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1955

# ANNUAL REPORT

CIVIL DEFENSE ADMINISTRATION

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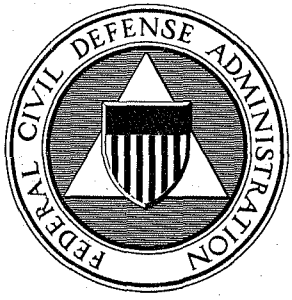
# ANNUAL REPORT for 1955




United States

FEDERAL CIVIL DEFENSE ADMINISTRATION

UNITED STATES GOVERNMENT PRINTING OFFICE: 1956

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# LETTER OF TRANSMITTAL

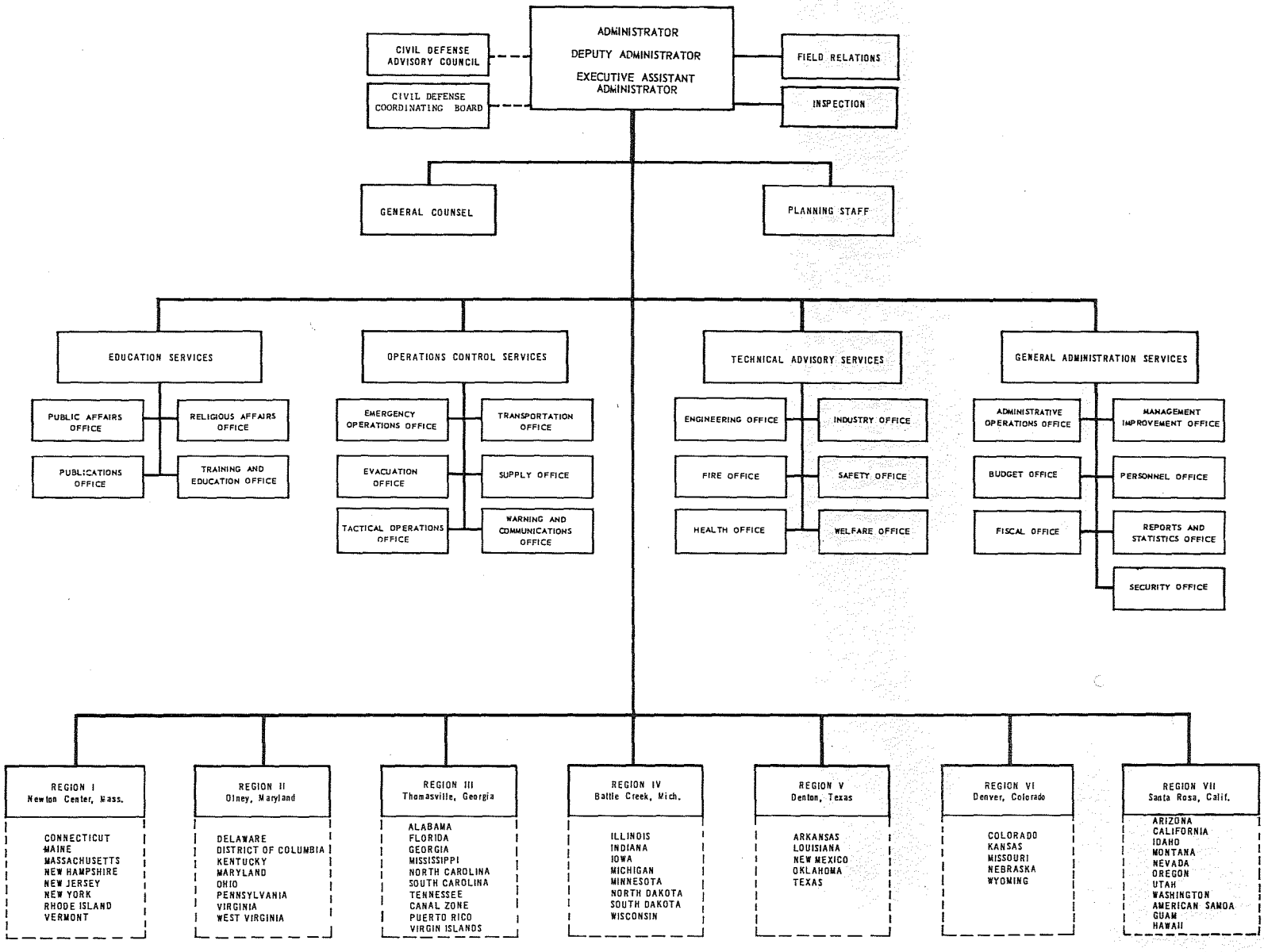
*The Honorable, The President of the United States.*
*The Honorable, The President of the Senate.*
*The Honorable, The Speaker of the House.*

I have the honor of transmitting to you the Fifth Annual Report of the Federal Civil Defense Administration, together with recommendations for civil defense in our future national security structure. This report is submitted in conformity with section 406, Public Law 920, of the 81st Congress.

Respectfully,

VAL PETERSON,
*Administrator.*

# ORGANIZATION CHART

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# ADMINISTRATOR'S REVIEW OF CIVIL DEFENSE IN 1955

The close of 1954 found the Federal Civil Defense Administration engaged in revamping its basic concepts, policies, and techniques of defense.

The advent of the thermonuclear weapon, with its terrifically augmented power of destruction and dangerous fallout, capable of reaching hundreds of miles from a target area, brought virtually the entire country into the civil defense picture and called for wholesale revision of Federal, State, and local civil defense planning. The year 1955 was mainly given to this task.

At the close of it the Administrator summarized the Agency's position and progress as follows:

Some of the important components of the national security policy of the United States are: skillful diplomacy, a high degree of military preparedness, and a civil defense program for every segment of our population, from the residents of the Capital City to the citizens of the smallest township.

The civil defense role in national security planning is indispensable. In this age of terrible new weapons, a major deterrent to a potential aggressor will be precisely those programs that this Nation develops to defend its population. It seems logical that an enemy's temptation to attack the United States will shrink in proportion to the advance measures the Nation adopts to keep the greater part of its population alive during and after an attack.

The FCDA is working to develop a civil defense program so capable of protecting millions of people in time of danger that it will also help to convince a potential aggressor of the futility of attempting to destroy the Nation.

## SURVIVAL PLANNING

There is no precedent in United States history for defense against nuclear weapons. Planning for survival in a country as vast and highly populated as this raises problems of enormous complexity. No survival plan is equally applicable to every metropolitan area of the United States. Each city must develop a special survival plan of its own.

Not only must the plan be adapted to the distinctive characteristics of individual areas but it must be flexible. It must encompass a wide range of warning times and an equally wide range of weapons. It is most probable that attack today would come from piloted bombers

carrying nuclear weapons capable of delivering them with considerable accuracy. Tactical warning of this sort of attack could be two or three hours for the first targets attacked. Tomorrow, or possibly five or ten years from now, the intercontinental ballistic missile could be used against us. The nuclear warhead could be large but the accuracy of delivery might be considerably less than that of a bomber. Tactical warning could be a matter of minutes. And we recognize that the changing nature of war may require defense against chemical, biological, and other weapons delivered by a wide variety of means. The tactics of civil defense are necessarily complex and our greatest concern is to be prepared to cope with the most probable threat.

The survival of populations likely to be the targets of thermonuclear weapons will depend upon balanced evacuation and shelter measures: evacuation—to escape blast, heat, and initial radiation—and shelter, of substantial strength outside the areas of heaviest damage for those who must remain, and lighter shelter beyond the probable target area against radioactive fallout, the lethal secondary effect of a thermonuclear ground explosion.

Funds to make an excellent start in survival planning were appropriated by Congress and are advanced by FCDA to State and local governments after individual project agreements have been approved by National Headquarters. Because survival planning is new, FCDA has proceeded cautiously. Most of the States and metropolitan areas that have initiated survival studies are working on the first phase of the plan—designing the study, inventorying existing community data, and making preliminary surveys and analyses. This saves both time and money and has practical application to present operational plans as well, either as the basis for an interim operating plan or a means of determining where modifications are needed. Although time-consuming, this phase is the least expensive part of the study.

Survival planning can be done on a single city basis, or statewide, or for a whole cluster of critical target areas involving more than one State.

While the survival plan studies will contribute a great deal to civil defense planning and operations, they are already having a profound influence on an organizational concept with which I have been deeply concerned: metropolitan area planning. Even in the development of proposals for Phase I Survival Plan studies, a large number of political subdivisions have had to face up to the fact that they can neither plan nor operate separately.

## FEDERAL AUTHORITY

The National Planning Association and the Commission on Intergovernmental Relations have urged greater Federal responsibility, and the 1955 Review of Project East River stated that, "The technique of

utilizing metropolitan target zones for planning and operations in nonmilitary defense will require a material increase in the Federal Government's leadership, authority, responsibility, and operational control of nonmilitary defense while retaining the essential elements of State and local participation and responsibility." Under Public Law 920, 81st Congress, the FCDA recommends, advises, and suggests to the States; it does not order nor direct.

There are many statutory forms which could be applied to civil defense, ranging from the present law to the extreme of a Federal Civil Defense Corps, with the Federal Government exercising direction and control over even local units. The FCDA has been studying them intensively for many months.

FCDA has recently assumed responsibility under delegation from the Director, Office of Defense Mobilization, for reduction of urban vulnerability and the continuity of essential functions of State and local governments. These are necessary parts of a total civil defense program.

## USE OF EXISTING GOVERNMENT AGENCIES

To be adequate and workable civil defense should be as integrated into our normal way of life as the fire, police, and medical services. It should not be necessary for civil defense to be crying alarm. Civil defense should be so organized that every citizen would know that when the alert is sounded it can and will go into competent action. Every public servant, city, county, State, and Federal, should have, and be trained for, an emergency civil defense duty. For many it will be doing, under the most adverse circumstances, the job that they are normally paid to do. For others, it will be adapting skills and abilities to do quite different jobs.

## DELEGATIONS

One of the basic tenets of the FCDA is the maximum use in civil defense of existing resources of other Federal agencies. This is sought through an extensive delegation program, whereby civil defense benefits from the competence and resources of existing Government departments and agencies. Civil defense needs their technical know-how, their channels of communications, experience, skilled personnel, invaluable public relations, and prestige.

The President has approved the delegation of 33 civil defense activities to 7 departments and agencies of the Federal Government.

These delegations, which include research, planning, stockpiling, and emergency operations, are designed to bring into civil defense all the resources available in the Federal Government.

To give guidance and coordination to the civil defense activities of these departments and agencies, the Civil Defense Coordinating Board was established by the President on May 11, 1955.

In addition to the formal meetings of the Civil Defense Coordinating Board there have been numerous conferences and discussions between FCDA staff members and representatives of the delegate agencies to speed organization and activity.

Recently we have taken the delegation program to the field through workshop conferences in our regions. To date, such 2-day meetings have been held in 5 of our 7 regions participated in by all the delegate agencies and FCDA regional and headquarters representatives. This is an important step toward realization of the delegate agency program.

## ATTACK WARNING

The Air Force is responsible for detecting enemy aircraft, identifying, tracking, and intercepting them. The FCDA is responsible for warning the civilian population of their approach.

The FCDA Civil Air Defense Warning System (known as the CADW) disseminates warning to 200 key point warning centers throughout the United States. These key points, manned by State or local civil defense personnel, alert civil defense headquarters in their areas. Local officials in turn warn the public.

Within the past few months, FCDA installed the National Warning Control System (NAWAC), for intercommunication of warning and tactical information through full-period telephone circuits connecting the FCDA Attack Warning Officers, Liaison Officers at CONAD and at the Air Defense Forces, FCDA regional offices, and the Administrator's office.

During the past year, changes in the telephone circuits of the CADW and relocation of keypoints has decreased the time required to transmit the warning to all the keypoints to 8 minutes and less than that for the threatened areas.

No warning is of value unless it reaches the people in time for them to take necessary protective action. With matching funds FCDA has been helping to build up the warning systems within the States and cities. These consist of sirens and horns. About $7.8 millions in Federal funds have been invested in this and about $10 millions in State and local funds.

The Agency is carrying on vigorous research to develop a foolproof, inexpensive appliance that will warn people in their homes or places of work, day or night. Contracts have been let to leading electronic manufacturers. Voice warning devices to explain emergency situations, particularly along evacuation routes, are also being studied.

## EMERGENCY OPERATIONS

Should an attack come, the FCDA, which has been the civil defense planning and guiding agency, must be ready to carry out important emergency functions. The Agency must maintain a constant flow of information to the President and all elements of Government on the national situation, assess damage and casualties, and coordinate Federal aid.

To carry out these functions, the Washington staff moves to a relocation site outside of Washington.

The National Headquarters at Battle Creek has its own emergency operations center. It can communicate with the Washington relocation center, 7 FCDA regional offices, attack warning officers and liaison officers at the CONAD installations, and other Federal agencies. Members of the FCDA staff have emergency assignments at the Battle Creek center. There the emergency situation is analyzed, summaries and communiques are forwarded to the Washington center, and instructions from Washington are carried out.

Each regional office has an operations center which is activated under emergency conditions.

Our operational planning is flexible enough to permit us to carry on through a line of succession of regional centers if both Washington and Battle Creek operations centers should be knocked out.

## COMMUNICATIONS

The FCDA has established a National Communications System with equipment at National Headquarters in Battle Creek, Emergency Relocation Center near Washington, D. C., and all regional and State offices. It is possible to communicate with the regions and States both by voice and teletypewriter through virtually any telephone switchboard in the country. This would permit bypassing damaged areas. The FCDA has emergency radio communications between Battle Creek and the Washington emergency relocation site. At Headquarters in Battle Creek, there is a transmitter operating on the amateur frequency bands. Funds have been requested for emergency radio facilities from Headquarters to the regional offices and from there to the States. The States can purchase equipment through the matching funds program.

## OPERATION ALERT

The 1955 alert afforded the opportunity for a profitable examination of plans and operations. It also pointed up a good many deficiencies, some of which could be encountered under disaster conditions. The exercise exposed the Nation's unreadiness to cope adequately with a

thermonuclear attack. Nevertheless, Operation Alert 1955 was successful as a means of improving civil defense at all levels. Another nationwide alert is scheduled to take place in July 1956.

## OPERATION CUE

In May of last year Operation Cue tests and exercises at the Nevada Test Site of the Atomic Energy Commission yielded much valuable technical information on blast, heat, and radiation effects. A television audience of upwards of 100 million people witnessed the explosion and some of the civil defense exercises. This demonstration of atomic power brought vast numbers of Americans face to face with the enormity of the problem of survival in the nuclear age.

Civil defense field exercise teams, police, warden, and the others that had specific assignments did a fine job. The mass feeding team operated under difficult conditions and demonstrated techniques that would be invaluable in emergency conditions.

The group of 6 women and 23 men who experienced the shot from a trench at the 10,500-foot line demonstrated that civil defenders can take it along with the troops.

There were three major facts gained from the technical tests:

First, that industrial equipment is more blast resistant than had been expected and that utilities and communications may be expected to be usable without major replacement within the C and D damage zones.

Second, that residences can be made more resistant by proper design and reinforcing.

Third, that shelters can provide excellent protection at a reasonable unit cost. A considerable variety of shelters was tested with generally satisfactory results.

The most significant finding from the utilities test may be summed up in the preliminary conclusion that at any distance where structures survive with simple repairs they may be expected to be usable.

Different kinds of food were exposed under as many conditions as possible, ranging from direct blast and thermal effects to fallout. About 15 tons of food were involved. There was also a test of several kinds of packaging.

## RADIOLOGICAL DEFENSE

The radiological defense program was enlarged during 1955. A separate Radiological Defense Division was established to carry it forward.

Procurement of radiological survey meters and dosimeters to be stockpiled for emergency operation has been stepped up. There are some 75,000 survey meters on order, 20,000 have already been delivered, and 129,000 dosimeters are contracted for over and above the 11,000

previously procured. Instruments have been available to the States on loan for training purposes since the summer of 1954.

The present estimate is that 300,000 survey meters and more than a million dosimeters are needed.

Concurrently, a program is under way to train civil defense workers to use these instruments. The entire staff of the National Headquarters has received this training. Training programs have been established in many States and cities, supported by Federal funds under the contributions program.

With the cooperation of the Public Health Service, Department of Health, Education, and Welfare, FCDA conducts courses at National Headquarters for training radiological defense instructors. Persons who complete these courses are also able to use the findings of radiological monitors in planning civil defense operations.

To improve operational capability in radiological defense we have underway a research program with the University of California which is expected to give us a method of rapid assessment of radiological hazards resulting from an attack with high-yield nuclear weapons, and of immediate application of the most effective measures to minimize the danger.

The Atomic Energy Commission conducted an exercise at the Nevada Test Site in October at which they demonstrated for Federal, State, and local radiological personnel the aerial monitoring system developed for monitoring weapons tests in Nevada and the Pacific.

## ADVISORY COUNCIL

The National Civil Defense Advisory Council met on five occasions in 1955. The Council is composed of distinguished citizens of wide experience in national affairs.

## MOVE TO BATTLE CREEK

In the late summer FCDA completed its first year at the new Headquarters in Battle Creek. The FCDA moved its Headquarters to be out of the Washington target area.

The move to Battle Creek has proved the feasibility of operating Federal agencies away from the National Capital.

## PUBLIC INFORMATION

The FCDA is pressing a program designed to give all citizens understanding of the nuclear threat, the need for personal civil defense measures, and what the Government is doing to assure national survival.

Civil defense must become a part of the normal way of life without regard to international relations.

To this end, the FCDA has issued millions of copies of general use booklets on the fundamentals of survival and other important aspects of civil defense. It also distributed many technical manuals, bulletins, and handbooks for the use of civil defense workers in the regional and State organizations.

