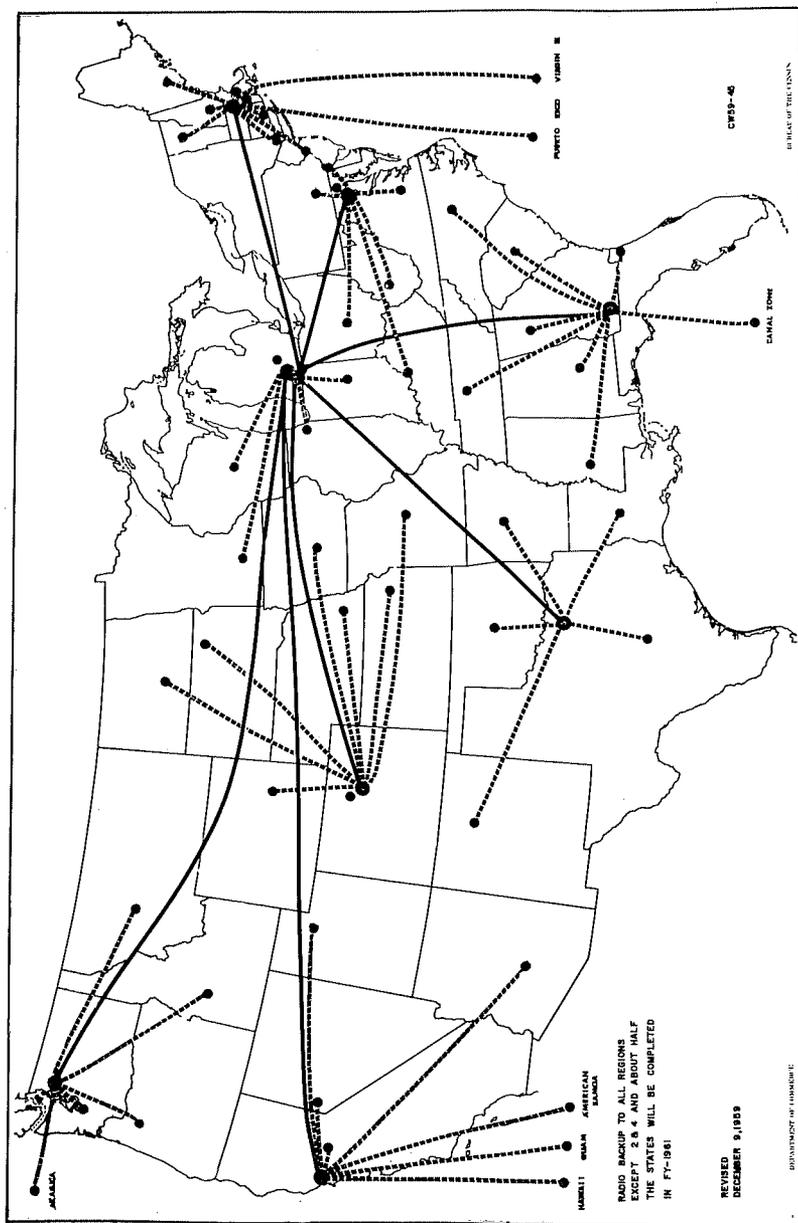


FIGURE 6.—National Communications System (NACOM) No. 2.

Federal Civil Agencies Communications System initiated by OCDM and being implemented and operated by the General Services Administration.

Various State and local communications systems supplement the Federal systems. State and local governments have received Federal matching funds averaging about \$5 million annually for communications equipment.

The Radio Amateur Civil Emergency Services (RACES) enables amateur radio operators to supplement State and local communications systems in emergencies. OCDM provides Federal matching funds for amateur groups operating under approved RACES plans. Beginning July 1, 1959, the Federal Communications Commission allocated additional radio channels to expand the RACES program. OCDM has coordinated the allocation of these new frequencies into a nationwide master plan which will allow maximum usage with minimum interference. This action improved the communications capability in more than 1,250 communities.

Cryptographic equipment has been installed for transmitting and receiving classified messages at major OCDM offices. OCDM has further plans to improve communications facilities between its Operational Headquarters and regional offices when funds become available. In addition, plans were made to provide for exchanging classified information between OCDM regional offices and adjacent military headquarters.

MAINTENANCE OF LAW AND ORDER

OCDM's primary emphasis on this responsibility during FY 1960 was to provide technical information and guidance to State and local governments. The objective is to help them develop the capability of maintaining law and order under emergency conditions requiring actions uncommon to normal police activities; e.g., control of mass movement; prevention and control of panic, mob action, crimes of violence, looting, and vandalism; maintenance of order in reception areas; and protection of vital installations and supplies.

Approximately 275,000 trained, equipped, full-time police officers are available to State and local governments for normal police duties as well as for emergencies. In addition, about 350,000 police auxiliaries are trained or are being trained.

Local government remains the basic entity responsible for emergency maintenance of law and order. The National Plan calls for State law enforcement forces to support local police, if necessary. Only upon the request of a State government or in the event that a State government is unable to act, would the Federal Government assume and exercise necessary functions for local maintenance of law and order.

Upon request, the Secretary of Defense would provide emergency military aid to civil authority to assist in maintaining law and order, provided it does not interfere with the conduct of the primary military mission. This is an important point and one in which OCDM and the Department of Defense are in complete agreement. It is essential that State and local governments be fully prepared to preserve law and order in emergencies, and especially to insure their own ability to control the situation.

Federal activity could be in the form of assistance to State and local authorities or substitution for them. The first may not be possible and should not be counted on; the second should be avoided if at all possible. It is conceivable that this task could be a major function of some military forces in an emergency, but OCDM and DOD jointly emphasize that the military forces would be available to States and localities only if they are not needed for essential military missions.

The practical difficulties and the evident disadvantages of Federal action warrant every effort to assure that States and localities maintain law and order during emergencies. For these reasons, OCDM continued to emphasize the continuity of State and local governments. For the same reasons, the capability to preserve law and order remain an important part of State and local operational plans and the OCDM police services program.

However, the readiness of military personnel to perform emergency functions is important to the Nation. The Army therefore continued to provide special training to its forces and recently issued field manual 20-10 on "Civil Defense." This manual not only instructs the soldier on what civil defense is and how it works but also indicates how military resources can be employed in civil defense.

Army procedures call for commanders at all levels to initiate instruction to insure that appropriate individuals in their command are familiar with their responsibilities during civil defense emergencies and the manner in which their military skills may be oriented towards their civil defense emergency duties. Officers and key non-commissioned officers of units designated to support specific civil defense target complexes receive civil defense training to the extent of 10 to 20 hours per year. Unit officer and noncommissioned officer schools are used for this purpose. In addition, selected officers and key personnel attend courses at the OCDM Staff College and training centers, and other courses, particularly in rescue operations, conducted by State and local organizations.

Individuals in units designated to support civil defense emergency operations receive a minimum of 2 hours orientation semiannually on civil defense and the application of military skills to civil defense and civil disaster operations. Units not designated to support specific

target complexes receive at least one hour of such training every 6 months.

All Army personnel receive a minimum of 5 hours training semi-annually in each of the following: First aid; firefighting; chemical, biological, and radiological defense; rescue operations; basic police activities; and such other disaster services as the unit commander or his superiors may from time to time specify. This type of training is now being increased.

Annex 7 to the National Plan indicates that National Guard forces are available to State governors for support of civil defense operations until ordered into active Federal service. To strengthen this secondary mission of the Guard, it is most important that training be provided for its personnel on essential civil defense functions. OCDM also has recommended that such training be provided to ready reserves and standby reserves.

DISASTER SERVICES

Disaster services are the key to national, family, and individual survival in any immediate postattack period. These services include casualty care and emergency public health (see *Health Services*), emergency welfare, rescue, debris clearance, fire protection, and decontamination. Extensive preattack planning, preparation, and training are the major requirements in providing these services and carrying them out effectively under emergency conditions.

The 50 States, Puerto Rico, the District of Columbia, 240 areas within the States, and more than 2,200 political subdivisions had operational survival plans at the beginning of FY 1960. These plans were developed principally through OCDM technical and financial assistance administered through the Survival Projects Program. FY 1960 was a period of substantial progress in refining, improving, and extending these plans. OCDM emphasized the extension of survival planning to provide for integrated interstate emergency actions.

Examples of Federal capability in survival preparations to support State and local governments were the continued maintenance of the stockpile of survival items (see *Federal Stockpiles*), surplus food supplies, and Public Health Service field organization.

Practically all OCDM training programs (see *Training and Education*) contributed either directly or indirectly to the strengthening and improvement of State and local capabilities in the field of disaster services.

The major objectives of the emergency welfare services are to (1) supply human needs for food, clothing, and lodging; (2) furnish information on the condition and whereabouts of persons and help reunite family members; (3) provide care for aged and handicapped persons and unaccompanied children; (4) furnish counseling services

and financial assistance to families and individuals; and (5) provide all other feasible welfare aid and services to persons in need during a civil defense emergency. A prime example of cooperative Federal agency planning and operations is in the welfare field where OCDM has developed major emergency welfare objectives and plans with DHEW and has assigned responsibilities to DHEW for carrying them out.

Rescue objectives are primarily to (1) locate and extricate entrapped persons from damaged buildings, shelters, vehicles, and other enclosures; and (2) recover critical supplies, materials, and equipment. OCDM helped State and local governments strengthen their rescue capabilities by use of Federal matching funds to purchase rescue tools and equipment, to conduct OCDM-developed rescue courses, and to construct rescue training facilities. State and local governments have assigned emergency rescue functions to about 200,000 persons, and about 50,000 persons complete rescue training courses annually. In addition, OCDM and the Post Office Department have almost completed a program for converting about 7,000 mail trucks to emergency casualty carriers. Conversion fittings on four prototype trucks were installed for vehicle testing in FY 1960.

Emergency engineering objectives are to: (1) Clear streets, highways, airports, and waterways; (2) direct population movements and engineering resources; (3) restore essential community facilities and utilities such as hospitals, water, electricity, gas, and sewage; (4) construct temporary buildings for first aid, mass care, and rehabilitation; (5) provide for mass burial of the dead; and (6) conduct decontamination operations. OCDM worked with State engineering councils, whose memberships include representatives from public and private utilities, to help State and local governments develop plans for obtaining skilled manpower and resources for emergency engineering tasks. Other OCDM emergency engineering activities in FY 1960 included development of disaster relief and control plans in cooperation with the Disaster Relief Committee of the Associated General Contractors of America, and engineering stockpile operation and maintenance.

OCDM's primary emphasis in fire protection was on major problems in civil defense planning and large-scale emergency operations; e.g., legal provisions, radiological monitoring and decontamination, state-wide fire radio networks, extended fire training, long-range programs for reducing fire vulnerability in both metropolitan and rural areas, and coordinated planning. These problems are ordinarily uncommon to the experience of existing fire departments. OCDM therefore worked with national fire organizations, including the following, to help State and local governments strengthen their fire protection capabilities: the National Board of Fire Underwriters, the National Fire

Protection Association, and the International Association of Fire Chiefs.

In carrying out its responsibility for coordinating Federal disaster relief under Public Law 875 (see *Federal Assistance*), OCDM continued to gain experience which would be helpful in dealing with the disaster conditions resulting from enemy attack. State and local governments also strengthened their capabilities through experience with natural disasters which, on a smaller scale, require disaster services and operations similar to postattack needs.

HEALTH SERVICES

Survival under conditions of massive nuclear attack would require that the individual and the community be prepared to meet their health needs when organized health services are restricted or nonexistent. During FY 1960, OCDM advanced the Nation's readiness to meet emergency health needs. This section of the report summarizes the principal actions taken for this purpose.

The National Health Plan (Annex 18 to the National Plan) issued in FY 1960 outlines the functional and organizational responsibilities for health services programs under national emergency conditions. The Department of Health, Education, and Welfare under OCDM contract financed by Federal appropriations has progressed in developing health mobilization plans and programs. The DHEW has assigned personnel to its national and regional offices to assist State health agencies in developing readiness measures.

FY 1960 marked the establishment and staffing of a test region for developing an operational health services plan and specialized programs for use in other regions. The region includes Kentucky, Maryland, North Carolina, Virginia, West Virginia, and the District of Columbia. OCDM and DHEW held conferences with State health officers and representatives of State medical societies in the test region to plan coordinated health mobilization activities. Fifty Public Health Service inactive reserve officers were recruited for emergency mobilization assignments.

DHEW and OCDM jointly conducted three prototype training courses to advance the nonmilitary defense capability of professional health personnel at all government levels. Approximately 250 persons attended these courses. The Communicable Disease Centers of the Public Health Service will provide staff assistance and materials for conducting similar State courses in FY 1961.

Under OCDM contract, DHEW began to prepare a booklet for the general public on self and family health care. This publication will be used for nationwide training and education in self-help and in the use of a health survival kit in the home.

Jointly with the Armed Services, OCDM continued to support the Medical Education for National Defense (MEND) program which introduces mass emergency medical care training into the curriculum of the Nation's medical schools. Fifteen additional selected schools joined this program in FY 1960. On June 30, 1960, 70 of the Nation's 85 accredited medical schools were participating in the program.

The skilled management of health resources will be of major importance for survival under disaster conditions. Although scarcity of health supplies is an extremely limiting factor in effective operational capability, all health resources, including manpower and facilities, must be improved on a coordinated basis. The Public Health Service outlined a program for management, use, and distribution of civilian health manpower and began developing detailed recommendations for carrying it out.

To provide for the optimum use of health manpower under post-attack conditions, OCDM, DHEW, and the Department of Labor agreed on the designation of certain health manpower skills to be managed by health agencies at all levels of government. Representatives of OCDM and other Federal agencies participated in conferences in each OCDM Region to familiarize regional and State officials with manpower mobilization objectives, including those for health manpower. The OCDM regional staffs conducted similar conferences with State and local health officials and representatives of the Department of Labor and DHEW.

OCDM continued to work jointly with the Department of Defense and the Selective Service System to develop improved health manpower procedures for (1) using retired medical military officers in key civil defense and defense mobilization positions at all government levels, (2) estimating military requirements for critical categories of health manpower, and (3) screening health manpower in the Ready and Standby Reserves.

At the end of FY 1960, OCDM had 82 civil defense emergency hospitals on loan to States for training purposes and had prepositioned approximately 1,400 hospital units in 46 States, Puerto Rico, and the Virgin Islands. No additional medical supplies were stockpiled in FY 1960. (See *Federal Stockpiles*.) OCDM and DHEW jointly arranged for transferring future management of the medical stockpile items to DHEW.

Surveys and studies of the Nation's health resources were an important part of OCDM's FY 1960 activities. Included were the following:

1. A comprehensive review of existing civilian medical supplies and postattack requirements, conducted by DHEW in coordination with OCDM.

2. Business and Defense Services Administration and DHEW surveys of essential medical and survival items available at principal resource points.
3. The beginning of a DHEW survey of the quantity of medical survival items available in physicians' offices, homes, and retail stores.
4. Studies by BDSA, DHEW, and OCDM to determine the possibilities and methods of increasing medical item inventories of manufacturers and distributors (see also *Preallocation of Contracts*), and the acquisition of medical supplies through barter or foreign currencies under Public Law 480.
5. DHEW surveys started to determine current survival item inventories of water and sewage facilities of all communities of more than 5,000 population. As a basis for community planning, the development of emergency water plans was started in selected communities.
6. A joint DHEW-OCDM inventory of medical care facilities (excluding nursing homes) conducted in cooperation with the American Hospital Association. The results of the completed inventory will be included in the health resource data at the National Resource Evaluation Center.
7. The continued work of OCDM and DHEW in cooperation with the American Hospital Association to establish and maintain an accurate annual inventory of all hospital facilities in the United States.

PROTECTION FROM WEAPONS EFFECTS

Radiological Defense Monitoring

The use of shelter, controlled population movements, and decontamination for effective protection against radioactive fallout requires information about the extent, intensity, and duration of radiological hazards throughout the Nation. The only practical way to obtain this information is by establishing and maintaining an effective radiological defense monitoring system. Three key requirements of such a system are monitoring stations, trained monitors, and radiological instruments.

Approximately 1,500 radiological monitoring stations have been placed in operation at field installations of the United States Weather Bureau, the Federal Aviation Agency, the Air Weather Service of the United States Air Force, the Department of Agriculture, and the Department of the Interior. OCDM plans for at least one Federal station to be in operation in each of the approximately 3,000 counties of the United States at the end of FY 1962. In addition, an estimated 18,000 State and local monitoring stations are in existence, and OCDM is conducting a survey to determine how many are in opera-

tion. Through priority use of funds appropriated for carrying out the provisions of Public Law 85-606, OCDM plans to increase the number of State and local stations to 50,000 by the end of FY 1961. OCDM plans also to provide for having 150,000 Federal, State, and local monitoring stations in operation by the end of FY 1963, supplemented by surface, mobile, and aerial monitoring capability.

The latest estimates, based on an earlier report by the Bureau of the Census, indicate that the Nation has about 170,000 trained radiological monitors and 18,000 trained radiological defense officers and monitor instructors. OCDM plans to have 300,000 monitors and 20,000 radiological defense officers trained by the end of FY 1963.

OCDM has procured more than 1 million radiological defense instruments for assignment to all monitoring stations and to high schools and civil defense schools for training purposes. OCDM plans to procure 600,000 additional instruments by the end of FY 1963.

Chemical and Biological Warfare Defense

OCDM provided leadership, policy direction, coordination, and support in preparing the Nation for protection against biological and chemical warfare. As a result of these actions, accomplishments during FY 1960 included the following:

1. Beginning of distribution of 40,000 protective masks and 5,000 chemical detection kits to State governments for familiarization, demonstration, and emergency operational purposes. When available, detection instruments for chemical and biological warfare agents will be installed at all Federal radiological monitoring stations.
2. Contracting for studies on mass production of protective masks developed for sale to the public.
3. Continued work with the Department of Health, Education, and Welfare in developing a nationwide protective program against biological and chemical warfare agents.
4. Continued work with the Department of Agriculture in developing a nationwide program for protecting animals, crops, and agricultural products against biological and chemical warfare agents.

Explosive Ordnance Disposal

The Department of Defense continued its responsibility for explosive ordnance disposal and offered training and operational assistance to civilian agencies in explosive ordnance reconnaissance. The Department of the Army, in cooperation with other military components of the DOD, provided assistance to civilian authorities, as requested, in training personnel for explosive ordnance reconnaissance and in establishing and operating a reporting system covering incidents of unexploded ordnance.

Part III

MOBILIZATION AND MANAGEMENT OF RESOURCES AND PRODUCTION

A major civil defense and defense mobilization mission, in addition to the protection of life and property, is to provide for the availability and effective use of resources under emergency conditions. To accomplish this mission, OCDM conducts programs for: (1) Development and maintenance of adequate supplies of essential resources at locations where they will be available in emergencies, including the determination of supply and requirements and the identification and correction of deficiencies; and (2) the revival of postattack production, and the development of management capability at Federal, State, and local levels which will assure the effective use of available resources in emergencies.

DEVELOPMENT AND MAINTENANCE OF ESSENTIAL RESOURCES³

The National Plan charges the Federal Government with responsibility for stimulating the development and maintenance of resources necessary for expanding, maintaining, or restoring essential production and distribution processes. In FY 1960, OCDM's principal emphasis in fulfilling this responsibility centered on:

1. Reevaluating the strategic security of all Government-owned strategic and critical materials stockpiles against loss or denial of access, attributable to the effects of a massive nuclear weapons attack upon the United States.
2. Continuing the upgrading of certain strategic and critical materials in the national stockpile to provide a minimum readiness inventory.
3. Investigating the causes of increased obsolescence of production equipment in the United States metal-working industry.

Federal Stockpiles

The Federal Government continued to maintain important stockpiles for civil defense and defense mobilization purposes. These stockpiles included strategic and critical materials inventories, survival item inventories, and machine tool inventories.

³ See *Industry Defense* for information on protection of the national industrial plant.

*Strategic and critical materials.*⁴—The Federal Government has stockpiled strategic and critical materials for defense purposes principally in (1) the Strategic Stockpile established by the Strategic and Critical Materials Stock Piling Act (Public Law 520, 79th Congress) and (2) the Defense Production Inventory established under the Defense Production Act, as amended. Under the Stock Piling Act, and with interagency assistance, OCDM has designated official stockpile objectives for the principal materials in these inventories. However, the Supplemental Stockpile established by the Agricultural Trade Development and Assistance Act, as amended, contains additional strategic and critical materials as does the Commodity Credit Corporation inventory obtained through the barter of agricultural surpluses.

At market prices of June 30, 1960, the Strategic Stockpile contained strategic and critical materials valued as follows:

- | | |
|--|---------------|
| 1. Seventy-six materials meeting stockpile specifications and having specified maximum stockpile objectives..... | \$4.3 billion |
| 2. Surplus materials in excess of established stockpile objectives..... | \$1.7 billion |
| 3. Materials assigned no fixed stockpile objective and not meeting stockpile specifications..... | \$155 million |

The Defense Production Act Inventory contained strategic and critical materials valued at \$934 million on June 30, 1960. Some of these materials were applicable to maximum stockpile objectives. The Supplemental Stockpile contained sufficient quantities of several materials to complete stockpile objectives for which Strategic Stockpile and Defense Production Inventories were insufficient.