The FCDA with the Air Force and the Federal Communications Commission issued special service awards to the 1,300 radio stations that invested more than 2 million dollars and an uncounted number of engineering man-hours to keep the CONELRAD emergency broadcasting frequencies—640 and 1240 kilocycles—operative.

The Mutual Broadcasting System has undertaken an important series of weekly civil defense programs as a public service.

During the year more than 80 articles on civil defense appeared in leading popular magazines, and hundreds of excellent studies of various aspects of the civil defense appeared in the Nation's professional journals.

Bing Crosby, Amos and Andy, and Art Linkletter donated their time to record for radio a series of civil defense messages.

The religious leaders of the Nation have given excellent support to civil defense. Private business organizations and associations have set a generous example. The Institute of Life Insurance, the Burroughs Adding Machine Company, the Chrysler Corporation, the American Trucking Association, and the National Automobile Dealers Association all have sponsored production of civil defense motion pictures. In addition, hundreds of television stations cooperated by showing FCDA films such as "A New Look at the H-Bomb."

Interest in our exhibits reflects growing public awareness of civil defense. More than 3 million persons saw FCDA exhibits at State and county fairs and at business, professional, and fraternal meetings.

The Grandma's Pantry exhibit appealed to women everywhere. This stresses the idea that every home should maintain a 7-day emergency supply of food and water. We have produced 1,000 of these. Sears, Roebuck & Company alone took 500 of them for store exhibits.

## TRAINING

The objective of our information activities is to promote awareness of the nuclear threat and the rudiments of civil defense: personal, family, group, and community.

If only 5 percent of the people can be trained to do a particular type of job in an emergency, the United States will have a corps of workers numbering about 8 million.

The FCDA continues to operate its Staff College, an advanced school for civil defense leaders. As nuclear developments are more fully understood and survival techniques developed, they are incorpo-

rated into its courses. A course in Tactical Evacuation is the latest addition to the curriculum.

In 1955 more than 950 persons completed the regular and special courses presented by the Staff College. Most of these were city, county, and State leaders or officers of the Armed Services. They have already begun to pass on their civil defense know-how to many others.

## NATIONAL ORGANIZATIONS

The FCDA was especially successful in 1955 in attracting the good will, cooperation, and financial participation of many organizations and individuals that influence American public opinion. The American Legion sent three special civil defense newsletters to its 3 million members, and the Legion has formed hundreds of rescue teams to assist local civil defense directors in time of disaster.

The Boy Scouts of America have closely identified themselves with civil defense. Great numbers of Boy Scouts volunteered for the Ground Observer Corps, while many others are taking rescue training and communications training.

Relations with the American National Red Cross are excellent. The FCDA and the Red Cross work together both in time of natural disaster and in planning for war disasters.. Operational arrangements have recently been strengthened through the assignment of full-time experienced Red Cross personnel to each FCDA regional office.

Labor organizations have been most cooperative. The first convention of the combined American Federation of Labor and Congress of Industrial Organizations voted unanimously full support of civil defense.

Women's organizations gave devoted service to disseminating knowledge of civil defense. Working with their accustomed thoroughness and enthusiasm in adult associations and youth groups, women trained themselves in every kind of civil defense activity, with particular attention to home and family survival techniques.

When, last spring, the Congress approved our request for supplementary appropriations, we were able for the first time to establish a fairly comprehensive research program and to make a good start on a backlog of urgent research projects which had accumulated because of lack of money in previous years.

With the assistance of our Scientific Advisory Committee, which operates through the National Research Council of the National Academy of Sciences, a number of programs were initiated. These are carried out through contract with leading universities, industrial organizations, research institutes, and through other Government agencies. They do not duplicate the work of other agencies but are designed to give us the advantage of their work.

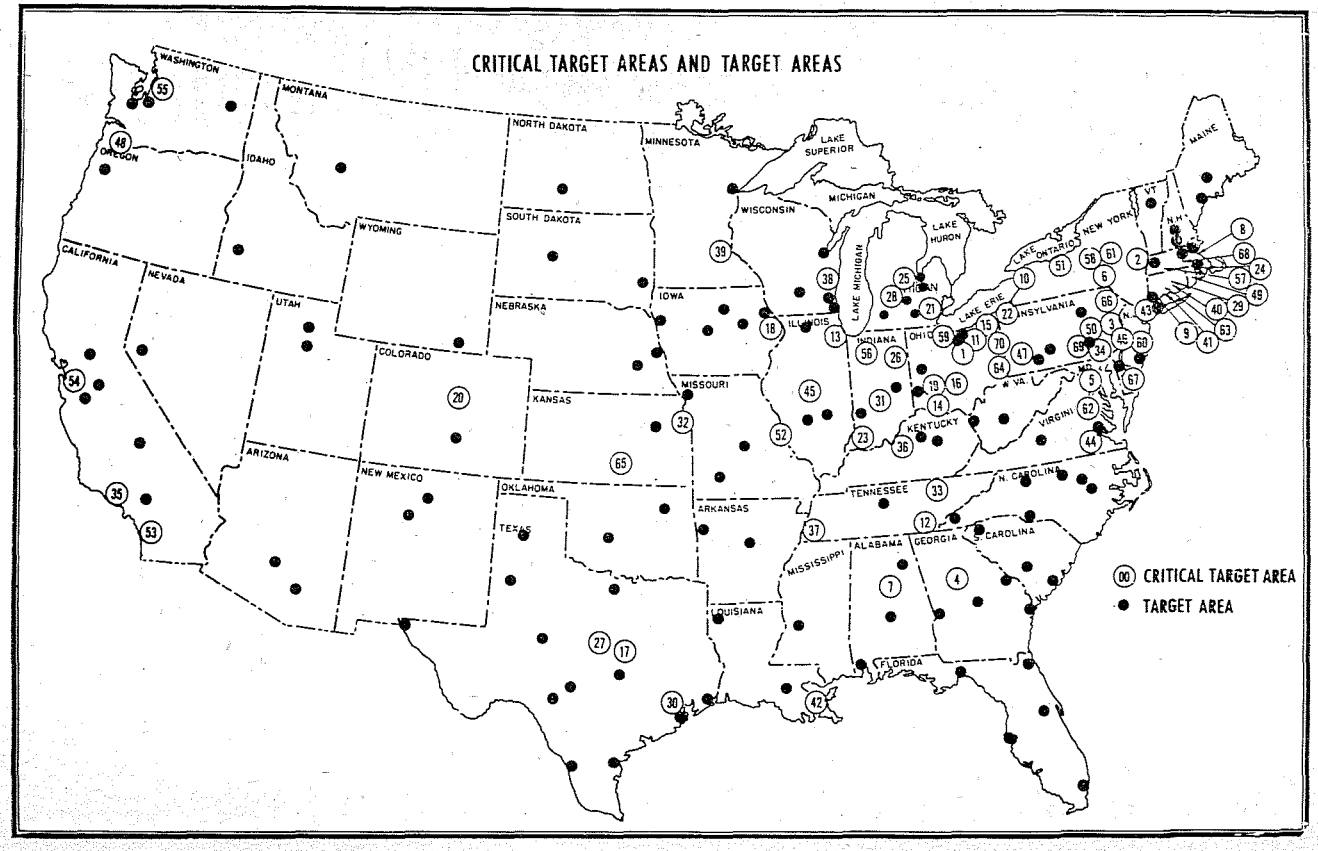
## NATURAL DISASTERS

In August and October natural disasters struck the eastern States and in December, the far west. Since Executive Order 10427 assigns the FCDA responsibility for coordinating disaster relief activities of all Federal agencies, the Administrator made on-the-scene inspection of the floods in the east last summer and fall, and those in Nevada and California in December.

Civil defense has helped to combat natural disasters since 1953, but in 1955 we faced our biggest challenge. Operations were better organized and more effective than at any time in the past. Assignments to other Federal agencies worked more smoothly. Coordination with the work of the Red Cross was excellent. Through these experiences our ability to provide speedy assistance was greatly improved.

The spirit and enterprise of the untrained volunteers who invariably are willing to help their unfortunate neighbors in time of disaster was most impressive. The volunteer spirit, however, is not always enough. There were repeated demonstrations of the need for some civil defense training for everyone. People so trained must supplement the activities of a Federal civil defense agency in emergency rehabilitation.

FCDA training has produced greater civil defense efficiency in combatting disaster and the experience gained should help materially in dealing with conditions resulting from enemy attack.


CRITICAL TARGET AREAS AND TARGET AREAS
WASHINGTON
OREGON
CALIFORNIA
NEVADA
IDAHO
MONTANA
WYOMING
UTAH
ARIZONA
COLORADO
NEW MEXICO
NORTH DAKOTA
SOUTH DAKOTA
NEBRASKA
KANSAS
OKLAHOMA
TEXAS
MINNESOTA
IOWA
MISSOURI
ARKANSAS
LOUISIANA
WISCONSIN
ILLINOIS
MICHIGAN
INDIANA
OHIO
KENTUCKY
TENNESSEE
MISSISSIPPI
ALABAMA
GEORGIA
FLORIDA
S. CAROLINA
N. CAROLINA
VIRGINIA
W. VA.
PENNSYLVANIA
NEW YORK
VT
N.H.
MAINE
LAKE SUPERIOR
LAKE MICHIGAN
LAKE HURON
LAKE ERIE
LAKE ONTARIO
CRITICAL TARGET AREA
TARGET AREA

# CRITICAL TARGET AREAS

| Map ref. No.* | Critical target area and principal cities |
|---|---|
| 1 | Akron, Ohio:<br>Akron. |
| 2 | Albany-Schenectady-Troy, N. Y.:<br>Albany.<br>Schenectady. |
| 3 | Allentown-Bethlehem-Easton, Pa. (N. J.):<br>Allentown. |
| 4 | Atlanta, Ga.:<br>Atlanta. |
| 5 | Baltimore, Md.:<br>Baltimore. |
| 6 | Binghamton, N. Y.:<br>Binghamton. |
| 7 | Birmingham, Ala.:<br>Birmingham. |
| 8 | Boston, Mass.:<br>Boston.<br>Lynn.<br>Cambridge.<br>Somerville. |
| 9 | Bridgeport, Conn.:<br>Bridgeport. |
| 10 | Buffalo, N. Y.:<br>Buffalo.<br>Niagara Falls. |
| 11 | Canton, Ohio:<br>Canton. |
| 12 | Chattanooga, Tenn.: (Ga.):<br>Chattanooga. |
| 13 | Chicago, Ill. (Ind.):<br>Chicago.<br>Gary, Ind. |
| 14 | Cincinnati, Ohio (Ky.):<br>Cincinnati. |
| 15 | Cleveland, Ohio:<br>Cleveland. |
| 16 | Columbus, Ohio:<br>Columbus. |
| 17 | Dallas, Tex.:<br>Dallas. |
| 18 | Davenport, Iowa-Rock Island-Moline, Ill.:<br>Davenport. |
| 19 | Dayton, Ohio:<br>Dayton. |
| 20 | Denver, Colo.:<br>Denver. |
| 21 | Detroit, Mich.:<br>Detroit.<br>Dearborn. |
| 22 | Erie, Pa.:<br>Erie. |
| 23 | Evansville, Ind.:<br>Evansville. |
| 24 | Fall River-New Bedford, Mass. (R. I.):<br>Fall River.<br>New Bedford. |
| 25 | Flint, Mich.:<br>Flint. |
| 26 | Fort Wayne, Ind.:<br>Fort Wayne. |
| 27 | Fort Worth, Tex.:<br>Fort Worth. |
| 28 | Grand Rapids, Mich.:<br>Grand Rapids. |
| 29 | Hartford, Conn.:<br>Hartford. |
| 30 | Houston, Tex.:<br>Houston. |
| 31 | Indianapolis, Ind.:<br>Indianapolis. |
| 32 | Kansas City, Kans. (Mo.):<br>Kansas City, Kans.<br>Kansas City, Mo. |
| 33 | Knoxville, Tenn.:<br>Knoxville. |
| 34 | Lancaster, Pa.:<br>Lancaster. |
| 35 | Los Angeles, Calif.:<br>Los Angeles.<br>Glendale.<br>Long Beach.<br>Pasadena. |
| 36 | Louisville, Ky. (Ind.):<br>Louisville. |
| 37 | Memphis, Tenn.:<br>Memphis. |
| 38 | Milwaukee, Wis.:<br>Milwaukee. |
| 39 | Minneapolis-St. Paul, Minn.:<br>Minneapolis.<br>St. Paul. |
| 40 | New Britain-Bristol, Conn.:<br>New Britain. |
| 41 | New Haven, Conn.:<br>New Haven. |
| 42 | New Orleans, La.:<br>New Orleans. |
| 43 | New York-Northeast New Jersey:<br>New York City.<br>Elizabeth, N. J.<br>Jersey City, N. J.<br>Newark, N. J.<br>Paterson, N. J.<br>Yonkers, N. Y. |
| 44 | Norfolk-Portsmouth-Newport News, Va.:<br>Norfolk. |
| 45 | Peoria, Ill.:<br>Peoria. |
| 46 | Philadelphia, Pa. (N. J.):<br>Philadelphia.<br>Camden, N. J. |
| 47 | Pittsburgh, Pa.:<br>Pittsburgh. |
| 48 | Portland, Oreg. (Wash):<br>Portland. |
| 49 | Providence, R. I. (Mass.):<br>Providence. |
| 50 | Reading, Pa.:<br>Reading. |
| 51 | Rochester, N. Y.:<br>Rochester. |
| 52 | St. Louis, Mo. (Ill.):<br>St. Louis. |
| 53 | San Diego, Calif.:<br>San Diego. |
| 54 | San Francisco-Oakland, Calif.:<br>San Francisco.<br>Oakland.<br>Berkeley.<br>Richmond. |
| 55 | Seattle, Wash.:<br>Seattle. |
| 56 | South Bend, Ind.:<br>South Bend. |
| 57 | Springfield-Holyoke, Mass. (Conn):<br>Springfield, Mass. |
| 58 | Syracuse, N. Y.:<br>Syracuse. |
| 59 | Toledo, Ohio:<br>Toledo. |
| 60 | Trenton, N. J.:<br>Trenton. |
| 61 | Utica-Rome, N. Y.:<br>Utica. |
| 62 | Washington, D. C. (Md.-Va.):<br>Washington, D. C. |
| 63 | Waterbury, Conn.:<br>Waterbury. |
| 64 | Wheeling, W. Va.-Steubenville, Ohio:<br>Wheeling. |
| 65 | Wichita, Kans.:<br>Wichita. |
| 66 | Wilkes-Barre-Hazleton, Pa.:<br>Wilkes-Barre. |
| 67 | Wilmington, Del. (N. J.):<br>Wilmington. |
| 68 | Worcester, Mass.:<br>Worcester. |
| 69 | York, Pa.:<br>York. |
| 70 | Youngstown, Ohio (Pa.):<br>Youngstown. |

# TARGET AREAS

| Target area | Population (1950) |
|---|---|
| Total, 124 areas | 19,138,959 |
| Agana City, Guam | 1,330 |
| Albuquerque, N. Mex | 145,673 |
| Altoona, Pa | 139,514 |
| Amarillo, Tex | 87,140 |
| Asheville, N. C | 124,403 |
| Atlantic City, N. J | 132,399 |
| Augusta, Ga. (S. C.) | 162,013 |
| Augusta, Maine | 83,881 |
| Austin, Tex | 160,980 |
| Baton Rouge, La | 158,236 |
| Bay City, Mich | 88,461 |
| Beaumont-Port Arthur, Tex | 195,083 |
| Bismarck, N. Dak | 25,673 |
| Boise, Idaho | 70,649 |
| Brockton, Mass | 129,428 |
| Carson City, Nev | 4,172 |
| Cedar Rapids, Iowa | 104,274 |
| Charleston, S. C | 164,856 |
| Charleston, W. Va | 322,072 |
| Charlotte, N. C | 197,052 |
| Charlotte Amalie, V. I | 11,469 |
| Cheyenne, Wyo | 47,662 |
| Columbia, S. C | 142,565 |
| Columbus, Ga. (Ala.) | 170,541 |
| Concord, N. H | 63,022 |
| Corpus Christi, Tex | 165,471 |
| Decatur, Ill | 98,853 |
| Des Moines, Iowa | 226,010 |
| Dover, Del | 37,870 |
| Dubuque, Iowa | 71,337 |
| Duluth, Minn.-Superior, Wis | 252,777 |
| Durham, N. C | 101,639 |
| El Paso, Tex | 194,968 |
| Fort Smith, Ark | 64,202 |
| Frankfort, Ky | 25,933 |
| Fresno, Calif | 276,515 |
| Gadsden, Ala | 93,892 |
| Galveston, Tex | 113,066 |
| Green Bay, Wis | 98,314 |
| Greensboro-High Point, N. C | 191,057 |
| Greenville, S. C | 168,152 |
| Hamilton-Middletown, Ohio | 147,203 |
| Harrisburg, Pa | 292,241 |
| Helena, Mont | 24,540 |
| Honolulu, T. H | 353,020 |
| Huntington, W. Va.-Ashland, Ky | 245,795 |
| Jackson, Mich | 107,925 |
| Jackson, Miss | 142,164 |
| Jacksonville, Fla | 304,029 |
| Jefferson City, Mo | 35,464 |
| Johnstown, Pa | 291,354 |
| Juneau, Alaska | 5,956 |
| Kalamazoo, Mich | 126,707 |
| Kenosha, Wis | 75,238 |
| Lansing, Mich | 172,941 |
| Laredo, Tex | 56,141 |
| Lawrence, Mass | 125,935 |
| Lexington, Ky | 100,746 |
| Lima, Ohio | 88,183 |
| Lincoln, Nebr | 119,742 |
| Little Rock-North Little Rock, Ark | 196,685 |
| Lorain-Elyria, Ohio | 148,162 |
| Lowell, Mass | 133,928 |
| Lubbock, Tex | 101,048 |
| Macon, Ga | 135,043 |
| Madison, Wis | 169,357 |
| Manchester, N. H | 88,370 |
| Mayaguez, P. R | 87,307 |
| Miami, Fla | 495,084 |
| Mobile, Ala | 231,105 |
| Montgomery, Ala | 138,965 |
| Montpelier, Vt | 42,870 |
| Muncie, Ind | 90,252 |
| Nashville, Tenn | 321,758 |
| Ogden, Utah | 83,319 |
| Oklahoma City, Okla | 325,352 |
| Olympia, Wash | 44,884 |
| Omaha, Nebr. (Iowa) | 366,395 |
| Orlando, Fla | 114,950 |
| Pago Pago, American Samoa | 1,586 |
| Phoenix, Ariz | 331,770 |
| Pierre, S. Dak | 8,111 |
| Pittsfield, Mass | 66,567 |
| Ponce, P. R | 126,810 |
| Portland, Maine | 119,942 |
| Pueblo, Colo | 90,188 |
| Racine, Wis | 109,585 |
| Raleigh, N. C | 136,450 |
| Richmond, Va | 328,050 |
| Roanoke, Va | 133,407 |
| Rockford, Ill | 152,385 |
| Sacramento, Calif | 277,140 |
| Saginaw, Mich | 153,515 |
| St. Joseph, Mo | 96,826 |
| Salem, Oreg | 101,401 |
| Salt Lake City, Utah | 274,895 |
| San Angelo, Tex | 58,929 |
| San Antonio, Tex | 500,460 |
| San Bernardino-Riverside-Ontario, Calif | 451,688 |
| San Jose, Calif | 290,547 |
| San Juan-Rio Piedras, P. R | 465,741 |
| Santa Fe, N. Mex | 38,153 |
| Savannah, Ga | 151,481 |
| Scranton, Pa | 257,396 |
| Shreveport, La | 216,686 |
| Sioux City, Iowa | 103,917 |
| Sioux Falls, S. Dak | 70,910 |
| Spokane, Wash | 221,561 |
| Springfield, Ill | 131,484 |
| Springfield, Mo | 104,823 |
| Springfield, Ohio | 111,661 |
| Stamford-Norwalk, Conn | 196,023 |
| Stockton, Calif | 200,750 |
| Tacoma, Wash | 275,876 |
| Tallahassee, Fla | 51,590 |
| Tampa-St. Petersburg, Fla | 409,143 |
| Terre Haute, Ind | 105,160 |
| Topeka, Kans | 105,418 |
| Tulsa, Okla | 251,686 |
| Tucson, Ariz | 141,216 |
| Waco, Tex | 130,194 |
| Waterloo, Iowa | 100,448 |
| Wichita Falls, Tex | 98,493 |
| Winston-Salem, N. C | 146,135 |