In OCDM's current policy for disposing of excess materials, preference is given to materials in the DPA inventory that are not needed toward Strategic Stockpile objectives. Disposal actions must: (1) Avoid serious disruption of the usual markets of producers, processors, and consumers; (2) avoid adverse effects on international interests of the United States; (3) be made with due regard to protecting the United States against avoidable loss; and (4) be approved by Federal departments and agencies concerned, unless the materials are to be used directly by another Federal agency. The industries concerned are consulted as appropriate.

Sales commitments for disposal of excess and obsolete materials from the Strategic Stockpile and DPA Inventories in FY 1960 totaled approximately \$148 million. Abaca, hog bristles, coconut oil, manganese ore, nickel, and rubber were the principal materials sold. The rubber disposal was by authority of the Independent Offices Appropriation Act of 1960, under which surplus stockpile materials re-

⁴ Detailed information on the stockpiling of strategic and critical materials is presented in OCDM's semiannual *Stockpile Report to the Congress*, which is submitted pursuant to section 4 of the Strategic and Critical Materials Stock Piling Act (Public Law 520, 79th Congress).

quiring rotation to prevent deterioration could be sold without replacement.

In keeping with Government policy approved in December 1959, OCDM requested that all Federal agencies use excess Government inventories to fulfill their direct needs for strategic and critical materials when consistent with general disposal policies and the best interests of the United States. Government agency commitments in the latter half of FY 1960 for use of surplus materials such as copper, nickel, and feathers and down totaled approximately \$7 million. In addition, OCDM continued all feasible efforts to reduce delivery commitments of materials in excess of maximum stockpile objectives. Excess commitments resulting from changing stockpile objectives were reduced by \$75.5 million in FY 1960.

The upgrading program, to stockpile materials in advanced forms for a minimum readiness inventory, was continued. In both the upgrading and other procurement of materials for the Strategic Stockpile, OCDM used payment in kind and the barter program effectively; e.g., use of surplus copper to pay for upgrading stockpiled molybdenum sulphide to molybdenic oxide, and cancellation of cash procurement of tungsten carbide powder in favor of barter procurement. The upgrading of tantalum was held in abeyance pending test developments to assure satisfactory performance of the metal for its principal intended use.

Also on the stockpile procurement list for FY 1960 were crysotile asbestos, jewel bearings, and small diamond dies. OCDM, however, withdrew the authorization for diamond dies, pending performance evaluation of diamonds produced by domestic suppliers under earlier contracts. These suppliers have had difficulty in manufacturing dies to meet the exacting stockpile specifications, which are gaged to the demands of strategic electronic equipment.

FY 1960 marked the beginning of a reevaluation of the strategic security of all Government-owned industrial stockpiles against loss or denial of access, attributable to the effects of a massive nuclear weapons attack upon the United States. Principal features emphasized in this study are material vulnerability, the proximity of storage facilities to probable targets, and the use of a new damage analysis method. The new method, under development for several years as part of the National Resource Evaluation Center electronic computer system, is designed to measure the probable weapons effects on materials and enemy future attack capabilities.

Machine tools and production equipment.—The Federal Government continued to own about 300,000 machine tools and related production equipment valued in excess of \$3 billion. The military departments own approximately 90 percent of these tools; the remainder belongs to various Federal departments and agencies.

Many of the Department of Defense machine tools are in the National Industrial Equipment Reserve (NIER), in custody of the General Services Administration. To assure availability of these tools for defense use, OCDM approval is required for their sale or use for nondefense purposes.

The loan of DOD tools to schools through the NIER program supports the training of machine tool operators and the dispersion and use of tools accompanied by savings in processing, storage, and maintenance costs.

Through the surplus property donation program of the Department of Health, Education, and Welfare, 10,347 tools valued at more than \$16.2 million acquisition cost were donated to schools.

Based on information and recommendations submitted by the OCDM Interagency Production Equipment Task Group after its examination of a report made by National Tool Builders' Association, OCDM arranged for the Department of Commerce to conduct a study for determining the causes of the growing obsolescence of production equipment in the United States metalworking industry.

Survival items.—At the end of FY 1960, the acquisition cost value of the civil defense stockpile totaled approximately \$173.5 million. Principal items in this stockpile are medical supplies, emergency engineering equipment, civil defense emergency hospital units, and radiological defense equipment. According to joint OCDM-DHEW plans, management of certain medical stockpile items will be transferred to DHEW.

In January 1960, OCDM released outdated blood plasma from the civil defense stockpile to contractors for reworking into sera. The release of this blood plasma, valued at approximately \$30.5 million, is the principal cause of the decrease in the stockpile which was valued at approximately \$200 million at the end of FY 1959. Appropriate adjustments in the stockpile inventory will be made when the contractors return the reworked blood plasma.

At the end of FY 1960, the Commodity Credit Corporation, Department of Agriculture, had accumulated under price-support legislation, agricultural commodities valued at approximately \$7.8 billion. These stocks continued to be reasonably well dispersed. In accord with CCC-OCDM policy, whenever stocks are moved or located at new sites, defense criteria are applied in selecting sites which are removed from critical target areas and accessible to emergency transportation.

Preallocation of Contracts

During FY 1960, OCDM continued a project with the Department of Defense and the Business and Defense Services Administration to obtain information needed in the ultimate preallocation of contracts for survival items. The project included studies on the problems of

obtaining supplies for survival-item production and on the problems of increasing survival-item production by expansion and conversion of surviving plants. Part of the project, a pilot study on conversion completed early in FY 1960, revealed that surveys of industrial plants can be performed most effectively by personal contact. Consequently, OCDM, DOD, and BDSA began to develop a means for using the well-staffed field organization and technical capability of the armed services procurement planning officers for this purpose. Current emphasis is on exploring expansion of present plant capacities for production of health supplies and equipment, items for which data on emergency needs are best known. According to present plans, this exploration later will be broadened to include the production of additional survival items and conversion of plants for this purpose.

Development of Alternatives for Imported Materials

No new research and development contracts were authorized during FY 1960 under the Defense Production Act. Earlier contracts authorized for this purpose totaled \$57.4 million and an additional \$34.8 million for mineral exploration contracts administered by the Department of the Interior. The major purpose of these contracts was to develop domestic substitutes for, or sources of, imported materials not likely to be available in wartime; e.g., extra long staple cotton, castor beans, kenaf, beryl, columbium-tantalum, manganese, mica, nickel, selenium, and tantalum.

The development of domestic sources of extra long staple cotton and castor beans has proved successful. Commercial production of extra long staple cotton in the United States has made the 110 million pound stockpile of this material unnecessary. Interest shown in new varieties and improved production and harvesting methods of castor beans may result in successful commercial production which would reduce and possibly eliminate the stockpile objective for castor oil.

More than 2 years of intensive research shows promise of developing a substitute product to replace the use of natural mica in electronic equipment. This development may result in a domestic product to replace high-grade mica mined only in minor quantities in the United States. Manganese research has developed processes which can supply emergency needs if financial assistance is granted, but domestic manganese remains commercially unavailable in large quantities.

Government research supplements private industry research which has contributed notably to the development of substitute materials. For example, industry has reduced dependence on foreign sources of selenium by using high-purity silicon, readily available from domestic materials, in rectifiers. Industry research has also developed synthetic diamond bort now sold in competition with imported bort.

Development of New Domestic Sources for Essential Resources

In addition to encouraging the development of domestically available alternatives for imported materials, the Government encourages exploration for necessary minerals. Under Public Law 85-701, the Office of Minerals Exploration in the Department of the Interior administers a program of minerals exploration which provides Federal funds, as appropriated, to assist private industry participating in the program.

Expansion of Production Capacity

The Federal Government's principal means for encouraging expansion of the Nation's productive capacity for defense and mobilization purposes have been: (1) Accelerated tax amortizations under section 168 of the Internal Revenue Code, and (2) use of the Defense Production Act of 1950, as amended, for making loans, loan guarantees, purchases, and commitments to purchase.

The authority to issue certificates of necessity for accelerated tax amortization expired on Dec. 31, 1959. Prior to this date in FY 1960, OCDM certified defense facilities expansions estimated to cost \$135 million, of which \$78 million was eligible for accelerated tax amortization. Certifications included research, development, and production facilities for missiles, rockets, advanced aircraft, space vehicles, electronic guidance systems, and uranium processing. Certificates of necessity outstanding at the end of FY 1960 covered facilities estimated to cost \$39 billion, of which approximately \$23 billion was eligible for accelerated tax amortization.

OCDM authorized no new loans or loan guarantees under the Defense Production Act in FY 1960, but many loans to industry as well as contracts for materials and research and development remained outstanding. A major expense under the DPA program in FY 1960 was the \$80 million acquisition cost of materials delivered to the DPA Inventories. Delegate agency activities for the expansion of production under DPA programs mainly related to servicing outstanding loans and contracts and providing storage, security, and maintenance for stockpile inventories and production equipment.

National Security Investigations of Imports

Section 8 of the Trade Agreements Extension Act of 1958 (Public Law 85-686) provides the authority and a means for determining the extent to which imports may be threatening to impair the national security. The OCDM Director is responsible for investigating allegations that an article is being imported into the United States in quantities and under circumstances which threaten to impair the national security. If, as a result of investigation, he is of the opinion that a threat to the national security exists, he must so advise the President.

New applications for investigations under section 8 (Public Law 85-686) filed in FY 1960, were against imports of surplus military rifles and of transistors and related products. OCDM completed investigation of applications previously filed against the import of cobalt, fluorspar, and tungsten. On Oct. 2, 1959, the OCDM Director announced his opinion that cobalt imports were not threatening the national security. He made a similar statement on fluorspar imports on Sept. 25, 1959. As OCDM was concluding the investigation of tungsten imports, the petitioner withdrew his application on Oct. 21, 1959. At the end of FY 1960, OCDM continued the import investigations of dental burs, steam-turbine generators, and wool knit gloves.

Pursuant to the responsibilities for the surveillance of oil imports, including prices, assigned the OCDM Director by Presidential Proclamation No. 3279 of Mar. 10, 1959, which established the oil import control program, OCDM has closely followed the program in relation to national security. Particular attention has been given to residual fuel oil to determine whether changes in the program were warranted. The decision of the Department of the Interior to place residual fuel oil quotas on a quarterly rather than a semiannual basis followed OCDM's recommendation to that effect.

As an element of these surveillance responsibilities, the OCDM, in response to a recent petition, will, early in FY 1961, investigate the proposed revision of existing controls on imported crude and unfinished oils to exempt that portion of imports which are converted into finished asphalt.

The Joint Committee for American-Flag Tankers and the Committee of American Tanker Owners, Inc., petitioned for a requirement that 50 percent of the oil imports be carried in American-flag ships. Since crude oil imports were already under control, OCDM began an inquiry to determine the effect of these controls upon the American-flag tanker fleet relative to national security.

Under the provisions of the Buy American Act (Public Law 428, 72d Congress) and the policy guidance of Executive Order 10582, OCDM investigated the Panama Canal Company's request concerning procurement of towing locomotives. It was determined not to be detrimental to the national security to procure these locomotives from foreign sources.

PREPARATIONS FOR RESOURCE MOBILIZATION AND MANAGEMENT

In carrying out the requirements of the National plan, OCDM continued to assess the ability of the national economy to meet all mobilization and civil defense requirements, and to develop programs for emergency control of the economy. The principal emphasis in FY 1960 was on reviewing, revising, and refining mobilization plans and

supply-requirements studies to comply with planning concepts and the demands of new and changing weapons effects. In addition, OCDM focused greater attention on emergency requirements of State and local governments.

Supply-Requirements Studies

OCDM continued close liaison with the Department of Defense and the Atomic Energy Commission in planning for resource requirements of both limited and general wars. Until early in FY 1960, the lack of basic bomb damage analysis data for nuclear attack on the continental United States prevented OCDM from incorporating the full impact of these data into its plans. However, both OCDM and DOD completed considerable damage analysis work during FY 1960. Data from this source will enable OCDM to complete new supply-requirements mobilization studies.

In contrast to present requirements, those requirements derived from future studies will show a marked difference between requirements for limited and general wars. Requirements for both types of wars will show the full impact of military aid for Allied Nations and other pertinent planning data previously unavailable. In addition, general war requirements will show the impact of supplying civilian and military needs from a rehabilitated and rebuilt industrial production base.

Emergency Resource Management

OCDM continued to progress in developing a capability to manage resources in an emergency. Advice and assistance of the Interagency Emergency Resources Advisory Committee continued to promote the development of emergency resource management measures. Activities of the Interagency Committee on Essential Survival Items contributed to the development of a program for insuring the availability of critical consumer items under postattack conditions.

Guidelines showing the relationships between competing requirements for resources in short supply were prepared to assist State and local governments in emergency management of resources.

In FY 1960, OCDM developed plans designed to strengthen emergency resource management capability at State and local levels. Each OCDM Regional Office translated these plans into an active program providing for:

1. Actions to implement the regional, State, and local resource responsibilities outlined in the National Plan and its Annexes.
2. Expansion and revision of State and local survival plans to include emergency resource management procedures.
3. Preparation of regional resource management manuals and data centers.

4. Development and analysis of regional data on emergency location, availability, and management of resources.
5. Strengthening regional, State, and local postattack resource management capability. OCDM will promote this program in the States by use of Federal funds to the extent available under Public Law 85-606.

Food and Water

OCDM established a Food and Water Office in August 1959 to coordinate Federal emergency responsibilities in the production, processing, storage, and distribution of food and water.

Food.—In FY 1960, OCDM published the National Food Plan (Annex 31 to the National Plan), which assigns responsibilities for carrying out a Federal emergency food program under OCDM general direction and coordination. Except for food inspection responsibilities of the Department of Health, Education, and Welfare and the responsibilities of the Department of the Interior in the production of fish and fish products, the Department of Agriculture is primarily responsible for the functioning of this program. In addition to developing a proposed field organization for carrying out the program, USDA designated a liaison field representative for each OCDM region and planned to designate similar officials for each State and county in FY 1961.

OCDM held training conferences with Federal, State, and local officials in three of its regions to discuss and implement the National Food Plan. Similar conferences will be held in the other OCDM regions in FY 1961 when the major goal will be to develop food management capabilities at all government levels.

Water.—In FY 1960, OCDM published the National Water Plan (Annex 32 to the National Plan), which assigns responsibilities for planning the emergency use of water resources under OCDM general direction. The primary responsibility for coordinating Federal planning is that of the Department of Health, Education, and Welfare, but the Departments of State, Defense, Interior, Agriculture, and Commerce, the Housing and Home Finance Agency, and the Tennessee Valley Authority also have designated responsibilities. To help carry out its responsibility, the Department of Health, Education, and Welfare established an Interagency Water Planning Task Group to coordinate Federal plans and programs for emergency use of water for human consumption, sanitation, firefighting, and industrial uses such as navigation, food processing, and power.

OCDM held conferences with Federal, State, and local officials in three of its regions to discuss and implement the National Water Plan. Similar conferences will be held in the other OCDM regions in

FY 1961 when the major goal will be to develop water-management capability at all government levels.

Manpower

Fulfillment of OCDM's manpower responsibilities requires an operational manpower organization, adequate knowledge of present and future manpower supply and requirements, and action to reduce manpower shortages.

OCDM published the National Manpower Plan in December 1959 and held manpower conferences in each of its regions. The objective of these conferences was to assure that persons responsible for emergency manpower management have a common understanding of manpower problems, programs, and organizational relationships. Representatives of Federal, State, and local government agencies responsible for emergency manpower management attended the conferences. Similar conferences were held in 29 States and additional State conferences were planned for FY 1961.

Regional mobilization coordinators of the Office of Manpower Administration, Department of Labor, the coordinating staffs of State employment security agencies, State civil defense offices, and OCDM regional offices established liaison working relationships for integrating and coordinating State and local plans with the National Manpower Plan. In FY 1961, liaison work for this purpose will be continued by completing manpower conferences in the States and in major labor market areas.

The Bureau of Labor Statistics, Department of Labor, provided information on the 1960 labor force estimates according to major industry groupings by regions and States and 25 selected occupations in 188 metropolitan areas. This information was transmitted to the National Resource Evaluation Center (NREC) in a form adapted for use in the NREC computer for making postattack resource evaluations. The FY 1960 manpower data will be used to develop methods and capabilities for estimating emergency manpower requirements. OCDM will make these methods and capabilities available to manpower management agencies at all government levels to promote further progress in their understanding and solving of emergency manpower problems.

OCDM continued to stimulate locally sponsored conferences for determining and encouraging the adoption of effective methods for using professional, scientific, engineering, and technical skills. In FY 1960, representatives of government agencies, professional societies, colleges, and industry participated in 10 such conferences throughout the Nation.

Management and policy supervision of the National Defense Executive Reserve Program is an OCDM responsibility under the Defense Production Act and Executive Order 10660. The objectives of this program are to train executives for key emergency positions and to provide additional manpower for mobilization requirements of the Federal Government. The number of key reservists at the end of FY 1960 totaled approximately 2,250 in 15 agencies. About 1,300 executive reservists and Government representatives attended the Second National Training Conference for Executive Reservists. Plans for FY 1961 will emphasize regional training programs.

Fuel and Energy

The National Energy and Minerals Plan (Annex 33 to the National Plan) issued in FY 1960 defines responsibilities and organization for emergency control of electric power, oil and gas, and solid-fuel industries. OCDM advanced the emergency readiness for managing fuel and energy resources by holding conferences with representatives of Federal agencies and State governments, by preparing standby plans to reduce fuel and energy imbalances and shortages in emergencies, and by working with the Department of the Interior for assignment of additional personnel at selected OCDM regional offices.

Interagency fuel and energy studies included:

1. Exploration of recommendations for improving conditions of the soft coal industry.
2. Offshore emergency loading facilities for petroleum products.
3. Review of work performed by the Department of the Interior on long-range study of petroleum supply and demand.
4. Middle East oil developments and Latin American oil supplies for emergencies.
5. Development of United States petroleum policy relating to the North Atlantic Treaty Organization.
6. Preparatory work for a study of worldwide wartime petroleum supply and demand.
7. Electric power in the Los Angeles area, including Arizona and Nevada; and continuation of the Alaska power survey of FY 1959.
8. Development of regional fuel and energy work programs and guidance for State programs.

Production and Materials

OCDM issued a series of National Plan annexes outlining (1) pre-emergency measures for the protection of essential facilities and for the maintenance of essential resources and (2) postattack actions for management of emergency production and administration of essential

facilities. Regional meetings were held with industrial groups and representatives from all levels of government. The objectives of these meetings were to (1) explain the production and materials programs and how they would function during preemergency and post-attack periods and (2) encourage State and local governments and industry to develop their own emergency plans and readiness to administer them.

The Business and Defense Services Administration (BDSA) began a case study of survival items to determine the effects of enemy attack on their continued production. Further progress in mobilization planning was evidenced by assignment of an Emergency Planning Coordinator in each OCDM regional office by the Department of Commerce, and the recruitment of approximately 1,350 executive reservists to help develop production programs at the regional, State, and local levels.

Several States have begun preparation of mobilization plans for production and materials and will guide their local governments and industry in developing emergency production programs. Other States have shown interest in taking similar action but lack the necessary funds and staff. Appropriations provided under Public Law 85-606 will help these States to overcome these difficulties.

Mobilization planning for the use of strategic and critical materials in Government inventories provide for the release of such materials under emergency conditions by the OCDM Regional Directors. Upon release of the materials from the inventories, they will be subject to appropriate allocation authority.

Housing

The National Emergency Housing Plan (Annex 42 to the National Plan), completed in FY 1960, explains the emergency housing responsibilities of all levels of government. Beginning early in FY 1961, OCDM will conduct a series of meetings with representatives of Federal agencies and State governments to discuss these responsibilities and plans already developed for emergency use.

Under OCDM coordination, actions taken by the Housing and Home Finance Agency to advance the Nation's readiness to provide emergency housing included:

1. Completion of plans to select and assign planning representatives at regional level.
2. Development of an emergency field service to become operational at regional and State levels immediately upon declaration of civil defense emergency.
3. Preparation of plans, specifications, and instructions for construction of emergency dwelling units.

Economic Stabilization

The major FY 1960 economic stabilization goal was to develop national and regional postattack capability and build the foundation for extending this capability to State and local levels. Most of the work in preparing the Emergency Economic Stabilization Plan (Annex 27 to the National Plan) was completed. It is to be issued in FY 1961. Appendixes will be developed to amplify policy procedures for emergency price stabilization, consumer rationing, financial operations, and rent, wage, and salary stabilization.

With the cooperation of Government financial agencies, OCDM developed major policy recommendations for the emergency restoration, continued functioning, and stabilization of the monetary and economic systems in the relatively undamaged areas of the Nation, following massive attack. Major policies on these subjects were approved at top Government levels and provisions were made to delegate responsibility for the emergency administration of fiscal, monetary, and credit measures to the Department of the Treasury, with authority to subdelegate functions as necessary to other agencies. OCDM continued to coordinate work in this field with the assistance of the financial agencies in developing methods, procedures, and regulations for expediting emergency policy decisions.