# PLANNING AND RESEARCH

Planning in civil defense is based on assumed or known capabilities of the enemy. These assumptions are developed annually from the most recent intelligence sources, but do not reflect their detailed content. The plans and assumptions are developed for national use at all levels. Many of them have remained constant for several years and will remain in effect as they are for civil defense planning in the future. Some assumptions such as warning time, radioactive fallout, and target areas will change with weapons development and dispersal of populations and industries.

## PLANNING ASSUMPTIONS

### Type of Attack

It is accepted that the Soviet Union has the capability of striking any target within the United States.

A. It is assumed that if the United States is attacked the principal weapons will be nuclear [1] bombs of varying sizes delivered by aircraft or by submarines.

B. It is assumed that some of these weapons will be detonated in the air and others at ground level. If detonated at or near the ground, radiological contamination in lethal concentrations will be produced in areas far beyond the zones of blast and thermal damage.

C. It is assumed that incendiary and chemical warfare weapons will also be used.

D. It is assumed that sabotage will be employed, involving clandestine use of nuclear, biological, and chemical weapons.

E. It is assumed that psychological warfare will be used in an attempt to disrupt defense programs, impair production, create panic and despair, and weaken our will to fight.

F. It is assumed that the enemy's initial attack will be an attempted knockout blow, to be followed by other attacks of varying intensity, and that a large proportion of the weapons carried will be delivered on target.

### Discussion

If this country is attacked, the primary objectives of the enemy will include centers of industrial production, and concentrations of our civilian population as well as bases of military retaliation. Since

[1] The word "nuclear" in these planning assumptions includes all types of atomic and hydrogen weapons.

nuclear bombs are the most effective weapons of mass destruction now available, it is probable that the enemy would rely mainly on them. The most reliable means of delivery is the long-range bomber, although nuclear weapons might be launched by submarines off our coasts, or smuggled into the country. From the standpoint of warning, the method of delivery affects civil defense planning.

Nuclear weapons detonated at or near ground level, particularly those of high yield, cause residual radiation in lethal concentrations over areas far beyond the radius of blast and thermal effects. Radioactive fallout in intensities dangerous to persons who do not take protective measures can be carried by the winds of the upper atmosphere for a considerable distance downwind from ground zero. It is therefore regarded as probable that this type of burst will be used for such weapons.

The dimensions and shape of the fallout pattern are influenced by the whole complex of upper wind currents, but generally the area of highest intensity has a somewhat elliptical shape.

It is believed that civil defense measures designed to meet nuclear attack will also be sufficient to meet any accompanying incendiary attacks. Special defenses against biological and chemical attacks are a continuing necessity. Psychological warfare will be used in an attempt to create confusion, panic, apathy, and despair. We must be prepared to meet a flood of false rumors, disseminated by word of mouth, by leaflets, and by clandestine radio.

It is recognized that any type of attack will be accompanied by attempts at sabotage of industry and communications, and that enemy capability for clandestine introduction of nuclear weapons might cause serious problems. The effects of such covert activities will probably be minor, however, compared with those of overt attack.

## Probable Targets

A. It is assumed that concentrations of populations and industry and bases of military retaliation will be primary targets for nuclear attack.

B. It is assumed that chemical warfare and biological warfare attacks will be carried out in rural as well as urban areas.

C. It is assumed, as already indicated, that radioactive fallout in dangerous concentrations will spread not only over cities but over considerable areas downwind from the burst hitherto thought to be relatively safe from the effects of nuclear attack.

## Discussion

For civil defense planning purposes, large concentrations of population and centers of industrial production are regarded as the most

probable nonmilitary targets for nuclear attack, since the return per bomb in damage and casualties would be greater there. Each of these areas may be struck. Each one must, therefore, be fully prepared, even though all actually may not be hit at the same time, some possibly not at all. Areas downwind from any targets including bases of military retaliation may be affected by fallout from attacks on those targets whether or not the areas themselves are struck directly. Since no one can predict where the enemy will strike, and since radioactive fallout will not be confined to the larger industrial and population centers, every community, large and small, should be prepared.

CW and especially BW may be used against persons, animals, or crops. The targets for these forms of attack are therefore not limited to the cities, and preparations to combat them should be made in all agricultural regions.

The problem of fallout also affects rural and urban communities alike, since the areas over which it can reach damaging proportions are determined largely by the size of the weapon, wind direction, and other weather conditions prevailing at the time of attack.

## Bomb Size and Physical Damage

It is assumed that the Soviet Union can make nuclear weapons of varying yields, ranging from a few thousand to millions of tons of TNT equivalent. It is therefore assumed that any city attacked with nuclear weapons can be substantially destroyed.

## Discussion

Atomic bombs have been produced more than 25 times as powerful as the weapons with which the atomic age dawned, while hydrogen weapons are in the ranges of millions of tons of TNT equivalent. It is impossible to predict how large a bomb would be used on any given target complex. It is probable that the enemy will choose the most efficient size from the family of weapons. Where two or more bombs are needed to accomplish his objective, they would be used. Damage from such weapons would substantially destroy administrative, industrial, and commercial facilities of a city.

In view of the constantly expanding capabilities of the Soviet nuclear weapons program, civil defense planning should anticipate increases in the numbers and sizes of multimegaton weapons which may be used against us.

## Support

It is assumed that any area attacked will require outside support to meet the emergency. Mutual aid alone will not be sufficient, and both mobile and fixed support will be required.

## Discussion

This assumption is a major premise in the operation of civil defense. The capabilities of nuclear and other weapons are so great that an attack, if successful, will result in damage and casualties far beyond the resources of any community.

Assistance to attacked communities must come from outside and possibly from great distances. It must be organized in advance of an attack in order to be available when required. This means that available resources of the entire country, outside potential target areas as well as within them, must be geared into the civil defense system.

## Warning Time

A. It is assumed that in case of an attack during fiscal year 1956, warning yellow will be received at points along the Canadian border and the Atlantic, Pacific, and Gulf coasts 1 hour before warning red.

B. It is assumed that warning time will be progressively greater in the rest of the country, up to 3 hours at points in the interior.

## Discussion

With the continuing progress in the development of radar networks and other protective measures, the probability of a surprise attack is constantly diminishing, but the possibility still exists. *There can never be complete assurance of a specific warning time in a given area*, but it is believed that during fiscal year 1956 our defenses will have progressed to a point where for civil defense planning purposes we can reasonably count on 1 hour between warning yellow and warning red along the Canadian border and the Pacific, Atlantic, and Gulf coasts. It follows that the interior of the country can expect more than this, up to 3 hours in some States. Although surprise may be achieved in some areas, possibly by submarine-launched guided missiles, by clandestine attack or even by air attack, an attack on one area would warn the rest of the country.

## Dispersal of People

A. It is assumed that by fiscal year 1956 most of the principal cities will have been able to plan for a partial dispersal of their populations from the areas of greatest concentration on the receipt of warning yellow.

B. It is assumed that radioactive fallout will affect the operating details of evacuation policy. It will also require areas outside the target complex to develop shelter plans and possibly evacuation measures.

### Discussion

In fiscal year 1956 civil defense authorities will have had about 2 years in which to develop plans for dispersal. Test exercises have shown not only that the use of motor transport is feasible, but that greater distances can be covered by large numbers of people in a given time than was formerly thought possible.

Although the primary objective is to move people out of the areas of probable blast and thermal damage and immediate radiological effects, the possibility of radioactive fallout now makes it desirable to develop a high degree of flexibility in evacuation operations. Alternatively, provision should be made for sheltering people in areas where evacuation is not feasible.

## RESEARCH

To develop plans that are logical and correct, a continuing research program is supported by FCDA. National Academy of Science, private and industrial research organizations, research departments of universities, and governmental departments contracted to carry out the program. Prior to July 1, 1956, funds available for research were limited, but we were able to undertake limited research and development programs. Such essential work as the atomic test program, Opertion Cue, was conducted with the cooperation of the AEC in the spring of 1955.

Early in 1955 Congress approved a request for supplementary appropriations for the current fiscal year enabling FCDA to establish a more comprehensive research program. The funds appropriated permitted a good start on a backlog of urgent research projects which had accumulated because of lack of funds in previous years.

### Radiological Defense Research

A research program is being undertaken by the University of California to design and develop an organizational system to execute a national radiological defense plan. Items to be included are radiological defense, fallout pattern and predictions, shelter-cover program, radiological instrumentation program, communications systems, radiological decontamination, and mass radiation injury treatment. The United States Weather Bureau is making a climatological study of fallout probabilities. This survey will aid in planning evacuation studies, locating sites for stockpiling, and assuring operational plans.

## Bomb Damage Assessment and Reporting System

A research program with the Stanford Research Institute was started in 1954 to develop immediate and specific information on damage following any attack on this country. Information includes areas of damage, casualties, and effects on facilities and resources. Emphasis is being placed on mechanization of fallout analysis, development of a computation system for evacuation analysis, and compilation of data required. Additional objectives of this research are to provide an attack surveillance system to communicate information on location of ground zero, weapons size, and height of burst to a computer center which is part of the damage assessment system. The initial concentration is on systems analysis, preliminary specifications for surveillance instrumentation, requirements for communications network and establishing the cost of an operating system.

## Home Warning Devices

Several studies have indicated the need to supplement the outdoor siren system with some internal warning device to reach a maximum number of people. There are three methods by which this might be accomplished. The first would make use of sending a signal over a powerline either by a momentary change of voltage or by superimposing a signal over the standard cyclic rate. The second would transmit a signal over a telephone line and the third would make use of the CONELRAD system to transmit the signal by radio. In each instance the transmitted signal would trigger an alarm device within the home which would be attached either to the powerline, telephone, or radio. Several contracts have been let to initialing research and development work to produce a feasible and economical home warning device. Other studies have been undertaken for the purpose of reviewing, analyzing, and recommending improvement for the entire civil defense warning and communications system.

The Survey Research Center of the University of Michigan will bring the findings of the 1954 public attitude survey up to date. Items for inclusion are being developed for the work to start March 1, 1956, and to be completed December 1, 1956.

## Public Communications Systems

During a symposium held in May of 1955, at which representatives of all of the major sound industries were present, it was decided that considerable research and development was required to meet civil defense specifications for public address and communications equip-

ment. Contracts have been let to work on transistorization of amplifier equipment to develop systems which would be lighter, less subject to breakage, and easier to maintain. Other work calls for development of equipment suitable for use in light aircraft for direct voice communications. Application studies of available and developed public address equipment will be conducted in selected cities.

## Shelter Research

The Bureau of Standards is undertaking a study of the attenuation of nuclear radiation by structures.

Negotiations are being conducted with the Chemical Corps for development and adaptation of blast valves and filter units effective against chemical, biological, and radiological agents and suitable for home shelters.

## Fire Research

A committee has been established in the National Academy of Sciences to examine the methods for the prevention, extinguishing, and control of large-scale fires. Emphasis will be on new methods with recommendations for a basic research program in this field.

## Medical Research

*Blood research and plasma sterilization.*—The National Academy of Sciences is conducting studies jointly sponsored by FCDA and the DOD on blood research, plasma, volume expanders, and naso-gastric feedings.

They are beginning a project on sterilization of blood plasma for the elimination of transmission of jaundice. If this can be done, considerable savings will be realized because we are now stockpiling the more expensive serum—albumin.

*Chemical warfare defense.*—The Chemical Corps, Department of the Army, is continuing work on protective mask and infant protector development for civilian use.

## Human Relations Research

The Port Jervis, N. Y., project and the evacuation study was recommended by the Disaster Committee of the National Academy of Sciences. This work is being done by the Institute for Research in Human Relations and is a special study of the rise, spread, and control of rumors. Field work has been completed and analysis is being made. The final report will be submitted early in 1956.

The evacuation study is being conducted by the Bureau of Applied Social Research, Columbia University. The exploratory phase has

been completed and a report submitted. The final phase has been authorized. This is a study of the evacuation of the New England area because of the flood, and problems arising from temporary housing and care. Field work is nearly complete, and analysis and report preparation will require 3 to 4 months. Final report is due in May 1956.

The Survey Research Center of the University of Michigan will bring the findings of the 1954 public attitude survey up to date. Items for inclusion are being developed for the work to start March 1, 1956, and to be completed December 1, 1956.

## Research in Connection With Survival Studies

A number of pilot projects to develop procedures for survival plan studies have begun. These include:

*a.* Studies of shelter availability, shelter requirements, and construction.

*b.* Studies of reception problems, industrial and institutional requirements, and rehabilitation.

*c.* Studies of control, political jurisdiction, continuity of government, service coordination (police, fire, welfare, etc.), and internal alerting and communications.

*d.* Studies to determine methods of communications during an emergency and of motivating people to take desired course of action.

*e.* Studies to update 1950 census data on resident population and establish daytime population.

*f.* Studies of evacuation time with existing highways, and determination of required additional routes and costs, not needed for normal traffic purposes.

## Milwaukee Projects

1. Shelter Study (Wilbur Smith & Associates).

The purpose of this study is to determine shelter availability; shelter requirements, and advisable shelter construction in the Milwaukee target area and reception areas; and develop procedures for conducting similar studies of other critical areas. The contract, effected December 15, 1955, is to be completed in 90 days. The cost of the project is $35,000.

2. Reception and Care Study (Public Administration Service).

This contract calls for analysis of assembly and reception problems, industrial and institutional requirements, return and resettlement factors; and development of methods, techniques, and procedures for general guidance of anyone desiring to make a similar study elsewhere. The contract was let on December 9, 1955, and the work is to

be completed in 6 months. The cost of the project is approximately $21,000.

3. Command and Control Study (Armour Research Foundation). This project will cover command and control studies of political jurisdiction coordination, continuity of government, services (police, fire, welfare, etc.) coordination, and internal alerting and communications. Proposals by Armour Research Foundation and Stanford Research Institute have been considered. A contract is being drafted. The work is to be completed within 90 or 120 days from date of execution of the contract. The estimated cost is $30,000.

*Scientific Advisory Committee.*—The committee was established in 1954 by the National Academy of Sciences at the request of FCDA. It is supported by FCDA funds on a continuing basis and is composed of leading scientists in a variety of fields whose members serve without pay. The committee's function is to give advice on many different scientific and technical problems.

## FCDA RESEARCH PROGRAM

### Fiscal Year 1955–56

| | |
|---|---|
| 1. Radiological defense research | $667,000 |
| 2. Bomb damage assessment and reporting system | 500,000 |
| 3. Home warning systems | 297,000 |
| 4. Public communications system | 139,000 |
| 5. Shelter research | 30,000 |
| 6. Fire research | 30,000 |
| 7. Medical research | 103,000 |
| 8. Chemical warfare defense | 87,000 |
| 9. Human relations research | 196,000 |
| 10. Research in connection with survival studies | 302,000 |
| 11. Other | 40,000 |
| Total | 2,391,000 |

# SURVIVAL PLAN PROGRAM

Federally financed survival plan studies for specific target and reception areas started in 1955, marking one of the most significant steps in the development of civil defense in the United States.

The studies resulted from a growing need on the part of the States, their political subdivisions, and the Nation for specific plans designed to meet the survival needs and problems of specific communities.