The Housing and Home Finance Agency helped OCDM develop plans for emergency rent stabilization, and the Department of Labor assisted in preparing emergency wage and salary stabilization plans. A basic wage and salary stabilization regulation available for emergency use in Department of Labor field offices was revised in keeping with facts learned from training exercises.

The development of techniques for postattack rationing of essential consumer goods was advanced considerably. As an example of pioneering work in this field, a pilot project was started in Sonoma County, Calif., to test local capabilities to handle rationing problems. Under OCDM contract, the Brookings Institution explored postattack rationing problems and methods through a seminar.

During FY 1960, OCDM prepared and distributed a regional plan for economic stabilization. Under this plan, an economic stabilization officer assigned to each OCDM region is responsible for developing emergency economic measures outlined in the National Plan. Development of this capability at the regional level will support State and local governments in carrying out their interim responsibilities for economic stabilization operations following nuclear attack.

Telecommunications

Under Executive Order 10705, OCDM is responsible for directing United States telecommunications upon declaration of war or follow-

ing enemy attack upon the United States. Based upon the organization of a planned emergency communications agency, key positions continued to be filled by qualified communications personnel selected from Executive Reservists of industry and employees of Federal agencies. OCDM completed the Communications Annex to the National Plan (Annex 15) which includes methods for managing national telecommunications resources in an emergency and summarizes procedures for obtaining radio frequencies, international telecommunication services, and domestic (common carrier) telecommunications services in a national emergency.

OCDM continued the review and revision of Government plans for wartime communications; i.e., the use of certain radio frequencies and frequency bands and the allocation of certain common carrier communications channels for Government use. Classified telecommunication orders were completed and are ready for immediate emergency use. Their purpose is to start actions leading to an orderly transition to wartime control of telecommunications in the United States.

Under Executive Order 10460, OCDM is also responsible for assisting and advising the President on telecommunication matters. During the year, OCDM assisted the United States Delegation to the International Telecommunication and Radio Conferences at Geneva, Switzerland, by providing the services of a telecommunications consultant and the Executive Secretary of the Interdepartment Radio Advisory Committee. The United States Delegation, participating in these conferences sponsored by the International Telecommunication Union, brought about improvements which are of considerable importance to the United States and which are reflected in the International Telecommunication Convention and the Annexed Radio Regulations adopted by the conferences.

The executive branch has prepared to implement the actions adopted by the conferences subject to ratification of the revised treaty by the United States. Dependent upon this ratification are actions which would result from the IRAC and FCC joint revision of United States frequency allocations, including the completion of action to allocate a portion of the frequency spectrum for radio astronomy and space research communication.

The IRAC prepared information on space telecommunication in response to a request from the Senate Committee on Aeronautical and Space Sciences. In addition to collaborating with the FCC in a study of space frequency requirements, the IRAC also began preparation for the United States to participate in a proposed 1963 Extraordinary Administrative Radio Conference at which space communication problems would be reviewed at the international level.

IRAC and FCC prepared a technical report of factors affecting long-range planning for uses of the 50 to 1215 megacycle portion of

the radio spectrum. OCDM continued to work on FCC proposals for an exchange of spectrum allocations which would permit national television broadcasting to be carried on to the extent practicable in the very high frequency portions of the spectrum.

In carrying out its regular activities in FY 1960, IRAC received 6,388 frequency assignment applications, took action on more than 26,000 frequency assignments to Federal radio stations, and endeavored to assign for aviation use reallocated portions of the radio frequency band between 118 and 136 megacycles.

IRAC's record-keeping unit continued operations. The main functions of this unit are to maintain duplicate records of radio frequency assignments to Federal and nongovernment radio stations, to carry out preplanned telecommunications actions immediately in case of a sudden emergency, and to be the advance cadre of an emergency communications agency.

Industry's program of rerouting main communications trunklines to bypass major target areas and locating operating facilities outside these areas has become a standard practice for maintaining dependable service. This program has the dual purpose of improving peacetime service and reducing attack vulnerability. For example, the telephone industry's dual-purpose facility is located outside a principal target area and normally is used to collect data for solving operational and management problems arising in the daily use of the Nation's telephone network. In emergencies, this facility would become the industry's relocation control center for exercising management and operational control of domestic and international commercial telephone networks as was demonstrated in Operation Alert 1960.

FY 1960 marked the established practice of leasing voice quality circuits in transoceanic submarine telephone cables to common carriers (cable and radio telegraph companies) for handling telegraph traffic and data transmissions. The United States has oceanic telephone cable connections with the United Kingdom and continental Europe; between the States of Washington and Alaska, and between the States of California and Hawaii. In FY 1960, a new submarine telephone cable service became operable between Florida and Puerto Rico, application was made for landing rights of a United States-Bermuda telephone cable, and plans were made for establishing a telephone cable between the United States and Japan.

Transportation

OCDM continued to develop a comprehensive analysis of the Nation's transportation industry. Major objectives included: (1) A determination of civilian and war-support transportation requirements, (2) an adequate appraisal of the effect of these requirements upon the Nation's transportation system, and (3) a determination of

the capability and role of available forms of transportation in meeting the Nation's needs under attack conditions.

A completed pilot project based on data derived from Operation Alert and the North Atlantic Treaty Organization exercises compared the interregional transportation demands with transport facilities remaining following a hypothetical nuclear attack. Results of the project tentatively indicated that common carriers would be unable to meet additional transportation demands stemming from reduction in private carriers, especially in the passenger field, caused by cutbacks in available fuel and other resources.

OCDM and DOD jointly planned a more decisive survey of the Nation's transportation capability and the establishment of machine processing methods for keeping the survey data from Federal and industry sources current. Completed research on railroad transportation and planned research in the trucking industry (see *Other Research*) marked substantial progress on this project during FY 1960.

In cooperation with other Federal agencies, OCDM strengthened measures for implementing an emergency transport agency to coordinate transportation activities after declaration of a national emergency. Notable accomplishments were agreement among Federal transportation agencies on the form of the emergency agency, the strengthening of regional and national capabilities by continued selection of National Defense Executive Reservists, and the assignment of interim operating space and facilities at OCDM's Classified Location until a permanent protected site can be provided for the emergency transport agency.

OCDM conducted five regional meetings to brief government personnel at all levels on the National Transportation Plan (Annex 34 to the National Plan), to stimulate further State and local planning, and to discuss and answer questions on the role of all governments in emergency mobilization of transportation. Similar meetings were scheduled for the remaining OCDM regions. Four of six appendixes to the National Transportation Plan were developed and released for review throughout the Government. These appendixes amplify transportation policies on emergency organization, priorities, estimation of wartime requirements, determination of traffic allocations, and improvement of State and local planning. Two appendixes being developed will amplify transportation policies on damage assessment and the routing of wartime traffic.

Part IV

SUPPORTING FUNCTIONS

RESEARCH AND DEVELOPMENT

OCDM develops, coordinates, and administers research projects primarily to utilize scientific principles and knowledge in solving the problems of nonmilitary defense. Its policy is to use all applicable research and research facilities available from Federal, private, and foreign sources.

During FY 1960, OCDM invested approximately 45 percent of its research funds in support of projects carried on by Federal or quasi-Federal agencies. By coordinating its research activities within the Government, OCDM avoids duplication and uses its funds most efficiently. To supplement Federal research, OCDM has contracts with universities, nonprofit research institutions, and other private research organizations having skills and capabilities not available within Government.

Of the \$4 million FY 1960 research appropriation, OCDM designated \$3.15 million for prototype shelter construction and shelter surveys. A total of \$1.7 million, including unobligated funds from earlier appropriations, was designated for research in such fields as radiological defense, operations research on broad systems of nonmilitary defense, shelter habitability and engineering tests, and social science studies.

An important focal point for acquiring, organizing, and disseminating research information is the OCDM Technical Library established in 1958. The library contains more than 6 thousand documents on biophysics, medicine, engineering and physical sciences, social sciences, and operations research. The library distributes reports on research and test operations, publishes periodic annotated lists of library acquisitions, and makes its resources available not only throughout OCDM but also to its research contractors, other U.S. Government agencies, and the Canadian Government.

Radiological Defense

The United States Weather Bureau completed its studies on methods for combining radiological data with meteorological techniques to increase the amount of information available shortly after an attack.

The Naval Radiological Defense Laboratory completed portions of a continuing study on radiological reclamation and countermeasures and provided OCDM with pertinent information developed. Radiological countermeasures were directed at such hazards as roof contamination, airborne radioactivity, and adherence of fallout to trees and shrubs. Problems under examination included contamination formation and deposition, radiation shielding and shelter design, and biological radiation effects. The development of information and criteria for large-scale reclamation procedures was continued, including field tests at Camp Parks, Calif.

The National Bureau of Standards continued basic research on the penetration and diffusion of nuclear radiation through matter and on the application of the knowledge of radiation transmission to shielding problems.

The University of California was completing basic studies on improvement of knowledge factors needed for effective operational systems of radiological defense.

The refining of present radiological defense operational plans to develop a realistic degree of readiness for population protection and rehabilitation was the purpose of radiological operations research conducted by Technical Operations, Inc., of Burlington, Mass. The same organization began research on the use of miniature scale models for determining shelter factors for radiation protection provided by structures. In the past, experimental evaluation of shelter factors has required the use of full-scale structures.

The U.S. Army Engineer Research and Development Laboratory has almost completed field tests evaluating the effectiveness of water treatment processes in providing water which would be safe, potable, and palatable after a nuclear attack. The tests included an investigation of solubility characteristics of bomb-produced fission products and laboratory-scale experimentation of water decontamination methods. The University of Florida began evaluating the feasibility, limitations, and applicability of using polyelectrolytes in decontaminating water in existing water treatment plants. An additional study planned at the University of California will investigate the use of the home-type water softener and the use of ion-exchange resins for water decontamination.

FY 1960 marked the beginning of increased activity in developing additional radiological instruments for specific purposes. Among eight prototype instruments being developed are two types of survey meters and a dosimeter for general public use, a remote-reading shelter survey meter, and an aerial survey meter for measuring ground level radiation by low-flying aircraft. Other developments included an instrument calibrator suitable for personnel having limited technical training, a survey meter combining range, accuracy, and operat-

ing characteristics of the V-710 and V-720 survey meters, and a self-charging dosimeter of 0-20-roentgen range. To be used in survey instruments intended for the public, the Naval Research Laboratory undertook further development of solid-state radiation detectors which would be stable, economical, and uniformly sensitive.