Sound, basic concepts of civil defense have had, and will continue to have, great value in planning the nonmilitary defense of the United States. But basic concepts are not detailed, operational plans. A civil defense survival plan for New York City probably would not work in Chicago or Houston or any other city. And the expense of developing detailed plans, testing them, and making them known to the public often is beyond the financial capability of local units of government.

Out of this reasoning grew the idea for survival plan studies in target cities and reception areas, financed by the Federal Government, and conducted under the supervision of the Federal Civil Defense Administration.

Essentially, the studies were to develop evacuation, shelter, welfare, and operational plans for the protection and survival of people in target and reception areas. The plans were developed to meet the threat of existing weapons yet be flexible enough to accommodate possible weapons of the future.

On July 30, 1955, the 84th Congress approved a supplemental appropriation to FCDA that included $8,300,000 for survival plan studies. The bill was signed by the President on August 5, 1955.

Work began immediately in many areas, particularly the populous northeast. Several States and cities worked out agreements among themselves before contracting with FCDA. These were needed because the tremendous destructive power of nuclear weapons and civil defense measures against them cut across city and State boundaries, requiring coordinated civil defense planning on the part of adjacent governmental units. For example, a survival plan for the New York metropolitan area required a coordinated effort on the part of the States of New York, New Jersey, and Connecticut. These States drafted a three-State agreement before negotiating a contract with FCDA. The same was true of Washington, D. C., where agreements were negotiated between the District of Columbia, Maryland, and Virginia prior to the FCDA contract.

By the end of the year, survival plan studies contracts had been signed with the New York metropolitan area, Washington, D. C., New Orleans, and the State of Texas for the Houston area. Twelve additional contracts were near the final signing, and 15 others in various stages of development.

In addition, FCDA was working out details with the Bureau of the Census for special census studies in Houston, Milwaukee, St. Louis, and Washington, D. C., to develop formulas that can be used by any American city to make close estimates of the increase of current population totals and trends over 1950 census figures, and daytime population statistics (not now available in published census data) which would take into account such factors as the number of people away from home, at work, shopping, and in school. The formulas will greatly reduce the time and expense required to conduct individual, detailed population studies in each survival plan area.

As part of the overall survival plan studies program, FCDA signed contracts with the Public Administration Service of Chicago, a private organization, for a study in southeastern Wisconsin on the welfare care of evacuees from target cities, and with the Chicago Research Department of the American Machine & Foundry Co., and Wilbur Smith & Associates of New Haven, Conn., for pilot studies in Milwaukee of the resources and requirements for shelter against nuclear weapons.

To assist States and their political subdivisions in developing survival plan studies, FCDA compiled and published *Survival Plan Manual*, M-27-1, and *Survival Plan Work Book*, M-27-2. Included in the two publications is a discussion of survey areas that should be covered in each study. These include (1) the location and analysis of population, including special assistance groups, institutional requirements, and a portion of the industrial population reception; (2) command and control, including political jurisdiction coordination, the continuity of government, communications requirements, capabilities, service coordination, and alerting capabilities; (3) movement, including analysis of movement capabilities and capacities, transportation availability, and traffic control; (4) shelter availability and requirements; (5) reception and care, including assembly and reception area analysis, industrial population reception, institutional requirements and reception area, and a study of the return and/or resettlement analysis; (6) resources, which includes logistical support and the utilization of Government resources with primary emphasis on the location of manpower, material, and facilities; (7) information and training, which includes promotional analysis and internal alerting capabilities. For administrative purposes, it has been found desirable to divide survival plan projects into four phases or combinations of such phases:

Phase I—a preliminary study consisting of an analysis of all study areas as described above in order to identify existing data, determine additional data required, adopt an organizational and functional pattern for further studies, and develop the format of the studies. Most of the contracts that have been signed or that are under immediate consideration are for phase I studies.

Phase II—a completion of detailed surveys and studies in all areas required for effective formulation of the operational survival plan, including the detailed analysis and evaluation of all data collected, the preparation of necessary maps and charts, and the compilation of all required statistical data.

Phase III—the preparation of an operational plan including: (*a*) operation of one or more operational survival plans, based upon present and projected resources, for each evacuation area and/or for the State as a whole; (*b*) the preparation of necessary public information and education material to insure thorough public familiarity with the plans; and (*c*) recommendations in regard to improvements and additional resources and facilities necessary to any of the fields studied in order to render their survival plans more effective.

Phase IV—completion of such actual tests of the operational survival plans necessary to reasonably evaluate their workability.

The concept of tactical evacuation probably will play an important role in most survival plans. In 1955 more and more cities adopted evacuation as a part of their civil defense operations, conducting test exercises during Operation Alert and throughout the year. See chart, page 27.

For the first time the FCDA Staff College offered a course in evacuation, and more than 200 persons attended four courses on the subject given at FCDA Headquarters in Battle Creek, Mich., and at Olney, Md.

# EVACUATION AND TRAINING EXERCISES

As knowledge of the threat of high yield weapons grew, the attentention of civil defense officials throughout the Nation focused increasingly on evacuation as an effective civil defense tactic. During 1955 some 67 separate evacuation and training exercises were reported to FCDA. The extent of these exercises varied. At least two involved some segments of the population on a statewide basis. Some were citywide, while others encompassed cities and nearby military installations, or sections of cities. Still others involved military installations alone, schools, or industrial plants.

At least 24 exercises were held during Operation Alert on June 15 and 16, including evacuation of the President and officials of 15 Government agencies to emergency locations for a 3-day period.

The following chart lists in chronological order the exercises reported during 1955, and in most cases, the number of participants and the area and time involved.

# EVACUATION AND TRAINING EXERCISES

| Location | Operation name and date | Object or description | Area or facilities involved | Approximate number of participants | Time |
|---|---|---|---|---|---|
| Daytona, Fla | Jan. — | Test time necessary to evacuate downtown area | 3 blocks | | 6 minutes. |
| Knoxville, Tenn | Jan. 12 | To test evacuation of school and loading of autos | 1 school | 900 | 22 minutes. |
| Jacksonville, Fla | Feb. 8 | To test evacuation of schools and march students ½ mile. | 2 schools | 145 | 15 minutes. |
| Dalton, Ga | Know-how, Feb. 25 | To test evacuation of schools and industrial plants | All schools, 60 plants | 4,000 | Schools, 7 minutes. Plants, 45 minutes. |
| Mobile, Ala | Kids, Mar. 15 | Evacuate all school children within the city limits to reception areas 12 miles or more away. | Entire city | 37,000 | 20 to 40 minutes. |
| Beaumont-Houston, Tex. | Mercy, Apr. — | Test evacuation of residents from area | | 1,000 | |
| Greensboro, N. C | Apr. 27 | To evacuate all school children in automobiles | Schools | 80 autos, 500 persons. | 9 minutes. |
| McLeansville, Ga | May 4 | To evacuate all school children and teachers from rural schools 18 miles to reception areas. | do | 518 | 55 minutes. |
| Atlanta, Ga | School, May 18 | Test the time required to evacuate the city schools | 17 schools | 8,242 | 21 to 30 minutes. |
| Little Rock, Ark | May 18 | Reception area test. Evacuated to Forrest City, Ark. | | 20,000 | |
| State of Washington | Survival, May 20 | This exercise was a statewide surprise alert. Targets were defended. Residents of cities were evacuated to reception areas or took shelter as directed. Mass care of evacuees was given. | | | |
| Mt. Vernon, N. Y | May 26 | To test civil defense evacuation plan | School | 800 school children | 10 minutes to collection centers. |
| Savannah, Ga | Box Car, May 29 | Evacuation by walking to staging areas located at railroad sidings. | 27 schools | 18,462 | 45 to 60 minutes. |
| Seattle, Wash | June 1 | To practice an alert, concentrating on children being loaded into cars and driven to safety. | 1 school | | |
| Atlanta, Ga | Alert, June 15 | Evacuation of 17 locations, travel 17 miles and feeding of evacuees. | Part of city | 5,500 | |
| Bridgeport, Conn | do | To test plans for evacuating school children | 6 schools | 4,500 | |
| Bangor, Maine | do | To test evacuation plans | | 20,000 | 3 hours. |
| Baytown, Tex | do | do | | 2,000 | |
| Denver, Colo | do | To test capacity of westbound evacuation routes | Denver Federal Center and portions of about 500 city blocks. | 3,500 | 1 hour. |
| El Paso, Tex | do | To test evacuation plans | | 5,000 (1,000 cars) | |
| Fairchild Air Force Base, near Spokane, Wash. | do | To test evacuation of military personnel, dependents, and civilian employees, and cooperation of the military with the civil defense program. | | 4,000 (735 cars) | |
| Jacksonville, Ark | do | To test evacuation plans | | 2,000 to 3,000 | |
| Kansas City, Mo | do | Conduct "sidewalk evacuation" of Federal employees from 23-story Federal office building. | | 1,200 | 10 minutes. |
| Maine | do | Test walk a given route, by 26 volunteers | | | |

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## EVACUATION AND TRAINING EXERCISES—Continued

| Location | Operation name and date | Object or description | Area or facilities involved | Approximate number of participants | Time |
|---|---|---|---|---|---|
| Manchester, N. H. | Alert, June 15 | To test plans for continuity of city and county government by evacuation and relocation. | | 400 to 500 | |
| Memphis, Tenn. | do | To test evacuation of personnel from office buildings | | 25,000 | |
| Nashville, Tenn. | do | To test evacuation of personnel from office buildings | | | |
| Nederland, Tex. | do | To test evacuation plans | | 3,448 (862 cars) | |
| Omaha, Nebr. | do | To test portions of city in evacuation mechanics | | 60,000 | 60 to 90 minutes. |
| Providence, R. I. | do | To test 13 established escape routes | | | |
| St. Louis, Mo. | do | Conduct "sidewalk evacuation" of Federal employees from 12-story Federal office building. | 1 office building | 1,500 | 9 minutes. |
| Lincoln, Nebr. | do | Evacuated military dependents from Moffitt Air Base. | | 4,000 | |
| Limestone, Maine | do | To test evacuation of nonmilitary personnel and Air Force dependents from Loring Air Force Base. | | 5,000 (900 autos) | |
| St. Louis, Mo. | do | Simulate hospital evacuation—actually evacuating volunteers substituting for patients. | | 250 | 30 to 60 minutes. |
| Times Square, N. Y. | do | Part of National Test Exercise | | | 10 minutes. |
| Washington, D. C. | do | Evacuation of the President and officials of 15 Government agencies to emergency operations quarters for 3-day period. | | | |
| Bergstrom, Lake Charles, Walker, Carswell, and Barksdale Air Bases. | do | All Air Force bases in Strategic Air Command in region 5 evacuated families of military personnel and cared for them for the entire day. | | 15,500 | |
| Yates County, N. Y. | June 16 | To test evacuation of residents from Rochester to Palmyra. | | | |
| Orlando, Fla. | June 20 | Evacuated the Lake Como School to a reception area | 1 school | 740 | 23 to 60 minutes. |
| South Bend, Ind. | do | Evacuated the central city area by automobile, using share-the-ride plan. | 400 city blocks | 35,000 | 20 to 55 minutes. |
| Pierce County, Wash. | July 3 | Evacuation of 30 carloads of people to another part of the county, following established evacuation routes. Evacuees remained overnight, furnishing their own food, bedding, and supplies. | | | |
| Portland, Oreg. | Green Light, Sept.— | Evacuate people by autos to reception center, practice for registration and simulated mass feeding operation. | 6 square miles | 200,000 | |
| Denver, Colo. | Sept. 12 | Evacuation and treatment of simulated victims from bomb area and movement to emergency field hospital. | | 140 | 3 hours. |
| Cammack Village, Ark. | Oct.— | To test evacuation plans | | | |
| Auburn, N. Y. | Oct. 29 | To test plans for evacuation of patients from county home. | | 35 patients | |

| | | | | | |
|---|---|---|---|---|---|
| Truro, Mass | Cape Cod, Oct. 29 | State sponsored test of evacuation and feeding in cooperation with Provincetown Red Cross Medical Unit. The "evacuees" were supposedly taken off the Cape and fed. | Barnstable County | 150 | |
| Charlotte, N. C | Nov. 9 | To test evacuation of central part of city | 14 blocks | 20,000 | 13 minutes. |
| Orlando, Fla | Dec. 12 | To test evacuation of schools | 5 schools | 2,000 | 15 minutes. |

## MASS FEEDING EXERCISES

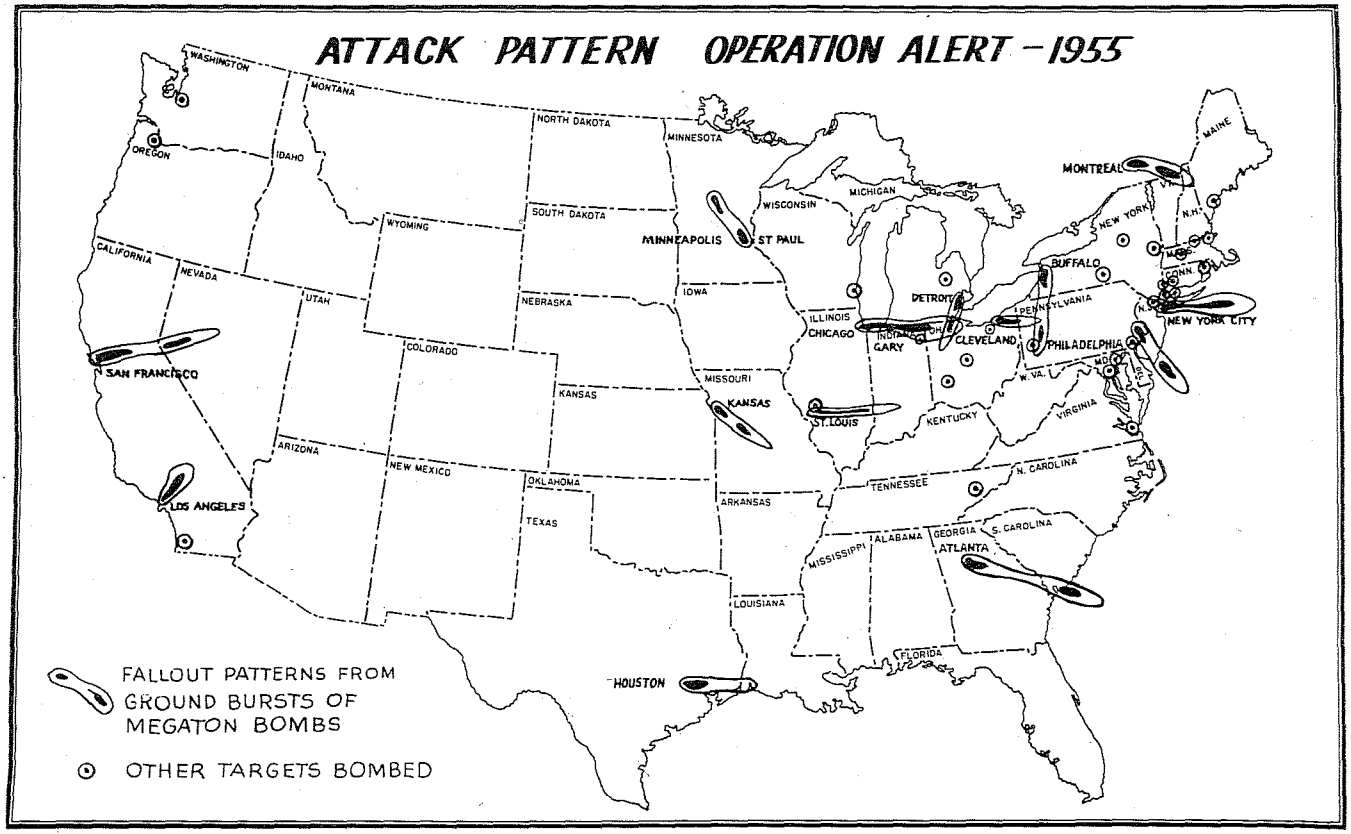
| | | | | | |
|---|---|---|---|---|---|
| AEC Nevada Test Site | May 3, 4, 5, and 6 | FCDA National Advisory Committee on Emergency Feeding provided food and equipment and served officials and observers at Operation Cue Atomic Tests under simulated emergency field conditions. Some 59 representatives of the committee from various parts of the United States assisted in the demonstration. | | 1,200 participants | 4 days. |
| Fox Lake, Ill | May 25, 26 | Feeding exercise with construction of field expedients and lectures on sanitation, waste disposal, and radiological fallout. | | 200 | 2 days. |
| Sudbury, Mass | Beefstew, June 1 | Feeding demonstration for training purposes | | 488 | 1 day. |
| Muskegon, Mich | July 19, 20 | Mass feeding school with construction of field expedients and lectures on sanitation and radiological fallout. | | 80 | 2 days. |
| Waltham, Mass | Potluck, Sept. 22 | State sponsored emergency disaster feeding demonstration at Waltham Field Station, Massachusetts Extension Service. | | 300 | 20 minutes to feed participants. |
| Grand Rapids, Mich | Sept. 24 | Feeding demonstration sponsored jointly by Boy Scout troops and local civil defense agency. | | 300 | 1 day. |
| Battle Creek, Mich | Oct. 1 | Feeding demonstration for instructors, sponsored by FCDA region 4, with construction of field expedients, lectures on sanitation, water supply, radiological fallout, mess layouts and foods to serve. | | 80 in instructors' course. | 2 days. |
| Des Moines, Iowa | Nov. 16, 17 | Instructors course on construction of field expedients, lectures on sanitation, food contamination, water supply, radiological fallout, mess layouts and foods to serve. | | 87 in instructors' course. | Do. |