Shelter

Development and design.—FY 1960 marked completion of seven studies in shelter development and design. The Public Buildings Service, General Services Administration, completed designs, drawings, and specifications for a prototype regional underground center. The Bureau of Reclamation, Department of the Interior, reported its findings on air-flow resistance of prototype blast valves. Eberle M. Smith Associates completed shelter designs for elementary school, office, and apartment buildings. The H. K. Ferguson Company completed the design for a multistory underground garage shelter. The American Machine and Foundry Company submitted field-test reports on three 50-foot-span response domes and a prototype door designed for shelter construction. OCDM completed a staff study on the use of rail reinforcement in designs for supporting dynamic loads.

Analysis and evaluation of field and laboratory test data on antiblast closures for shelter ventilation and on modified prototype blast valves were nearly completed by Arthur D. Little, Inc. Plans were also underway for the same organization to fabricate and test prototype blast valves of improved design.

The Public Health Service worked on designs, plans, specifications, and cost estimates for prototype shelters in general hospitals. The Armour Research Foundation sought the most profitable solution to the problem of blast testing by studying existing test methods, scale-model tests, and new testing techniques.

Urban vulnerability reduction.—The completion of four fallout shelter availability surveys under contract (Tulsa, Okla.; Contra Costa County, Calif.; Montgomery, Ala.; and Milwaukee, Wis.) provided tested methods and techniques for use in OCDM-conducted fallout shelter surveys.

In cooperation with the National Capital Planning Commission and the General Services Administration, OCDM began the support of a study conducted by the Corporation for Economic and Industrial Research. The principal objective of this study is to provide a system for locating Federal office facilities in the National Capital area based upon its projected growth and expansion for the next 40 years.

Shelter Habitability.—OCDM sponsored research on the major problems that would be caused by shelter living conditions. Major subjects investigated included:

1. Food.
 - a. A review of literature on food for shelters completed by the University of Georgia.
 - b. Technical studies to improve stability of selected foods required for preattack shelter storage conducted by the Department of Agriculture.
2. Occupancy management.
 - a. Two related studies completed by Dunlap and Associates, Inc., on major factors affecting mass management of shelters during occupancy. The same organization began preparing a manual of instructions for use in family fallout shelters.
 - b. A family occupancy test completed by Princeton University, using a simulated fallout shelter.
 - c. A study conducted by the American Institute of Research on persons in simulated shelters to determine methods for meeting social and psychological needs.
 - d. A continuing analysis by the Disaster Research Group, National Academy of Sciences, to determine information on human behavior applicable to life in shelters under probable nuclear attack conditions. Representatives of the organization used the data from this analysis in OCDM symposia, training courses, and written presentations.
3. Equipment.
 - a. A series of simulated occupancy tests by the National Bureau of Standards to determine the selection of engineering equipment for controlling temperature, humidity, condensation, and air content (oxygen, carbon dioxide, and contamination).
 - b. Studies planned for development and evaluation of filters and diffusion boards for protection against radiological, chemical, and biological warfare.
 - c. A study planned for developing an inflatable plastic air mattress adaptable for shelter use.
4. Mass fires.
 - a. A study by the Pacific-Southwest Forest Range Experiment Station, Department of Agriculture, to show the effects of mass fires on personnel in shelters. The principal objective is to determine the clearance area required around a shelter to protect its occupants from poisonous gases and heat generated by mass fires.
5. Medical care.
 - a. Simple and effective medical care procedures under development by the Public Health Service, DHEW, to determine criteria for care and treatment priorities designed for maximum use of trained and semitrained shelter occupants. The same agency worked on plans, methods, and materials for

- developing and testing a training program in emergency self-help.
- b. Development of new immunizing antigens and improvement of existing agents by the Army Medical Research and Development Command to provide greater protection against infectious and contagious diseases.
 - c. Studies by the Navy Medical Research Laboratory, New London, Conn., to determine the psychological and physiological effects of aerosols and atmospheric ionization under conditions comparable to those expected in underground shelters.

Warning and Communications

The Midwest Research Institute completed, tested, and delivered to OCDM a prototype powerline attack alerting system, for indoor warning, designated the "National Emergency Alarm Repeater (NEAR) System."

The Stanford Research Institute continued to investigate the feasibility of producing a prototype voice modulated air column siren.

Designers for Industry, Inc., continued work on designing a mobile communications unit that would enable the simultaneous operation of several radio receivers concurrently with operation of several transmitters. Plans were made for a study of radio propagation factors affecting frequency allocation.

Health and Medical

OCDM completed and sent to the Health Mobilization Division, DHEW, a staff study showing potential use of mental hospitals in the United States during civil defense emergencies. The Communicable Disease Center of the Public Health Service completed a study of rapid identification of biological warfare agents.

The Army Research and Development Command completed its OCDM contractual work on developing a simple but safe topical self-help treatment of first and second degree burns and continued the research under Army financing.

An evaluation by the University of Washington on storing chloroform and fluothane in OCDM stockpiles was being prepared.

The Naval Radiological Defense Laboratory completed a study on biomedical aspects of nuclear radiation and continued a study to show the relationship between acute and late effects of ionizing radiation. The principal objective of this study was the evaluation and application of therapeutic measures.

The National League for Nursing, Inc., continued its third year of work on developing recommendations for a national nursing plan for educational guidance of all nurses in preparing for civil defense.

The National Academy of Sciences continued research on extending the storage life of whole blood, inactivating hepatitis virus in plasma, techniques for red cell preservation, and the production of blood derivatives of superior quality.

Social Sciences

Columbia and DePaul Universities completed development of sample legislation to facilitate efficient State records management and protection. The State of Minnesota conducted additional research in the continuity of government field through a study of the emergency responsibilities of State employees.

Harbridge House, Inc., completed and began classroom testing a series of nonmilitary defense case studies for use in OCDM training courses. Applied Psychological Services, Inc., continued to evaluate the effectiveness of OCDM training courses for the purpose of curriculum planning.

The Brookings Institution conducted a 3-day symposium on developing State and local policies and techniques for consumer rationing of food, drugs, petroleum, and other commodities. The Department of the Interior completed a study of long-range petroleum requirements; consultants from the petroleum industry began a review of the findings of the study. Data on civilian survival requirements and methods for providing survival item inventories were furnished by the Business Defense Services Administration; BDSA continued to develop criteria for rehabilitating the production capacity which would be needed in a postattack period. The Corporation for Economic and Industrial Research continued to analyze postattack inventory requirements in the light of new production facilities scheduled to supply survival needs. OCDM arranged with the University of California to outline the potential role of Latin American countries for the next 10 years in providing survival and recovery support to the United States in a postattack period.

Other Research

In FY 1960, the Stanford Research Institute and OCDM emphasized research studies which produced comprehensive analyses of functions and methods for providing food, fuel, transportation, and warning under a broad range of attack patterns.

Research on the Nation's transportation system resulted in the preparation of reports for OCDM use on *A System Analysis of the Effects of Nuclear Attack on Railroad Transportation in Continental United States* and *Diesel Fuel Availability for Class I Railroads*. In the planning stage were analyses of postattack use of trucks and

other major transportation means and the development of a framework for assessing chemical and biological warfare hazards.

The Army Chemical Corps, having completed the development and testing of a prototype civilian protective mask and an infant protector against chemical, biological, and radiological agents, was in the process of preparing final test reports on these devices.

Supported by the Department of Agriculture, the Department of Defense, and OCDM, the National Bureau of Standards continued to conduct fire research. Fire research by the Forest Service of the Department of Agriculture was specifically designed to explore new fire control techniques which would be most economical in use of time and resources.

OCDM continued to support and use the services of three research committees of the National Academy of Sciences which are the Advisory Committee on Civil Defense, the Committee on Fire Research, and the Medical Research Advisory Committee of the National Research Council.

TRAINING AND EDUCATION

OCDM used all facilities within its means to intensify and expand training and education activities to provide essential leadership for (1) achieving operational readiness at all levels of government and (2) training and educating every person for national survival and recovery.

Schools and School Programs

OCDM schools in operation were the Staff College, and the Chemical, Biological, and Radiological Defense School and Training Center, Battle Creek, Mich.; the Eastern Instructor Training Center, Brooklyn, N.Y.; and the Western Instructor Training Center (opened in November 1959), Alameda, Calif. Through these schools and by traveling instructor teams, OCDM offered regular courses for leaders, auxiliary workers, and instructors at all government levels, and special courses for such groups as industrial representatives and clergymen. Courses offered in FY 1960 totaled 151 and the number of graduates exceeded 4,100 persons—increasing the total graduates of OCDM schools to more than 22,000.

OCDM trained 1,315 persons in radiological defense, including 1,230 radiological monitoring instructors, who will help train additional monitors required to man the 150,000 stations planned in the fixed monitoring network. (See *Radiological Defense Monitoring*.) In addition, OCDM completed distribution of approximately 15,000 sets of radiological instruments to selected colleges and high schools to help them incorporate radiological defense education into their science curricula and strengthen the monitoring capability.

Working through the National Science Foundation, OCDM conducted a pilot project to strengthen the radiological defense education of science, mathematics, and engineering teachers. Negotiations with the National Science Foundation were underway to provide radiological defense instruction in FY 1961 for teachers who participate in its summer institutes to be conducted at 265 colleges and universities.

In support of the Continuity of Government Program, OCDM trained more than 2,800 persons in emergency operations courses for leaders, instructors, or special groups. In addition, OCDM helped governments at all levels to develop and implement training plans and programs and approved State applications for Federal matching funds in support of about 4,600 training courses.

Major national education organizations and the United States Office of Education, as in past years, were of invaluable assistance in promoting the teaching of civil defense and defense mobilization concepts in the Nation's schools. Under OCDM arrangements, the George Peabody College for Teachers prepared guidance material for use in teacher education curricula. This material, distributed to teacher education institutions, will help prepare teachers to accept civil defense responsibilities. In cooperation with OCDM, the American Association of School Administrators prepared, and distributed nationwide to their members, a publication entitled "Disaster Protection Handbook for School Administrators." The Office of Education publication, "Education for National Survival," was revised and will be released in FY 1961, and arrangements were made with the American Council on Education to revise its publication entitled "Civil Defense in Higher Education."

As a result of OCDM's work with the United States Office of Education, the Civil Defense Adult Education Program operated in four States in FY 1960. State instructor training teams in Florida, Kentucky, Minnesota, and Texas trained more than 2,300 local teachers. These teachers then conducted adult classes in their communities from which approximately 42,000 persons were graduated. In FY 1961, this program will be extended to include California, Louisiana, and Nebraska. The purpose of the program is to provide adults with civil defense education in weapons effects and the principles of individual, family, and community protection. Under contract with OCDM, the McGraw-Hill Publishing Company is assisting in preparing instructional materials for use in the program.

Nongovernment Organizations

Major national organizations and leadership groups continued to assist in strengthening civil defense education, community support, and local operational capability.