## MISCELLANEOUS TRAINING EXERCISES

| | | | | | |
|---|---|---|---|---|---|
| Binghamton, N. Y | Jan. 20, 21, and 22 | To test civil defense readiness and training | | | 3 days. |
| Nassau County, N. Y | Feb. 17, 18, and 19 | do | | | Do. |
| Montgomery County, N. Y. | June 10, 11 | do | | | 2 days. |
| Rome, N. Y | June 24, 25 | Training to test civil defense readiness | | | 2 days. |

## MISCELLANEOUS TRAINING EXERCISES—Continued

| Location | Operation name and date | Object or description | Area or facilities involved | Approximate number of participants | Time |
|---|---|---|---|---|---|
| Orleans County, N. Y. | Aug. 13 | To test public participation in an air raid alert at Junior Fair in Albion County. | | | 10 minutes. |
| Albany and Rensselaer, N. Y. | Sept. 23 | Test exercise and recruiting | | | |
| Jamestown, N. Y. | Oct. 7, 8 | Training exercise for support area participation | | | |
| State of New Jersey | Muster Week of Oct. 23. | To test operational training efficiency in a statewide mobilization of all the State forces. Personnel and equipment were moved to mobilization points, support role being stressed. National Guard was mobilized. Pedestrians were instructed to take shelter during public participation phase. | | 252,000 civil defense volunteers, 15,000 National Guard. | 1 week. |
| Washington County, N. Y. | Nov. 13 | Training | | | |
| Middletown, N. Y. | Nov. 17 | Citywide participation in a test exercise and training of civil defense workers. | | | |
| White Plains, N. Y. | Nov. 25, 26 | To test emergency service in a public alert | | | |


ATTACK PATTERN OPERATION ALERT - 1955
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MONTANA
NORTH DAKOTA
MINNESOTA
OREGON
IDAHO
WISCONSIN
MICHIGAN
MAINE
MONTREAL
WYOMING
SOUTH DAKOTA
MINNEAPOLIS
ST PAUL
NEW YORK
N.H.
CALIFORNIA
NEVADA
UTAH
NEBRASKA
IOWA
BUFFALO
DETROIT
PENNSYLVANIA
ILLINOIS
CHICAGO
GARY
CLEVELAND
PHILADELPHIA
NEW YORK CITY
COLORADO
SAN FRANCISCO
MISSOURI
KANSAS
KANSAS
ST. LOUIS
KENTUCKY
W. VA.
VIRGINIA
ARIZONA
NEW MEXICO
OKLAHOMA
TENNESSEE
N. CAROLINA
LOS ANGELES
ARKANSAS
TEXAS
MISSISSIPPI
ALABAMA
GEORGIA
S. CAROLINA
ATLANTA
LOUISIANA
FLORIDA
HOUSTON
FALLOUT PATTERNS FROM GROUND BURSTS OF MEGATON BOMBS
OTHER TARGETS BOMBED

# OPERATION ALERT 1955

Operation Alert 1955, the second national civil defense exercise, was held on June 15, 16, and 17. Participants were the FCDA national and regional offices, States, Territories, and possessions and their political subdivisions, the District of Columbia, other Federal agencies, and Canada.

The purposes of the exercise were to: (*a*) promote civil defense training and public awareness; (*b*) test technical and logistic planning and operational readiness; (*c*) test local evacuation plans; (*d*) test operational changes resulting from the evaluation of Operation Alert 1954; and (*e*) determine additional operational or policy requirements.

Although the exercise showed the Nation unprepared to cope with a thermonuclear attack, it concentrated the attention of the Nation on civil defense and provided Government agencies at all levels with valuable information on how to build a stronger civil defense program.

In the exercise, attack warning messages were first flashed at 11:04 a. m. eastern standard time, on June 15. This gave an elapsed warning time of about 2¾ to 3½ hours to United States cities along the Canadian border, about 2⅓ to 3½ hours to cities along the Atlantic coast, and approximately 3½ hours to Gulf coast cities. Some 640 cities responded by sounding their air-raid warning signals.

On receipt of the warning, 80 cities took some evacuation action. Sixty-two simulated the action on paper, while 18 conducted partial evacuations, moving approximately 117,000 people.

It was assumed that 60 cities in the United States, Hawaii, Puerto Rico, the Canal Zone, and Alaska were struck by 61 bombs, ranging in size from 20 kilotons to 5 megatons of TNT equivalent, delivered by air or by guided missiles launched from submarines. Eleven of these cities did not know they were to receive attacks.

One city which had not been selected participated in the exercise, and two cities indicated before the exercise that they would not participate. An additional city did not report during the exercise and presumably did not take part.

Based on reports from the cities, States, and regions and checked by an FCDA bomb damage assessment group, the following hypothetical results were determined:

(*a*) The mortality total at the end of the first day would have been over 8¼ million. Another 8 million people would have died within 6 weeks following the attack. Radioactive fallout would have accounted for about 3.9 million of the total deaths.

(*b*) As shown in the chart on page 35, about 12 million persons injured in the attack would have survived the first day. Of this number, 3.9 million would have recovered ultimately. About 6.6 million people injured by fallout would have survived the first day.

(*c*) About 11⅓ million dwelling units would have been affected by blast, thermal effects, and fallout. Of these, about 665,000 units, though partially damaged, would have been habitable. Another 6.7 million homes would have been uninhabitable because of blast and fire, and the remaining 3.9 million homes affected would have been uninhabitable for some time because of fallout. Twenty-five million persons would have been homeless immediately following the attack. In time, many dwelling units would become habitable if repaired or decontaminated, or because of decaying fallout and weathering. Ultimately, permanent housing would have been required for some 19 million survivors.

(*d*) Since 14 of the attacked cities were struck by megaton bombs bursting at ground level, dangerous radioactive fallout conditions were created over an area of about 63,000 square miles. The chart on page 31 shows the fallout patterns and their relation to the cities bombed. Based on average June winds, fallout patterns for six cities were calculated in advance of the exercise. Fallout plots for the cities not notified in advance that they were to be hit, were based on actual wind conditions on the day of the exercise.

The total number of casualties for whom medical care of varying degrees would have been required on a continuing basis was 8 million, or two-thirds of the total injured.

The chart on page 36 shows the extent to which requirements for basic medical supplies could have been met. Except for emergency hospitals, Federal stockpiles would have been sufficient to care for only 2½ million of the injured for 3 weeks. If distributed uniformly to the 8 million requiring medical care, supplies would have lasted only 3 days. About 9,000 emergency hospital units would have been needed; FCDA had 532 under procurement and 200 in various stages of assembly, but only 1 would have been fully operational.

Participation of city and State civil defense organizations, although spotty, showed marked improvement over the 1954 exercise. In many cases, primarily because of lack of a full-time staff, participation was limited to activating control centers and sounding sirens.

Communications worked well between FCDA's emergency location near Washington and National Headquarters in Battle Creek, and between the latter and the FCDA regional offices. However, major dependence had to be placed on landlines which could have been destroyed had this been a real attack.

FCDA operations at National Headquarters in Battle Creek demonstrated the advantage of having a staff located so it can go imme-

diately into emergency operations. However, careful study is being given to the problems which would be created if a thermonuclear weapon were exploded at ground level at a location that would put Battle Creek in a fallout area. Such a bomb drop on Milwaukee or Chicago could cause a radiological fallout on Battle Creek under certain conditions.

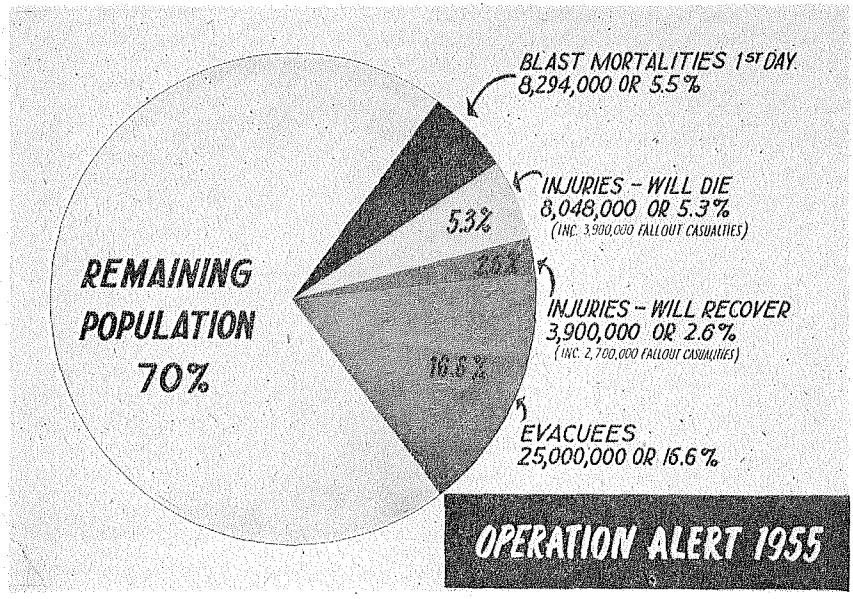
FCDA received excellent cooperation and assistance from all of the Federal departments and agencies. From their emergency relocation centers, 31 agencies were in communication with FCDA emergency operations centers. FCDA regional administrators reported that in almost every instance the field offices of the other agencies gave freely of their staff and facilities to support FCDA.

Operation Alert demonstrated that an attack of even this comparatively limited scope would have posed problems which the stricken cities and States could not possibly have solved without outside help. One of FCDA's major problems is to convince cities and States not attacked that the national interest demands they provide support to attacked areas. One difficulty is the lack of data on total national resources which would be available in an emergency, and of complete plans for making use of these resources. Too much of the exercise was centered on use of FCDA emergency stockpiles alone. In this connection, FCDA has been working with the States to develop a uniform system of inventorying State and local resources. This program, when integrated with FCDA's bomb damage assessment project, will go far toward solving the problem.

Operation Alert showed the importance of evacuation as a means of saving lives. If the attack had been real, and the 80 cities that simulated evacuations had actually completed them, an estimated 5.9 million persons would have been spared death or injury.

The following figures for Kansas City show casualties under the theoretical evacuation reported, and those without evacuation:

| | Mortalities | | |
|---|---|---|---|
| | Blast and thermal | Fallout | Injured, all causes |
| With evacuation: | | | |
| Blast area | 16, 000 | 6, 000 | 7, 000 |
| Outside blast area | ---------- | ---------- | 18, 000 |
| Total | 16, 000 | 6, 000 | 25, 000 |
| Without evacuation: | | | |
| Blast area | 161, 000 | 159, 000 | 73, 000 |
| Outside blast area | ---------- | 34, 000 | 21, 000 |
| Total | 161, 000 | 193, 000 | 94, 000 |




**Results of Hypothetical Attack during Operation Alert.**

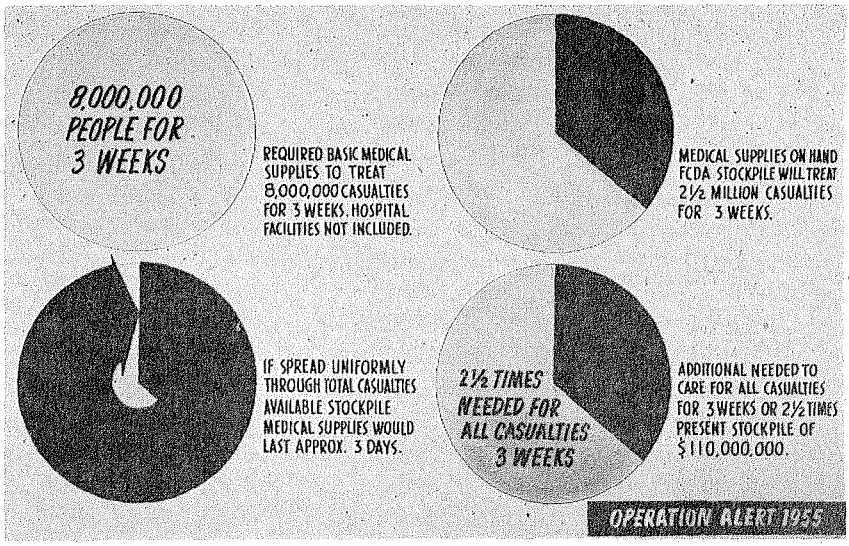
Evacuation reduced mortalities about 94 percent and injuries about 73 percent.

Preliminary evaluation of Operation Alert 1955 produced the following conclusions and recommendations:

1. There is a need for clarification of the 3-way relationships between civil defense agencies in States and cities, field offices of agencies having civil defense delegations, and the Federal counterparts of these agencies at State and local levels. To remedy this situation, a series of conferences was begun in December in all FCDA regions, at which national and regional representatives of FCDA and the Federal delegate agencies participated.

2. There is need for better understanding between civil defense and the military on their relative roles in a civil defense emergency. Firm conclusions should be reached, not only on the extent to which civil defense can plan for use of military supplies, equipment, and regular personnel, but also for bringing National Guard units and military reservists into the picture. FCDA is working actively with the Department of Defense to clarify this situation.

3. The Federal departments and agencies should decrease the vulnerability of their communications systems. Teletypewriter service using telegraph circuits should be changed to voice frequency circuits with alternate voice-teletype capability, similar to that leased by FCDA from the common carrier communications companies. As one




**Extent to Which Requirements for Basic Medical Supplies could have been met during Operation Alert.**

action in this direction, ODM has a plan for linking national relocation sites with a landline communications system which will bypass critical target areas.

If the destruction resulting from Operation Alert had been real, communications between cities and States by teletype and telegraph would have ceased to exist. Even at the end of 48 hours, strict priority use of the channels restored would have been required. This destruction might very well have denied the Nation the ability to determine quickly the extent of the damage and casualties it had sustained and to take prompt action necessary to counteract the effects of the attack. The exercise also pointed up the vital need for the assignment in advance of additional radio frequencies for use during a civil defense emergency. FCDA is investigating the possibility of extending its engineered teletype/telephone system from State to local level to close the gap that now exists in the nationwide civil defense communications system.

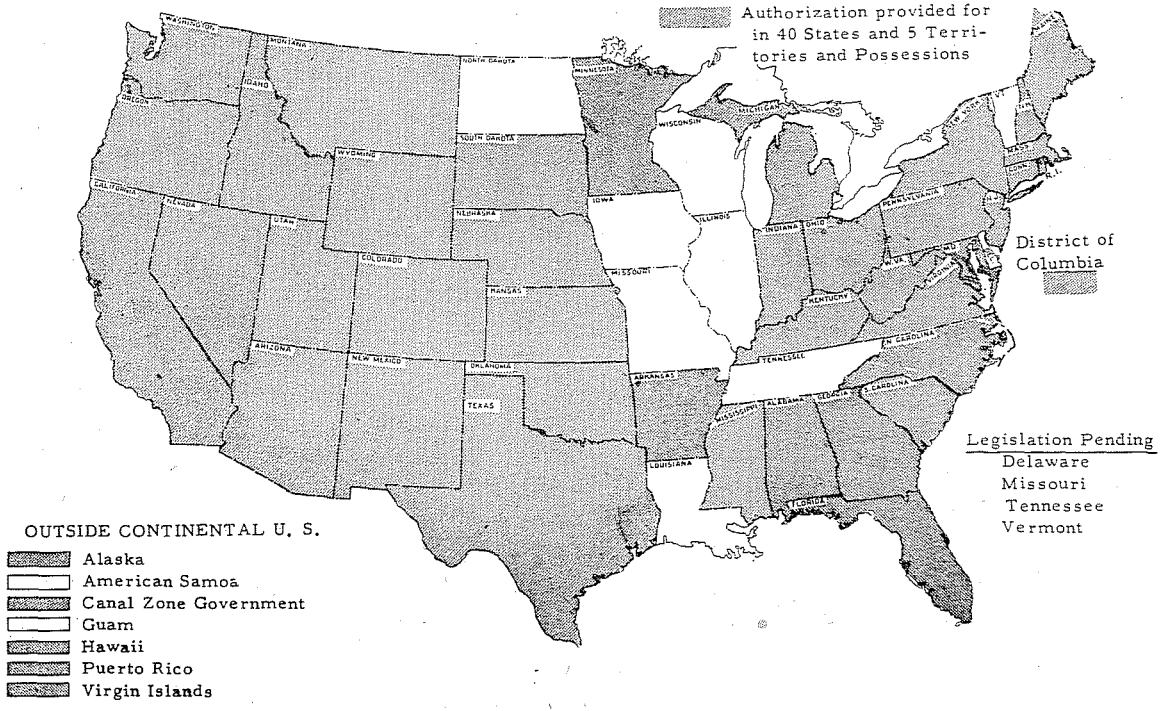
4. There is a need for a system of early monitoring and reporting on areas contaminated by radiological fallout, independent of State and local civil defense organizations.

Information available during the exercise on areas contaminated by fallout was limited to data developed from Weather Bureau reports on wind patterns. While such information provides a basis for estimating areas where some protective action must be taken, it must be supplemented by actual surveys of contaminated areas. However, the intensity of contamination in some areas would preclude the use

of ground survey teams for a considerable period of time following attack. Thus, during the immediate postattack period, the local and State organizations would not be in a position to make systematic surveys. Various means of obtaining more complete information are being explored, and a study on the possibility of developing improved instruments is being made. Studies are also being made of the availability of effective cover from radiation in areas of potential fallout and of improved methods of decontamination.

5. There is need to improve and complete the damage assessment system, particularly in reporting the time, location, and area of damage of bursts. The system should also be expanded to include data which will permit analysis of secondary as well as primary effects of attack.

# CIVIL DEFENSE FORCES AUTHORIZED BY STATE LAW TO COMBAT
# NATURAL DISASTERS
DECEMBER 1955



# NATURAL DISASTERS

Under authority of Public Law 875, 81st Congress, and Executive Order 10427, the Federal Civil Defense Administration is responsible for controlling the disaster relief funds of the Executive Office of the President and for administering most of the Federal funds available for disaster relief. Federal funds are made available after the President has declared the existence of a major disaster in any State or area following certification by the Governor of the need for disaster assistance and assurance of the expenditure of a reasonable amount of State or local funds. Funds appropriated by Congress for disaster relief are made available to the President; authority to coordinate Federal activities in this field and to direct the disbursement of these funds has been delegated to FCDA.

Since the issuance of Executive Order 10427 on January 16, 1953, a total of $25,525,000 has been allocated to the States, Territories, and Federal agencies for relief in 48 major disasters. A list of 1955 major disasters, with the amount of Federal funds allocated for each, is shown on page 43.

In 39 States and the District of Columbia civil defense personnel are authorized by law to act in natural disasters, such as tornadoes, floods, explosions, and fires. Legislation to confer this authority was pending in Delaware, Missouri, Tennessee, and Vermont at the last session of the legislatures of those States.

The advantages of having natural and enemy-caused disaster functions combined in the same forces have been demonstrated many times within the past few years. Natural disaster operations have afforded excellent training in organization, leadership, and use of technical skills to those in civil defense whose responsibility it would be to act in an enemy-caused disaster. On the other hand, previous organization and training in civil defense has resulted in increased capability to provide assistance in natural disasters.

The map on page 38 shows the number of States which have authorized civil defense forces to act in natural disasters.

The Federal Civil Defense Administration has recommended that State civil defense agencies be given the authority to coordinate natural disaster activities within a State. Many States have already taken such action; others have set up separate authority for enemy-caused and natural disasters; still others have emergency authority vested in an existing government department.

In 1955 FCDA's functions in natural disaster relief were given a grueling test. Major floods, in the northeast in August and October and on the west coast in December, devastated two of the most densely populated and industrially active sections of the country. Industry and transportation were paralyzed; power and communications cut off; thousands homeless and in want. Welfare needs were probably the highest in the history of the Nation. State governments, unable to cope with the situation, appealed to the President who ordered the Federal Government to the assistance of the affected areas under authority of Public Law 875.

Public Law 875 provides that any Federal agency, when directed, may assist in disaster relief by:

1. Lending with or without compensation to State and local governments, equipment, supplies, facilities, personnel and other resources other than the extension of credit.

2. Distributing through the American National Red Cross or otherwise, medicines, foods, and other items including farm commodities or products owned or controlled by the Commodity Credit Corporation (surplus food is distributed under Public Law 480, 83d Cong.).

3. Donating or lending surplus equipment and supplies to States for use in rehabilitating damaged or destroyed public facilities. Rehabilitation of persons in need as a result of major disaster is also provided (surplus property is facilitated under authority of Public Law 134, 83d Cong.).

4. Doing protective and other work essential to the preservation of life and property.

5. Making repairs to or temporary replacement of damaged or destroyed public facilities of local governments.

6. Providing temporary housing or other emergency shelter for victims (authorized by Public Law 107, 82d Cong.).

7. Making contributions to States and local governments.

The Federal disaster assistance program, although administered by FCDA, is basically executed by the States under joint Federal-State agreement. The act provides that any Federal agency is authorized to accept and use, with the consent of any State or local government, services and facilities of the State and/or local government in carrying out the purposes of the act. The act also provides authority to foster the development of such State and local organizations and plans as are necessary to cope with major disasters.

Emergency aid is available to persons who have been forced to evacuate their homes or have suffered loss in the form of:

1. Housing or temporary shelter.

2. Foodstuffs, medical, and other consumable supplies—such as blankets, beds, etc.—which may be distributed through the Red Cross or the States.

3. Surplus personal property donated for rehabilitation purposes through the States, including the negotiated sale of surplus property for the rehabilitation of disaster-stricken small business concerns or individuals.

4. Debris and wreckage removal from disaster victims' premises if it constitutes a public health or safety hazard.

5. Protective or other work essential for the preservation of life or property.

Extraordinary disaster loan authorities are vested in the Housing and Home Finance Agency. Other disaster loan authorities are vested in the Small Business Administration and the Department of Agriculture for assistance through loans on liberal credit terms independent of Public Law 875. The American National Red Cross provides welfare assistance based on individual need as a result of disaster either under authority of Public Law 875 or a disaster which is not of Public Law 875 proportion.

Because of the magnitude of the 1955 natural disasters, exceptional types of assistance were rendered. For example, the Office of Defense Mobilization provided, through the Department of Commerce, materials for defense-supported industries in disaster areas. ODM also arranged for Federal agencies to give the same preferential treatment to disaster areas in placement of contracts under Defense Mobilization orders as is given to surplus labor areas. These activities resulted in channeling of defense and other contracts to stricken areas. The Treasury approved large defense production loans, issued certificates of necessity for tax amortization purposes, and a large number of actions were taken by Government agencies to adjust contract delivery schedules for firms in the affected areas.

General Services Administration made available considerable surplus Federal property including supplies and equipment and arranged for the sale of surplus Federal property to the small businesses at 10 percent of original cost for use in replacing furniture, fixtures, and inventories of small businesses in disaster areas.

Federal Supply Service of GSA placed Government procurement contracts in disaster areas. GSA further provided records management assistance to Federal and State agencies in the recovery and preservation of government and other records and documents. It also provided supplies and equipment to Federal agencies for emergency offices in disaster areas.

The Department of Health, Education, and Welfare provided sanitation experts, inspected food and drug supplies, and ordered contaminated foods destroyed. It also surveyed damage to sewage treatment plants and provided supervision and advice needed to restore them to operations. HEW also conducted immunization, rodent, and insect control programs.

The Department of Labor coordinated and assisted in State employment services surveys of the labor situation and in providing essential data on unemployment used by the American National Red Cross and other welfare agencies in determining their relief loads. The Employment Service provided emergency manpower assistance to employers and civil defense officials in disaster areas by referral of available workers. The Bureau of Labor Statistics provided data on employment and the general economic situation.

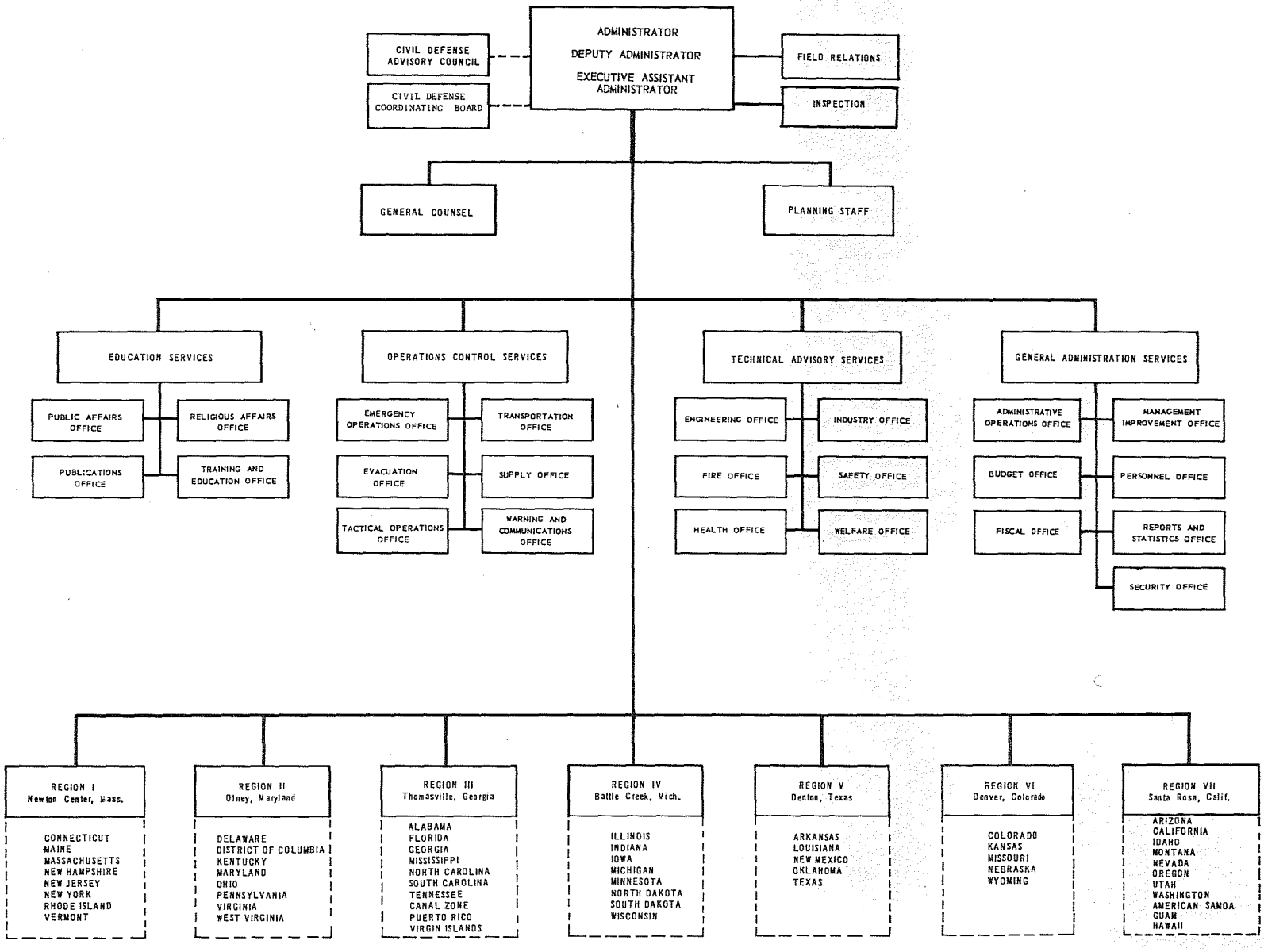
Clearance of wreckage and debris, providing emergency repairs and replacement of public utilities, protective and other work to preserve life and property, was done by the Corps of Engineers.

These were some of the aids provided by Federal agencies in the stricken areas under FCDA coordination. The cooperation and assistance of these agencies and the American National Red Cross were vital to the successful mobilization of the national means to meet the disaster needs.

This acid test of the mobilization, coordination, and directional function of FCDA amply justified the wisdom of centralizing the overall responsibility for Federal natural relief activities in one agency. Assistance to the stricken regions of the country would not have been as extensive or as rapid without it. Memoranda of understanding between FCDA and the other Federal agencies exchanged early in the program are actually predisaster plans and made possible a much faster mobilization of Federal resources than would otherwise have been possible.

Experience gained in the disasters of 1955 has contributed a workable plan of relief action that is still under development. It calls for the establishment of task force offices at strategic points in disaster areas. These offices are located to give on-the-spot relief to disaster victims and provide a central point for coordinating the activities of Federal agencies and the American National Red Cross. Representatives of the latter and FCDA constitute the staffs.

# ORGANIZATION CHART

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# ATOMIC TEST PROGRAM

Early in the morning of May 5, 1955, millions of Americans viewed the awe-inspiring spectacle of a nuclear blast, Operations Cue, the joint test project of FCDA, AEC, and private industry at the Atomic Energy Commission's Nevada Test Site.

The purpose of Operation Cue was dual: to give the American public some conception of the tremendous destructive energy of an atomic explosion and to test materials and techniques necessary to civil defense preparedness.

The Operation Cue explosion was one of a series held by the AEC during the spring. Postponed from its originally scheduled date for several days until weather conditions were favorable, the shot was witnessed by 500 invited observers at the site a few miles from ground zero, as well as persons all over the country via television.

In addition to the FCDA and AEC test staff, more than 200 civil defense personnel from State and local organizations participated. State and local observers held field exercises in the exposed area when it was safe to enter, carrying out rescue, medical, warden, police, mass feeding, and other civil defense functions. As part of the exercise a selected group of civil defense personnel experienced the blast in a trench 2 miles from ground zero.

Test homes and commercial buildings showing representative types of construction, communications and utilities installations, and shelters were built at different ranges from ground zero. Experts were able to observe the technical effects of an atomic detonation on the test items, and the public was given a general idea of the destructive power of the weapon. Vehicles, food, clothing materials, and other items exposed in the test represented hundreds of thousands of dollars in time and materials donated by private industry.

Tests of radiation monitoring techniques were carried out.

The test was covered by the major TV and radio networks, leading press associations, and newspapers all over the country. Thousands of still photos and tens of thousands of feet of film footage, both in black and white and color, documented the event.

The Department of Defense, Armed Forces Special Weapons Project, Army Chemical Corps, Quartermaster Corps, Housing and Home Finance Agency, General Services Administration, Department of Health, Education, and Welfare, Department of Agriculture, Depart-

ment of Commerce through the National Bureau of Standards, and the Civil Air Patrol, all cooperated in the tests as well as numerous industrial organizations.

Preliminary technical reports of results of the tests made shortly after Operation Cue have been of great value in developing radiological defense techniques and new shelter designs. These will be mentioned more fully in other sections of this report.

Complete details of Operation Cue will be found in a separate publication of that name to be issued by FCDA early in 1956.

Operation Cue fulfilled its purpose. Seeing for themselves what an atomic explosion can do, many more Americans were awakened to the critical need for civil defense preparedness. Results of the technical tests are proving valuable in designing homes, clothing materials, equipment, and shelter to withstand nuclear attack.

# DELEGATIONS PROGRAM

Progress was made during 1955 in integrating the civil defense program into the Federal Government. Two delegations were approved by President Eisenhower in 1954. By the end of 1955, 2 more delegations had been made, assigning a total of 33 specific responsibilities to 7 Federal agencies. Under these delegations, the Executive agencies have assumed responsibility for specific civil defense activity directly related to their day-to-day work.

The goal is organization of civil defense leadership with standby plans in all Federal agencies. In case of enemy attack or natural disaster, full facilities of the Government could then be quickly shifted to emergency operations for support to States. Delegations policy and review, and coordination of emergency action, are provided by FCDA.

Strong points of this built-in concept of civil defense would be use of long-established channels of Government communications—down to the local level, and immediate availability of the technical know-how of experienced Federal employees. Advantage can also be gained from invaluable public relations and prestige already built up by the various Federal agencies.

Delegations 1 and 2 were made in 1954, the first to the Department of Health, Education, and Welfare, and the second to the Departments of Agriculture, Commerce, Justice, and Labor, and to the Housing and Home Finance Agency. In 1955 delegations 3 and 4 set forth responsibilities for the Department of the Interior. Also, delegation 3 assigned additional responsibilities to the Department of Commerce.

## CIVIL DEFENSE COORDINATING BOARD

A Civil Defense Coordinating Board was established in Washington, D. C., in May 1955 to facilitate participation by Federal departments and agencies in civil defense. Members of the Board represent each agency that has been assigned delegations, and other agencies with certain responsibilities in civil defense. The Board makes recommendations to the President and keeps him advised of progress.

The Administrator of FCDA is Chairman of the Board, and an Executive Secretary is stationed in Washington, D. C. Members of the Secretariat serve the Board in Washington and represent the separate FCDA services in dealing with the delegate Federal departments and agencies.

The Secretariat coordinates work of specialists at the FCDA National Headquarters and counterparts in other Federal organizations.

## OFFICE OF INTERGOVERNMENT ORGANIZATION

In October 1955 an Office of Intergovernment Organization was established at FCDA National Headquarters to develop and review delegations to other Federal departments and agencies. The Office plans and reviews activities of the Secretariat for the Civil Defense Coordinating Board in Washington, D. C. The Director of the Office reports to the general counsel of FCDA.

In fiscal 1956 Congress made $1,500,000 available, to be distributed as follows among Federal departments and agencies that received civil defense planning assignments:

| *Department or Agency* | *Amount* |
|---|---|
| Health, Education, and Welfare | $1,200,000 |
| Commerce | 190,000 |
| Labor | 65,000 |
| Housing and Home Finance | 25,000 |
| Interior | 20,000 |

The Departments of Agriculture and Justice did not request funds from the fiscal 1954–55 appropriation, but civil defense activity was carried on by both agencies under the delegations program.

## DELEGATIONS

The following delegations of civil defense responsibilities have been made:

*Department of Health, Education, and Welfare.*—Responsible for planning, guidance, and action concerning biological and chemical warfare against humans and the effects of radiological fallout; financial or other aid to people in want because of disaster; protection of foods and drugs against contamination; and civil defense education in the schools.

*Department of Commerce.*—Responsible for designation, restoration, and use of emergency highway and street systems. Also, for developing a system to forecast patterns of radiological fallout.

*Department of Labor.*—Responsible for emergency manpower needs.

*Housing and Home Finance Agency.*—Responsible for protective standards for new housing construction, and for shelter planning in existing housing. Also for providing temporary housing and emergency restoration of essential housing and related facilities in disaster areas.

*Department of the Interior.*—Responsible for planning to assure adequate supplies of fuel and power in emergencies.

*Department of Agriculture.*—Responsible for education and protection from biological and chemical warfare against animals and crops, prevention and control of enemy-caused fires in rural areas, and plans for maintenance of emergency food supplies.

*Department of Justice.*—The Attorney General is responsible for protection of penal institutions and control and use of prisoners and prison facilities during a civil defense emergency. No funds were appropriated for planning work by the Department in 1955.

## ACTIVITY IN 1955

### Department of Health, Education, and Welfare

Each of four constituent Agencies of the Department of Health, Education, and Welfare have followed through in 1955 in planning as outlined in delegation 1, of 1954. The four are Public Health Service, Food and Drug Administration, Social Security Administration, and Office of Education. Each of these Agencies has counterpart organizations at both State and local levels through which normal peacetime Federal-State programs are administered.

Public Health Service has eight studies underway. One of these concerns emergency protection to public water supplies, and includes development of decontamination procedures.

Recruiting and training of a Public Health Service Reserve Corps began in 1955, with the goal a membership of 8,000 by the end of 1957. By the end of the year 3,000 doctors, dentists, nurses, and other medical personnel had completed 2-week training courses.