For example, 28 organizations having an aggregate membership of 31 million persons distributed survival information to members and their families. Thirty-five organizations with a total membership of 25.8 million persons passed resolutions endorsing the Continuity of Government Program. Outstanding examples of organizational actions in implementing the National Shelter Policy were:

1. Construction of 61 demonstration shelters, for which the American Federation of Labor and Congress of Industrial Organizations (AFL-CIO) building trades provided free labor and the Structural Clay Products Institute and local masonry suppliers donated the materials.
2. The Junior Chamber of Commerce nationwide program to build prototype home fallout shelters in 3,900 communities based upon a successful four-State pilot program conducted in FY 1959.
3. Adoption of demonstration home shelter construction programs by the American Veterans of World War II and Korea (AMVETS) and the Regular Veterans Association of the United States.
4. Promise of the American Legion and the Veterans of Foreign Wars to construct 100-person shelters in their national offices.
5. Cooperation of the National Joint Conference on Church Architecture in helping churches expand their program of providing fallout shelter areas.

The National Women's Advisory Committee was OCDM's chief vehicle for working with national women's organizations and their cooperating groups representing a collective membership of more than 70 million women. Under the sponsorship of these organizations and State and local civil defense officials, more than 76,000 women were active in more than 3,500 Home Preparedness Workshops in FY 1960. Women's increased participation in State and local planning in FY 1960 proved a growing awareness of their responsibilities in civil defense and family survival. For example, Women's Advisory Councils were active in all OCDM Regions. Their membership totaled 468. Similar councils in 29 States had 1,408 members, and in more than 300 local councils their total membership was several thousand.

All major farm organizations supported an intensive rural civil defense education program, which in FY 1960 emphasized protection of people, livestock, and crops in 3,067 counties having 60 million rural residents. Information kits in support of this program were distributed throughout the 50 States and Puerto Rico; and county civil defense or agriculture extension leaders in 39 States began multiple-instructor-student training to carry the full impact of the program to the rural populace.

Churches expressed their desire to cooperate in designating fallout shelter areas, training welfare personnel, and making their resources available for emergencies. Clergymen of many denominations attended OCDM and State civil defense conferences at their own expense. FY 1960 marked the completion of the fifty-sixth in a series of such meetings devoted to church cooperation in disaster planning.

More than 200 companies have established civil defense programs in their plants as a result of sending representatives to the OCDM Staff College Course on Industry Defense. Many companies have extended the educational features of these programs to their employees' families. On-the-job employee training in first aid, rescue, firefighting, and other civil defense methods was of great take-home value. (See also *Industry Defense*.)

The American Federation of Labor and Congress of Industrial Organizations (AFL-CIO) began incorporating civil defense material in regularly scheduled summer schools. Two schools conducted pilot courses in preparation for extending similar instructions to all labor schools held at leading universities and colleges.

FEDERAL ASSISTANCE

Matching funds.—Federal matching funds obligated for civil defense use of the States, the Commonwealth of Puerto Rico, and outlying island possessions during the year amounted to \$9,933,000 or 5.5 cents per capita. These funds were used for warning and communications equipment, control center construction and equipment, and various other civil defense items including training, education, and public information programs. Cumulative net obligations to the States, Territories, and Possessions since the beginning of this program in 1952 totaled \$97.5 million or approximately 54.3 cents per capita. (See table 3.) Approximately \$73.5 million of this amount has actually been expended.

Surplus property.—Federal surplus property originally costing \$48.4 million was made available to the States for civil defense purposes during FY 1960. Since 1957, when the Congress authorized such action, a total of \$132 million in Federal surplus property has been transferred to the States. (See table 4.) The largest amounts of equipment transferred were in the categories of trucks and tractors, generators, firefighting equipment, trailers, and cranes and shovels. In addition, the Tools for Schools Program provides more than 10,000 Federal surplus machine tools annually to educational institutions. (See *Government-Owned Machine Tools and Production Equipment Inventories* under *Federal Stockpiles*.)

Assistance in major disasters.—The coordination of Federal assistance in major disasters is an OCDM function. Under the Federal Disaster Act (Public Law 875, 81st Congress, as amended), the Fed-

TABLE 3.—Federal contributions summary showing dollar value of Federal funds obligated and expended¹

Region and State	FY 1952-60		Total obligations, FY 1960
	Total expenditures	Total obligations	
TOTAL.....	\$73, 465, 157	\$97, 501, 634	\$9, 933, 089
REGION 1.....	23, 013, 954	30, 389, 287	2, 514, 129
Connecticut.....	1, 958, 635	2, 262, 602	157, 258
Maine.....	644, 325	1, 041, 156	117, 387
Massachusetts.....	2, 945, 644	4, 604, 727	322, 240
New Hampshire.....	284, 141	366, 994	38, 782
New Jersey.....	1, 982, 219	2, 531, 404	178, 891
New York.....	13, 965, 803	18, 118, 146	1, 546, 010
Rhode Island.....	349, 369	459, 128	64, 328
Vermont.....	248, 127	283, 796	29, 186
Puerto Rico.....	623, 320	708, 963	60, 047
Virgin Islands.....	12, 371	12, 371	-----
REGION 2.....	15, 797, 172	19, 250, 499	1, 451, 940
Delaware.....	801, 842	845, 950	31, 024
Dist. of Columbia.....	184, 655	246, 086	6, 087
Kentucky.....	469, 165	586, 397	66, 554
Maryland.....	1, 688, 254	2, 087, 832	132, 488
Ohio.....	4, 733, 023	5, 257, 224	466, 122
Pennsylvania.....	6, 949, 230	8, 962, 226	651, 955
Virginia.....	808, 709	950, 864	49, 951
West Virginia.....	162, 294	313, 920	47, 759
REGION 3.....	5, 637, 563	8, 126, 297	973, 069
Alabama.....	670, 118	1, 137, 124	220, 136
Florida.....	1, 124, 950	1, 808, 467	160, 114
Georgia.....	1, 449, 487	1, 677, 813	194, 411
Mississippi.....	191, 758	459, 081	58, 090
North Carolina.....	986, 805	1, 397, 845	183, 290
South Carolina.....	149, 046	265, 074	79, 087
Tennessee.....	1, 041, 187	1, 304, 947	77, 941
Canal Zone.....	24, 212	75, 946	-----
REGION 4.....	8, 090, 786	11, 505, 498	1, 621, 887
Illinois.....	2, 347, 635	2, 857, 770	296, 067
Indiana.....	907, 282	1, 553, 115	335, 695
Michigan.....	2, 581, 590	3, 934, 102	556, 773
Minnesota.....	1, 096, 859	1, 570, 822	118, 329
Wisconsin.....	1, 157, 420	1, 589, 689	315, 023

¹ Adjusted for firm contracts, cancellations, and amendments, as of June 30, 1960.

TABLE 3.—Federal contributions summary showing dollar value of Federal funds obligated and expended¹—Continued

Region and State	FY 1952-60		Total obligations, FY 1960
	Total expenditures	Total obligations	
REGION 5.....	\$4, 551, 149	\$7, 363, 071	\$1, 174, 800
Arkansas.....	392, 036	1, 215, 963	194, 393
Louisiana.....	849, 458	1, 325, 514	137, 109
New Mexico.....	55, 321	278, 013	45, 128
Oklahoma.....	926, 465	1, 322, 031	299, 670
Texas.....	2, 327, 869	3, 221, 550	498, 500
REGION 6.....	3, 029, 659	4, 291, 622	510, 007
Colorado.....	515, 610	783, 655	174, 373
Iowa.....	166, 144	265, 460	33, 007
Kansas.....	554, 268	667, 232	55, 896
Missouri.....	1, 241, 664	1, 366, 308	116, 993
Nebraska.....	260, 307	420, 575	24, 876
North Dakota.....	131, 979	563, 820	71, 039
South Dakota.....	102, 918	124, 936	18, 518
Wyoming.....	56, 769	99, 636	15, 305
REGION 7.....	9, 812, 451	12, 326, 456	1, 310, 579
Arizona.....	303, 703	325, 925	22, 939
California.....	8, 743, 503	11, 060, 327	1, 207, 797
Hawaii.....	534, 925	639, 837	39, 225
Nevada.....	53, 236	77, 651	8, 932
Utah.....	162, 851	208, 483	31, 686
American Samoa.....	-----	-----	-----
Guam.....	14, 233	14, 233	-----
REGION 8.....	3, 532, 423	4, 248, 904	376, 678
Alaska.....	356, 404	358, 113	1, 510
Idaho.....	146, 975	264, 849	58, 493
Montana.....	131, 142	176, 438	26, 525
Oregon.....	1, 079, 637	1, 203, 932	104, 088
Washington.....	1, 818, 265	2, 245, 572	186, 062

¹ Adjusted for firm contracts, cancellations, and amendments, as of June 30, 1960.

eral Government assists the State and local governments in carrying out their responsibilities to alleviate suffering and damage resulting from major disasters and to foster the development of such State and local organizations and plans as may be necessary to cope with these catastrophes. In FY 1960, 11 major disasters were declared. Funds allocated under the Act during this period, either directly to the States or to Federal agencies for reimbursement for their expenses

totaled \$7,721,500. Other Federal agencies also expended funds under other statutes.

Assistance under Public Law 85-606.—No Federal funds were available during FY 1960 to help pay essential personnel and administrative costs of State and local civil defense organizations as authorized by Public Law 85-606. However, \$6 million appropriated for this purpose will be available on Jan. 1, 1961. OCDM has prepared guidance material and standards to ensure effective use of these funds and will implement the program on the effective date.

As authorized by Public Law 85-606 and starting during the latter half of FY 1960, OCDM began a program for partially reimbursing travel and per diem expenses of students attending its schools. Under this program OCDM expended \$30,000 to pay part of the expenses of 423 students from 49 States, the District of Columbia, and Puerto Rico.