The Public Health Service will offer training assistance to State health departments, and will assign a public health officer to each regional office of DHEW.

The Food and Drug Administration divided its work into three projects. First, a program of training State and local food and drug officials in inspection, decontamination, and control of food and drug supplies that would be necessary to survival after attack. Training began in 1955.

A second food and drug project is determination of the probable effect of atomic explosions on food and drug supplies. The studies are on physical effects and also on feeding radioactive feeds to animals.

A third project concerns the effect of biological and chemical warfare on food and drugs. This program has been developed by an advisory committee of technologists from industry, the Departments of Agriculture and Defense, and the Atomic Energy Commission.

The Social Security Administration has been working on plans for emergency financial assistance to injured or needy civilians. During

the past year regional conferences on the assistance program were held with representatives of all State welfare departments. A program guidebook is being prepared for use in training at the State level. The assistance program is designed to fill in the gaps until employment can be resumed or minimum assistance requirements for needy persons are again picked up by regular programs.

The Office of Education has been working on plans to get State and local schools to include civil defense in their curricula. Three pilot centers have been set up—one each in Connecticut, Michigan, and California—to develop civil defense training courses for use in school systems. By the end of 1955, the commissioner of education in every State had appointed a member of his staff as civil defense education coordinator.

## Department of Commerce

Each study group has made its preliminary report.

The Bureau of Public Roads worked in cooperation with States, counties, and cities in 1955 on a survey of need for highway improvements to meet civil defense requirements. The survey includes need for roads from existing highways to reception or shelter areas, deceleration lanes to allow diversion from highways to reception and shelter areas, and elimination of bottlenecks in existing facilities.

The Department of Commerce will not make definite recommendations regarding a program of highways for civil defense purposes until the survey report is completed. Federal-aid funds have been used for highway projects that meet civil defense needs.

The Weather Bureau established on June 1, 1955, a nationwide, twice-daily, fallout forecast program for 70 critical target areas of the United States; and it was planned that effective February 1, 1956, the network would be modified to provide twice-daily forecasts for the entire United States.

To provide operational assistance and guidance, the Weather Bureau in 1955 assigned experienced meteorologists to FCDA National Headquarters at Battle Creek, Mich., and it was planned that in January 1956, meteorologists would be assigned full time at each of the regional offices of civil defense. At the State level, Weather Bureau officials have been assigned part-time liaison responsibility to the State civil defense directors. At the local level, the Weather Bureau has encouraged its meteorologists to provide assistance and guidance to local civil defense directors.

## Department of Labor

A Labor Advisory Committee on Civil Defense was appointed by the Secretary of Labor early in 1955 to review and advise on the vari-

ous phases of the delegation of civil defense responsibility assigned to the Department of Labor.

During the year the Department directed attention to emergency manpower needs. Particular thought was given to the problem of moving large numbers of workers to devastated areas, and in their use in rescue and rehabilitation work. It was estimated that millions of workers would be needed for essential services after an enemy attack, and that they might have to be transported long distances. Plans also include means for directing workers with special skills to particular jobs.

The Office of Manpower Administration has primary responsibility in planning for use of the emergency labor force. The several Bureaus involved are Veterans Employment Rights, Apprenticeship, Labor Standards, and Employment Security.

Procedures on reemployment rights, prepared by the Bureau of Veterans Employment Rights in 1955, were being reviewed at the end of the year.

The Labor Standards Bureau has cooperated with the Department of Health, Education, and Welfare; the Housing and Home Finance Agency; and other Federal agencies to set standards of housing for relocated emergency workers.

Planning responsibility for estimating availability of survivors for use in an emergency labor force has been assigned jointly to the Bureaus of Employment Security and Labor Statistics. The Bureau of Labor Statistics will apply various methods, gained through long experience, to obtain data. Use of electronic computers is planned for quick assessment of effect of disasters on the labor supply.

Plans also call for on-the-spot reporting from local employment offices in or near disaster areas to the Bureau of Employment Security. This information will then be correlated with computations of the Bureau of Labor Statistics. Recruitment and utilization of emergency labor is a Federal-State Employment Service responsibility. The Bureau of Employment Security was assigned the job of obtaining agreements of understanding with State and local civil defense units on use of local employment offices in recruitment.

Advance planning and training may result in trained labor units that can go into action as soon as assembled at prearranged locations near disaster areas.

The third draft of a paper entitled "Organizing Task Forces for Civil Defense Emergency Jobs" was presented to the Labor Department Advisory Committee on Civil Defense and to several other groups in 1955 for review.

Determination of pay rates for civil defense emergency work is the responsibility of the Wage-Hour and Public Contracts Divisions.

A working paper on pay rates was presented to the Labor Department Advisory Committee, and revisions are being made. When finally approved, the pay-rate paper is to be submitted for consideration by other Federal agencies.

Injury and death compensation planning was assigned to the Bureau of Employees' Compensation. A paper is in preparation in this Bureau on compensation for authorized civil defense workers in case of injury, or to survivors in case of death.

Planning for financial assistance to idle labor forces was assigned to the Unemployment Insurance Division of the Bureau of Employment Security. Planning is based on the assumption that some workers will be idle because of destroyed plants—and others because materials will not be available from devastated areas.

Planning is being directed toward an early approach to living conditions that existed before a possible disaster.

The Office of Manpower Administration and the Bureau of Employment Security have jointly appointed a manpower director to each of 11 labor regions of the United States. These directors serve as staff advisers to civil defense. It is their responsibility to keep regional, State, and local civil defense units informed of the availability of manpower. Labor information sources include approximately 1,700 local employment offices in the United States that are wholly supported by the Federal Government, but are under State direction.

## Housing and Home Finance Agency

The Administrator of the Housing and Home Finance Agency has appointed a defense planning officer and a defense planning staff within the central office. In addition, a defense council has been created, with representatives from administrations within the Agency. Also, during the past year, full-time staff members have been appointed to coordinate civil defense functions within each administration. Regional administrators continue to be the principal coordinating officers for all HHFA civil defense activities within their regions.

In 1955, in cooperation with FCDA and the Atomic Energy Commission, an FHA representative was sent to Operation Cue in Nevada to help prepare for blast test of structures, and to assess damage.

HHFA planning in 1955 contemplated seeking help from varied sources for emergency housing and community services planning. Among the sources would be local housing authorities, redevelopment agencies, city planning commissions, zoning bureaus, building inspection departments, and public works departments. In addition, realtors and developers could be reached through real estate bureaus and associations of home builders.

One of the big tasks facing HHFA at the end of the year was education of American communities to the need of urban planning for survival. Part of these plans would be incorporation of protective standards for civil defense in housing and building codes.

## Department of the Interior

The first delegation of civil defense responsibilities to the Department of the Interior was made August 13, 1955. It related to storage, transportation, and distribution of fuel supplies. Planning responsibility within the Department was assigned to the Office of Oil and Gas, under the Assistant Secretary for Mineral Resources.

The Secretary of the Interior has asked the National Petroleum Council to consider planning activity that could be undertaken by the petroleum industry. He has also asked the industry to form an organization to deal with problems that would result from an attack. As a result, the industry has formed a civil defense committee, and three reports have been submitted to the Secretary of the Interior.

The second delegation of civil defense responsibilities, made November 22, 1955, to the Department of the Interior, relates to emergency restoration of electric power. This responsibility was assigned to the Assistant Secretary for Water and Power. A small headquarters staff with technical know-how has been organized. A field organization is now being planned to use local people, and there have been discussions with the power industry on regional emergency power problems.

## Department of Agriculture

In the Department of Agriculture responsibility for the separate phases of the civil defense delegation has been assigned to constituent agencies already doing somewhat related work, as follows: Protection from bacteriological and chemical warfare against animals and crops—Agricultural Research Service; food planning—Agricultural Marketing Service, in cooperation with Commodity Stabilization Service; and control of fires in rural areas—Forest Service, in cooperation with Extension Service.

Providing an adequate food supply in an emergency is essentially a food processing and distribution task. Therefore, in the past year Agriculture has tried to determine the probable effect of emergency situations on several segments of the food processing and distributing industry. Agriculture has also tried to foresee the extent to which productive capacity of many food processing plants could be stepped up to compensate for those that might be destroyed. And thought was given to changes that might be required in distribution patterns to provide food for masses of evacuees in or near desolated areas.

Use of Government-owned stocks of food was studied, especially in regard to vulnerability under various attack conditions, amounts to be kept on hand, and strategic location of stockpiles.

A policy statement was completed on reducing vulnerability of CCC food stocks to damage from enemy action or natural disaster—and on improving accessibility of stocks for emergency use.

Proposed stockpiling of emergency supplies of food poses a tremendous cost problem. Therefore, as alternatives to Government stockpiling, the Department of Agriculture has considered encouraging commercial firms to carry expanded stocks, encouraging dispersal of various segments of the food processing and distributing industry, and other measures that might provide adequate stocks of food in an emergency.

## Department of Justice

Although certain civil defense planning responsibilities have been delegated to the Department of Justice, no funds were appropriated for this work in 1955, and planning did not get under way.

At year's end a series of regional conferences was being held to help integrate civil defense planning and action into field work of the Federal Government. Representatives of all Federal agencies were invited to attend.

# NATIONAL CIVIL DEFENSE ADVISORY COUNCIL

During 1955 the National Civil Defense Advisory Council met five times. The members were briefed thoroughly on the different aspects of civil defense. Meetings were held at the AEC atomic test site in Nevada; Colorado Springs, Colo., headquarters of the Continental Air Defense Command; Omaha, Nebr., headquarters of the Strategic Air Command; FCDA National Headquarters in Battle Creek; and in Washington.

Three new members were appointed to the Council during the year, replacing members whose terms had expired, and 4 were reappointed.

The new members are Hon. John B. Hynes, mayor of Boston; Hon. Goodwin J. Knight, Governor of California; and Hon. Allen B. Shivers, Governor of Texas.

Members reappointed were Hon. Albert E. Cobo, mayor of Detroit; Mrs. Katherine G. Howard of Boston; Hon. Clifford E. Rishell, mayor of Oakland, Calif.; and Mrs. Charles W. Weis, Jr., of Rochester, N. Y.

Remaining members of the Council are Gordon Dean, former Chairman of the Atomic Energy Commission; Hon. Arthur B. Langlie, Governor of Washington; Gen. Otto L. Nelson, vice president of the New York Life Insurance Co.; Hon. Okey L. Patteson, former Governor of West Virginia; and George J. Richardson, secretary-treasurer, International Association of Fire Fighters, American Federation of Labor.

The National Civil Defense Advisory Council was established by Public Law 920 to advise the Administrator on general or basic policy matters of the civil defense program. The Council is appointed by the President. The Federal Civil Defense Administrator is chairman, half of the 12 members are representatives of State and local governments, and the remainder are appointed from the general public on the basis of their qualifications and interest.

At their first meeting the Council discussed progress made in the warning network, evacuation concept, radioactive fallout problem, budget, delegations of responsibility, responsibility for civil defense, and public reaction to civil defense.

It was concluded that civil defense is an essential function of Government at all levels. The Federal Government has responsibilities of planning, interstate cooperation, and establishing stockpiles of supplies

for common use. However, the primary responsibility for civil defense should remain with the cities and States.

Development of new weapons introduced the problem of fallout and evacuation. The duck and cover concept would be ineffective as a life saving device with these weapons. The members agreed that the air warning network had kept pace with increased speeds of aircraft, and would give adequate warning for evacuation to most of the people.

Battle Creek, Michigan, was the site of the second meeting of the Advisory Council. Members of the staff of National Headquarters addressed the Council.

The threats to the Nation and the elements of military and nonmilitary defense were discussed. Civil defense and agencies with responsibilities for reduction of vulnerability of target cities, continuity of government, production, and counterespionage and sabotage cooperate in the nonmilitary defense effort. Analysis of the delegations program was presented and comments on the coordination of the FCDA and ODM efforts in programing delegation were made.

The responsibility of the Air Force in detecting and identifying aircraft and the FCDA for warning the country was explained to the committee. The 2,000 key warning points will be warned within 2 to 3 minutes and the cities will be warned by the key points within 5 to 10 minutes of the identifying of enemy aircraft.

The Weather Bureau reported on forecasting fallout patterns on the basis of seasonal probabilities. The possibilities of forecasting intensity were also discussed.

The Council's fourth meeting was at the Sands Hotel, Las Vegas, Nevada, during the test program Teapot. The topic discussed at this meeting was evacuation, and the attitude of the people toward it. The group agreed that experiments should be carried out on a small scale by all target cities until enough experience was gained by the authorities and public to carry on a full scale evacuation. Complete failure of an evacuation could discourage people enough to cause loss of faith. The necessity of new legislation to assist the evacuation program was part of the agenda.

The Continental Air Defense Command briefed the Council on the threat, CONAD operations, Sage, ARAACOM, and NAVFORCONAD at the opening of the fourth meeting. The unclassified part of the meeting was devoted to the discussion of the revision of the East River Report. Raising the status of the administrator to cabinet level was discussed. This would give him more prestige when he speaks to the governors and mayors. The chairman reported on the FCDA budget for 1956.

The subjects the Council discussed at the fifth meeting were the survival plan program and the bomb effects that influence the pro-

gram. The purpose of the program was to determine if evacuation is possible, what percentage of people could remain in home shelters, and the traffic pattern for moving people out of a city. The plan will include recommendations for new roads and shelters that must be built. Reception areas will be studied to determine their capacity for absorbing evacuees with provision for food and shelter.

Incorporating shelters into public buildings by withholding Federal funds from building programs until recommended shelter conditions are met was discussed.

# CIVIL DEFENSE COORDINATING BOARD

The Civil Defense Coordinating Board was established by Executive Order 10611 on May 11, 1955. The text of the order follows:

There is hereby established a Civil Defense Coordinating Board, hereinafter referred to as the Board, within the executive branch of the Government. The Board shall be composed of the Administrator of the FCDA, who shall be the Chairman of the Board, and 17 other members, 1 of whom shall be designated by and represent each of the following-named officials, respectively: The heads of the 10 executive departments, the Chairman of the Atomic Energy Commission and Federal Power Commission, the Directors of the Office of Defense Mobilization and the Bureau of the Budget, and the Administrators of the Housing and Home Finance Agency, the General Services Administration, and the Veterans' Administration.

The functions of the Board shall be:

(*a*) To assist in the development of an orderly, integrated plan for the participation of all Federal departments and agencies in the civil defense of the Nation, taking into consideration other defense requirements, both economic and military.

(*b*) To make recommendations to the President regarding specific arrangements involving the assumption of certain civil defense responsibilities by the various departments and agencies.

(*c*) To facilitate the development and implementation of such arrangements with the Department of Defense and the Office of Defense Mobilization.

(*d*) To advise the President from time to time with respect to the progress of the integration of civil defense activities into the various departments and agencies of the Government.

The Board shall meet with the President at his request, and shall meet at such other times as may be determined by its Chairman.

The Board has had six regular meetings and one special meeting during 1955.

The first regular meeting was held at the Pentagon in Washington, D. C., on May 11, 1955. At this meeting a series of classified briefings were presented by the Department of Defense. The second regular meeting was held in Colorado Springs and Omaha on June 2 and 3, 1955. At this meeting another series of classified briefings were presented by the Strategic Air Command of the Department of Defense.

The first special meeting was held in the General Services Administration Building in Washington, D. C., in the Federal Civil Defense Administration conference room, on August 2, 1955. This meeting included members of the delegate agencies only for the purpose of discussing allocation of funds which were appropriated by Congress to the Federal Civil Defense Administration for distribution to the delegate agencies. The delegate agencies had requested $3,050,000 for fiscal 1956, but Congress appropriated only $1,500,000. This was 49.11 percent of the amount requested.

The third regular meeting was held in the Department of the Interior Building in Washington, D. C., on September 12, 1955. A classified discussion was held regarding civil defense accomplishments, deficiencies, and recommendations for the future. The fourth, fifth, and sixth regular meetings were also held in the Department of the Interior Building, Washington, D. C., on October 11, 1955, November 10, 1955, and December 20, 1955, respectively. All of these meetings were of a classified nature. Agency viewpoints were submitted and discussed at each meeting with final agreement being reached on the Federal Civil Defense Administration Document to be submitted to the Cabinet. Other items discussed were integration of civil defense throughout all departments and agencies of the Federal Government, Operation Alert 1956, and the FCDA survival studies.

# CIVIL DEFENSE SCIENTIFIC ADVISORY COMMITTEE

This Committee assists the Federal Civil Defense Administration in major scientific problems affecting the civil defense program and recommends lines of investigation needed to understand scientific factors involved. It also advises whether conclusions and hypotheses reached are based on all available scientific evidence.

Members of the Committee are:

Dr. Merle Tuve, physicist, Department of Terrestrial Magnetism, Carnegie Institution, Washington, D. C. During World War II Dr. Tuve was head of the project which developed the proximity fuse and, more recently, served as a member of the Killian Committee.

Mr. Gerhard D. Bleicken, attorney, John Hancock Mutual Life Insurance Co. Served as member of the committee on civil defense of the Life Insurance Association of America.

Dr. Herbert M. Bosch, sanitary engineer, professor, University of Minnesota. Has done considerable work in the effects of radiological fallout.

Dr. Eugene P. Cronkite, physician and hematologist, Brookhaven National Laboratory. Participated in study of Marshallese affected by fallout during AEC tests in Pacific, spring of 1954.

Prof. D. M. Dennison, physicist, professor of physics, University of Michigan.

Dr. Richard M. Emberson, physicist, Associated Universities Inc. Served as Deputy Director and Director of Technical Studies, Project East River.

Mr. E. H. Holmes, highway engineer, United States Bureau of Public Roads.

Prof. Carl Kaysen, economist, professor of economics, Harvard University.

Dr. Rensis Likert, sociologist, director of the Institute for Social Research, University of Michigan.