TABLE 4.—Federal surplus property transferred to the States for civil defense purposes

(In thousands of dollars)

Region and State	Acquisition cost of transferred property		Region and State	Acquisition cost of transferred property	
	Fiscal years 1957-60	Fiscal year 1960		Fiscal years 1957-60	Fiscal year 1960
TOTAL.....	132, 106	48, 401	REGION 4—Con.		
REGION 1.....	22, 276	7, 500	Minnesota.....	2, 414	931
Connecticut.....	3, 321	1, 088	Wisconsin.....	1, 431	505
Maine.....	2, 921	787	REGION 5.....	14, 534	5, 679
Massachusetts.....	4, 795	2, 025	Arkansas.....	3, 615	1, 241
New Hampshire.....	890	422	Louisiana.....	2, 952	1, 029
New Jersey.....	2, 645	1, 013	New Mexico.....	566	481
New York.....	5, 676	1, 559	Oklahoma.....	1, 703	515
Rhode Island.....	550	174	Texas.....	5, 698	2, 413
Vermont.....	394	147	REGION 6.....	9, 565	3, 359
Puerto Rico.....	1, 084	285	Colorado.....	2, 280	479
REGION 2.....	13, 866	4, 747	Iowa.....	634	223
Delaware.....	136	10	Kansas.....	849	295
Kentucky.....	1, 553	383	Missouri.....	2, 643	657
Maryland.....	2, 746	1, 291	Nebraska.....	553	252
Ohio.....	2, 329	550	North Dakota.....	411	289
Pennsylvania.....	4, 652	1, 462	South Dakota.....	1, 299	682
Virginia.....	1, 962	795	Wyoming.....	896	482
West Virginia.....	488	256	REGION 7.....	23, 988	9, 523
REGION 3.....	22, 773	8, 646	Arizona.....	750	463
Alabama.....	4, 206	1, 562	California.....	20, 624	8, 119
Florida.....	6, 763	3, 186	Hawaii.....	145	48
Georgia.....	5, 476	1, 542	Nevada.....	198	55
Mississippi.....	81	81	Utah.....	2, 271	838
North Carolina.....	4, 284	1, 419	REGION 8.....	5, 715	2, 788
South Carolina.....	860	508	Alaska.....	70	11
Tennessee.....	1, 103	348	Idaho.....	1, 275	747
REGION 4.....	19, 389	6, 159	Montana.....	262	162
Illinois.....	5, 484	1, 455	Oregon.....	1, 152	619
Indiana.....	2, 602	1, 016	Washington.....	2, 956	1, 249
Michigan.....	7, 468	2, 252			

TESTS AND EXERCISES

Operation Alert 1960 was a 3-day nationwide exercise held from May 3 through May 5. Confined to the testing of immediate and short-term response of the people and their governments to a simulated nuclear attack, the exercise was more realistic than any of its six predecessors. It especially emphasized action on the following fronts: (1) Warning action, including shelter-evacuation-dispersion of key resources and relocation of governments; (2) collection, evaluation, analysis, and presentation of attack data and weapons effects; (3) operational control and use of communications; (4) early post-attack decisions and staff-supported decisions; and (5) use of monitors at all levels to assure correct play of the exercise and to evaluate participation.

The President, the Secretary of Defense, and the Director of OCDM addressed the public as part of a 30-minute test of the CONELRAD (Control of Electromagnetic Radiations) system at the beginning of the exercise. Federal agencies with nonmilitary defense responsibilities participated as planned at certain of their headquarters relocation sites, the OCDM main relocation site, OCDM Operational Headquarters at Battle Creek, Mich., and at the eight OCDM Regional Offices. The extensive DOD participation proved especially significant in coordinating military and nonmilitary activities.

Forty-eight of the fifty State governments took part in the exercise, and local government activities were considerable even in two States not participating. In some States, the National Guard played a substantial role in the exercise.

Experience on the five principal action fronts yielded important information and data for future planning and improvements, enhanced the readiness capability of all participants, and contributed significantly to the major purpose of the exercise; i.e., to improve the capability of governments to react to a major attack in the postattack period. The use of a monitor system for guiding the exercise play and evaluating participation was a unique feature of the FY 1960 exercise. This system appeared especially useful within State and local governments. Plans are to develop this system for greater use in future exercises.

In addition to participating in Operation Alert, governments at all levels and many private organizations conducted a wide variety of exercises throughout FY 1960.

In addition to its tests and exercises, OCDM continually reviewed civil defense and defense mobilization programs, including: (1) The National Plan and its supporting annexes, and operational appendixes; (2) emergency preparations; and (3) the plans and programs of other Federal agencies and State and local governments. OCDM inspec-

tion procedures assured: (1) Readiness of stockpile supplies and equipment; (2) availability of assigned and trained personnel for emergency duties; and (3) compliance with Federal assistance regulations.

Part V

OFFICIAL ORGANIZATIONS AND ADVISORY GROUPS

The comprehensive scope of civil defense and defense mobilization responsibilities has given nongovernment national organizations a common objective for action. Examples illustrating the importance of these actions have been cited in various sections of this report. The common objective stemming from these responsibilities extends also to official advisory groups and organizations and to friendly foreign countries. OCDM, long ago recognized the binding strength of common objectives among organizations, official groups, and governments, and continued to work effectively with them.

INTERNATIONAL ACTIVITIES

Working through the Department of State, OCDM continued to increase its international activities in the form of civil emergency planning, conferences (see also *Telecommunications*), mutual cooperation, and information exchanges.

The National Plan attracted worldwide attention as was evidenced by requests for this publication from 22 countries. OCDM also furnished technical and public information publications to 38 countries and the International Secretariats of the North Atlantic Treaty Organization (NATO) and the Central Treaty Organization (CENTO—formerly the Baghdad Pact nations now consisting of Iran, Pakistan, Turkey, the United Kingdom, and the United States as an observer member). Many foreign civil defense officials visited and conferred with the OCDM staffs at Washington, D.C., and at Battle Creek, Mich. Included were representatives from Argentina, Austria, Curacao, Denmark, England, West Germany, Israel, Kenya, Korea, Norway, Pakistan, Sweden, Switzerland, Turkey, the United Arab Republic, and the NATO international staff.

In November 1959, the OCDM Director participated in the sixth meeting of the NATO Senior Civil Emergency Planning Committee in Paris. OCDM sent a representative to London for the second CENTO meeting of civil defense experts in March and represented the United States at 10 NATO conferences which included visits to the Netherlands, France, and the United Kingdom, for civil emer-

agency planning. The conferences were held by the NATO Civil Defense, Medical, Industrial Planning, and Civil Communications Planning Committees and by technical working parties.

At their request, OCDM loaned civil defense equipment for testing and evaluation purposes to the Governments of Denmark, West Germany, Italy, Iran, Turkey, and Switzerland. Several foreign governments purchased or borrowed civil defense films.

The United States and Canada continued to progress in their joint civil defense efforts. Direct communications channels established in FY 1960 enabled the OCDM staff, at the national and regional levels, and the Canadian personnel, of the Emergency Measures Organization (EMO) and the Canadian Army Survival Staff, to consult each other daily on technical matters. In addition to frequent personal contacts between nonmilitary defense personnel of both nations, Government offices and individuals exchanged publications through OCDM and EMO.

United States local and State civil defense directors and Provincial Civil Defense Directors of Canada completed their study of border preattack mutual aid plans for the Niagara Falls, N.Y., area. The results of this study were scheduled for consideration by the Standing Planning Committee of the Joint United States-Canadian Civil Defense Committee.

THE AMERICAN NATIONAL RED CROSS

The American National Red Cross maintained a staff representative at each of the eight OCDM regional offices and a full-time liaison representative at the OCDM National Headquarters. In addition to assisting in planning and developing more effective emergency community services, the ANRC representatives performed an important liaison function for OCDM by providing information and advice needed by its staff in discharging daily natural disaster relief responsibilities equitably and wisely.

Increased emphasis on training courses in first aid, home care of the sick and injured, and emergency mass feeding strengthened the Nation's self-help capabilities. The cooperation of the ANRC and its widely dispersed field chapters made self-help training almost universally available. For a key to survival, in both natural and man-made disasters, continued emphasis and application of this training is indispensable.

FY 1960 marked the beginning of a widely expanded ANRC service to the Federal Government. In addition to assisting OCDM, ANRC extended similar services to other Federal agencies having civil defense and defense mobilization responsibilities or delegated duties. This action will hasten achievement of OCDM program objectives in all emergency welfare fields.

CIVIL DEFENSE ADVISORY COUNCIL

The Civil Defense Advisory Council, established by section 102 of the Federal Civil Defense Act of 1950 (64 Stat. 1247; 50 U.S.C. App. 2272), advises and consults with the OCDM Director concerning general or basic civil defense policies. The Director is the chairman, and of the 12 additional members appointed by the President, 3 represent State governments, 3 represent the State political subdivisions, and 6 the citizenry of the United States.

The Council met two times in FY 1960 for deliberation on policy matters relating to such subjects as FY 1961 appropriation requirements and ways and means of promoting the National Shelter Policy. Some Council members were 1960 Operation Alert observers at several OCDM Regional Offices.

The President reappointed four Council members to new terms during 1960. Council members at the close of the year were:

Hon. Leo A. Hoegh, Chairman.

Hon. J. Caleb Boggs, Governor of Delaware.

Hon. Luther H. Hodges, Governor of North Carolina.

Mrs. Hiram Cole Houghton, Red Oak, Iowa.

Mrs. Charles P. Howard, Boston, Mass.

Hon. John B. Hynes, former Mayor of Boston.

Hon. Goodwin J. Knight, former Governor of California.

Maj. Gen. Otto J. Nelson, Jr., Vice President, New York Life Insurance Company (reappointed).

Hon. Okey L. Patteson, former Governor of West Virginia (reappointed).

Hon. P. Kenneth Peterson, Mayor of Minneapolis.

Mr. George J. Richardson, Special Assistant to the President, AFL-CIO (reappointed).

Hon. Clifford E. Rishell, Mayor of Oakland.

Mr. Robert E. Smith, Houston, Tex. (reappointed).

CIVIL AND DEFENSE MOBILIZATION BOARD

At his request, the Civil and Defense Mobilization Board advises the OCDM Director concerning his responsibilities. Executive Order 10773 of July 1, 1958, as amended by Executive Order 10782 of Sept. 6, 1958, established this Board.

The Board's chairman is the OCDM Director. Its members are the heads of Federal executive departments and agencies designated by him with their consent. In FY 1960, 21 members served on the Board. Among the Board's numerous advisory considerations were policies on strategic materials, continued implementation of the National Shelter Policy, and a broadening of regional operations for emergency management of resources.

ADVISORY COMMITTEES

Established advisory committees to OCDM continued to function in several major nonmilitary defense areas. Outstanding leaders of national organizations, labor, industry, agriculture, and religious, professional, and educational groups served on these committees. Their advice and guidance in developing, planning, and carrying out OCDM programs within their areas of interest continued to strengthen nonmilitary defense capabilities throughout the Nation. Active advisory committees in FY 1960 were:

Citizens Advisory Committee on the National Defense Executive Reserve.

Committee on Specialized Personnel.

Health Resources Advisory Committee.

Subcommittee on Blood.

Subcommittee on Hospital Services.

Labor Advisory Committee.

National Advisory Council on Rural Civil and Defense Mobilization.

National Fire Defense Advisory Committee.

National Labor-Management Manpower Policy Committee.

National Religious Advisory Committee.

National Women's Advisory Committee.

OCDM Program Advisory Committee.

OCDM Police Committee.

Training, Education, and Public Affairs Advisory Committee.