Dr. R. B. Roberts, physicist, Department of Terrestrial Magnetism, Carnegie Institution, Washington, D. C.

Dr. Herbert Scoville, Jr., physicist, Armed Forces Special Weapons Project, Department of Defense. Leading author on weapons effects.

Dr. Lauriston S. Taylor, physicist, Chief, Division of Atomic and Radiation Physics, National Bureau of Standards.

Dean David Cavers, attorney, associate dean, Harvard University Law School. Author of a number of reports on legal problems of civil defense.

Mr. Willard Bascom, technical director, research engineer on leave from University of California. Participated in a number of atomic test programs.

The Committee, which was created July 1, 1954, under authority of section 102 (*b*), Public Law 920, 81st Congress, meets at the call of the chairman at places designated by him. Members were appointed by Detlev Bronk, president, National Academy of Sciences, for indefinite terms. They serve without compensation but are reimbursed for expenses incident to attendance at committee meetings. The Committee chairman and other officers are appointed by the President, National Academy of Sciences.

The Technical Director of the Committee is responsible for the minutes of its transactions, which are filed at the Technical Director's office, Dupont Circle Building, Washington, D. C. Much of the material of the minutes is classified and available only to persons who qualify under security regulations of the United States Government.

Meetings were held on February 11, 1955, at the Carnegie Institution, Washington, D. C., and on July 15, 1955, at the Dupont Circle Building, Washington, D. C. In addition there were numerous meetings of panels of the Committee established to consider specific questions.

Committee recommendations are communicated to the FCDA in written reports, memoranda from the Chairman or Technical Director and by oral briefings by the Technical Director.

During 1955 the following reports were made by the Committee:

Committee Progress Report. January.

Recommended Research Program for Civil Defense. July.

Revision of Proposed Evacuation-Shelter Policy. November.

Report on Operation Alert 1955. June.

Report on Civil Defense in Arlington Public Schools. September.

Report on Operation Green Light, Portland, Oreg. September.

Report on Washington, D. C., Warning System. October.

# GROUND OBSERVER CORPS

The Federal Civil Defense Administration has participated in the Joint Public Education Program on Air Defense since the summer of 1952. This program, designed to build and maintain an awareness of the need for a strong air defense and assist State civil defense organizations with their ground observer corps recruiting, moved into a completely new phase in 1955.

The Public Education program passes on public relations, promotional, and advertising policies. (The advertising campaign is conducted by the Advertising Council. Ruthrauff and Ryan, Inc., is the agency designated to prepare the materials. Hayes Dever, Secretary and Director of Public Relations for Capital Airlines, is the campaign's volunteer coordinator.)

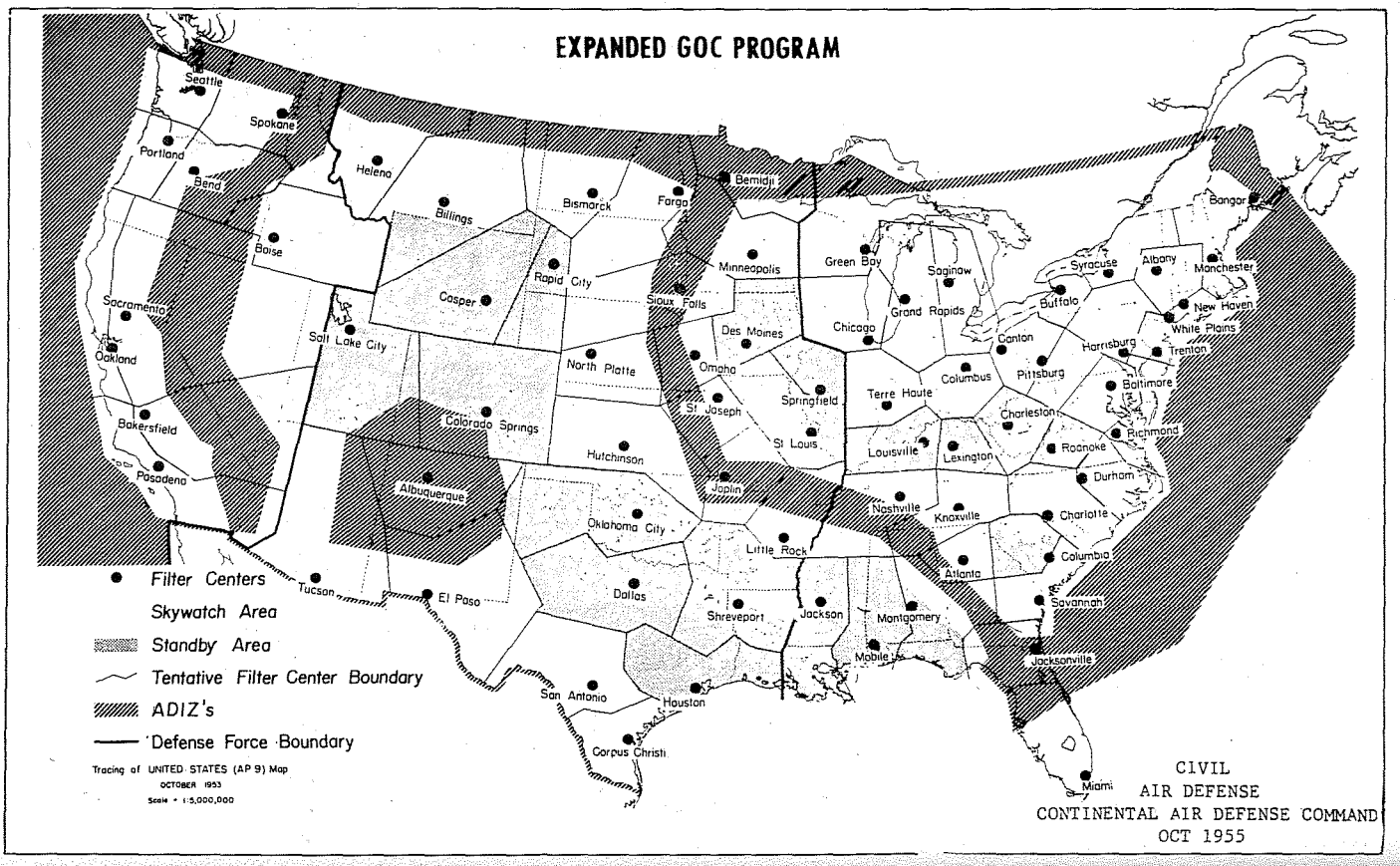
In July 1955 the Air Force announced the expansion of the GOC to include the entire United States. Previously, its activities had been confined to 36 States, Alaska, and the District of Columbia.

Whereas earlier requirements listed a need for 19,500 observation posts and 49 filter centers, the expanded corps requires over 28,000 observation posts and 73 filter centers.

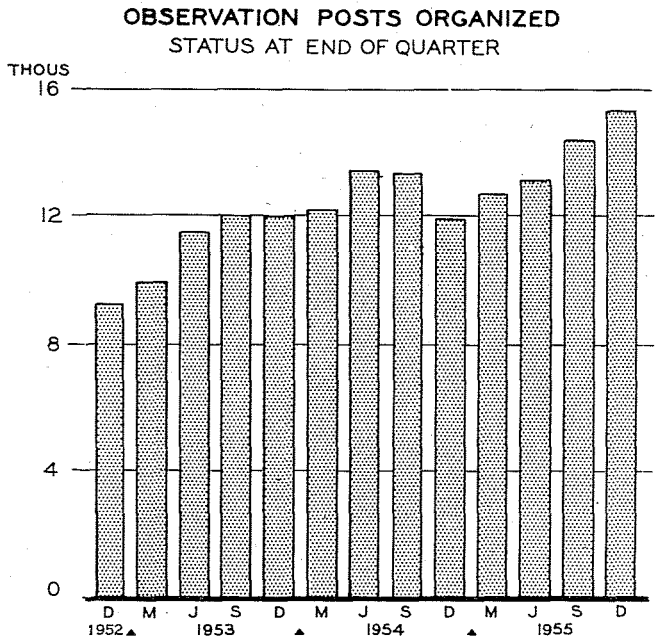
In addition, changes in the air defense system, particularly the realinement of the air defense identification zones, necessitated corresponding changes in the Skywatch area. Operation Skywatch, round-the-clock operation of observation posts and filter centers, was placed in effect by announcement of the President in July 1952. Previously, Operation Skywatch was confined to 27 States and the District of Columbia. The realinement requires Skywatch in parts, if not all, of nearly every State.

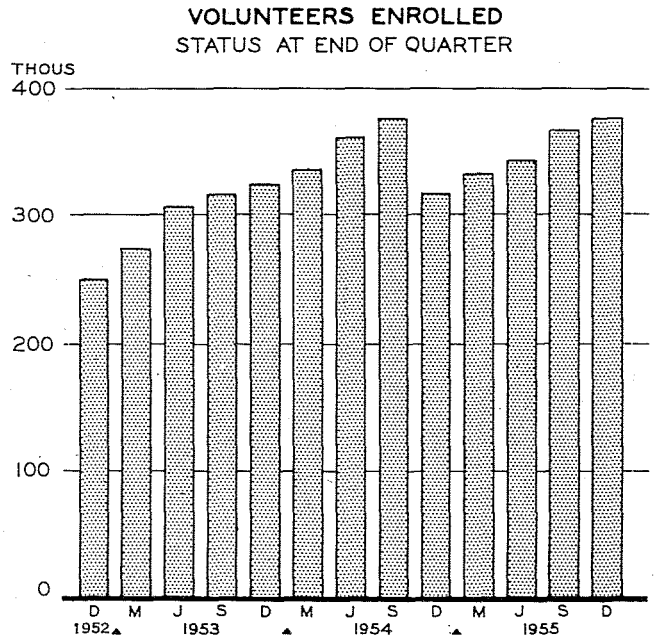
With nearly 400,000 civil defense volunteers already active or training, and half a million trained, but inactive, for observation post or filter center duty, Air Force and State civil defense officials feel they have an excellent start toward the new goal of a million and a half active volunteers to staff the system across the country.

# GROUND OBSERVER CORPS



# GROUND OBSERVER CORPS




Source: Air Defense Command.

# GROUND OBSERVER CORPS OBSERVATION POSTS—BY STATE

| Region and State | Number of observation posts | | | | | |
|---|---|---|---|---|---|---|
| | Required | Organized | | Active | | Active 24-hour basis |
| | | Number | Percent of required | Number | Percent of required | |
| Total | 28,709 | 15,261 | 53.2 | 9,367 | 32.6 | 1,365 |
| Region 1: | | | | | | |
| Connecticut | 91 | 83 | 91.2 | 63 | 69.2 | 6 |
| Maine | 278 | 248 | 89.2 | 204 | 73.4 | 38 |
| Massachusetts | 144 | 131 | 91.0 | 118 | 81.9 | 23 |
| New Hampshire | 104 | 98 | 94.2 | 90 | 86.5 | 29 |
| New Jersey | 117 | 111 | 94.9 | 89 | 76.1 | 35 |
| New York | 595 | 547 | 91.9 | 434 | 72.9 | 100 |
| Rhode Island | 20 | 19 | 95.0 | 16 | 80.0 | 7 |
| Vermont | 116 | 115 | 99.1 | 104 | 89.7 | 28 |
| Region 2: | | | | | | |
| Delaware | 23 | 22 | 95.7 | 19 | 82.6 | 6 |
| District of Columbia | 2 | 2 | 100.0 | 2 | 100.0 | 1 |
| Kentucky | 428 | 349 | 81.5 | 196 | 45.8 | 1 |
| Maryland | 133 | 131 | 98.5 | 129 | 97.0 | 47 |
| Ohio | 554 | 442 | 80.0 | 225 | 40.6 | 45 |
| Pennsylvania | 598 | 522 | 87.3 | 420 | 70.2 | 77 |
| Virginia | 383 | 348 | 90.9 | 299 | 78.1 | 95 |
| West Virginia | 225 | 154 | 68.4 | 127 | 56.4 | 11 |
| Region 3: | | | | | | |
| Alabama | 308 | 23 | 7.5 | | | |
| Florida | 444 | 387 | 87.2 | 74 | 16.7 | |
| Georgia | 736 | 672 | 91.3 | 233 | 31.7 | |
| Mississippi | 290 | 33 | 11.4 | | | |
| North Carolina | 472 | 352 | 74.6 | 177 | 37.5 | |
| South Carolina | 371 | 343 | 92.5 | 106 | 28.6 | |
| Tennessee | 388 | 264 | 68.0 | 96 | 24.7 | |
| Region 4: | | | | | | |
| Illinois | 763 | 525 | 68.8 | 334 | 43.8 | 17 |
| Indiana | 454 | 357 | 78.6 | 283 | 62.3 | 20 |
| Iowa | 996 | 771 | 77.4 | 493 | 49.5 | 21 |
| Michigan | 728 | 600 | 82.4 | 568 | 78.0 | 42 |
| Minnesota | 1,031 | 995 | 96.5 | 706 | 68.5 | 42 |
| North Dakota | 527 | 444 | 84.3 | 276 | 52.4 | 55 |
| South Dakota | 550 | 542 | 98.6 | 195 | 35.5 | 11 |
| Wisconsin | 724 | 605 | 83.6 | 500 | 69.1 | 37 |
| Region 5: | | | | | | |
| Arkansas | 608 | 110 | 18.1 | 1 | .2 | |
| Louisiana | 685 | 98 | 14.3 | | | |
| New Mexico | 938 | 207 | 22.1 | 195 | 20.8 | 11 |
| Oklahoma | 521 | 30 | 5.8 | | | |
| Texas | 3,304 | 333 | 10.1 | 118 | 3.6 | 12 |
| Region 6: | | | | | | |
| Colorado | 753 | 327 | 43.4 | | | |
| Kansas | 733 | 81 | 11.1 | 6 | .8 | |
| Missouri | 733 | 222 | 30.3 | 18 | 2.5 | |
| Nebraska | 503 | 503 | 100.0 | 79 | 15.7 | 5 |
| Wyoming | 520 | 221 | 42.5 | 9 | 1.7 | 3 |
| Region 7: | | | | | | |
| Arizona | 914 | 159 | 17.4 | 150 | 16.4 | 13 |
| California | 1,349 | 762 | 56.5 | 667 | 49.4 | 231 |
| Idaho | 596 | 363 | 60.9 | 294 | 49.3 | 36 |
| Montana | 1,299 | 588 | 45.3 | 363 | 28.0 | 52 |
| Nevada | 770 | 93 | 12.1 | 73 | 9.5 | 19 |
| Oregon | 811 | 400 | 49.3 | 340 | 41.9 | 74 |
| Utah | 554 | 104 | 18.8 | 100 | 18.1 | |
| Washington | 525 | 425 | 81.0 | 378 | 72.0 | 115 |

Source: Air Defense Command.

# INTERNATIONAL COOPERATION

Civil defense is one of the elements in the total program of national security which includes diplomatic efforts to resolve international disputes by peaceful means and the maintenance of a system of defense alliances with other free world nations. In the field of working relations, civil defense planning, as part of the total security program, frequently involves mutual planning with other nations.

Public Law 920 directs the Federal Civil Defense Administration to cooperate with neighboring countries in developing the overall civil defense program. Uniform warning signals, easing of border restrictions to facilitate mutual aid and mobile support between the countries of the North American continent are essential to continental civil defense. Further, as part of the total security planning of the Federal Government, FCDA is required, with the advice and guidance of the State Department, to cooperate with friendly foreign nations in developing their civil defense systems. This requires the exchange of civil defense information, joint participation in the deliberations of international civil defense and security organizations, and other cooperative actions. Thus, during 1955 United States cooperation with other nations on civil defense activities has become more clearly defined and active. A summary of the major developments follows:

## CANADA

Relationships between Canada and the United States on civil defense matters are handled through the Joint United States/Canada Civil Defense Committee, established by an exchange of notes between the Governments of Canada and the United States on March 27, 1951. These notes provide that as far as possible, civil defense activities between the two countries should be coordinated as if there were no border. They also provide a nondiplomatic channel for communications, enjoin the respective countries to provide a full and free flow of civil defense information to each other, and permit direct cooperation between States and Provinces, and between border municipalities.

United States membership includes representatives from the Departments of Justice, State, and Treasury, in addition to the Federal Civil Defense Administrator and members of his staff. Canadian representatives are the Minister of the National Department of Health and Welfare and his Deputy, the Federal Coordinator, and officials from the Department of External Affairs and the Canadian Joint Staff.

Day-to-day business of the committee is conducted through the joint secretariat and joint working groups set up for specific technical and professional areas. Operating agreements have already been made on most essential matters, and the current business of the committee is primarily that of coordination and consultation on the problems of civil defense and their solution.

The full committee met in July 1955, and plan another meeting early in 1956.

The staff colleges of the respective civil defense organizations exchanged students and course material, and conferences on a wide variety of subjects were attended by representatives from the other country. Technical and professional papers were submitted, when possible, for review by the staff of the other country, before publication.

Canada participated in Operation Alert 1955 in June. The two countries exchanged problems and were in constant communication throughout the exercise.

## NORTH ATLANTIC TREATY ORGANIZATION

In 1952, the North Atlantic Council established a committee to consider problems of civil defense. This committee, composed of the civil defense directors of the NATO member nations, has been concerned with technical consideration of civil defense methods, requirements, and organizations, and has endeavored to:

1. Encourage national development of civil defense programs.
2. Promote the common development and free exchange of civil defense information among NATO countries.
3. Develop model civil defense agreements between nations to encourage standardization of civil defense equipment, training, and techniques.
4. Further mutual support on an international basis, provide essential civilian requirements, and maintain law and order under attack conditions.

The activities of the NATO Civil Defense Committee are not directed toward the organization of a supernational civil defense structure, but rather toward the consideration of civil defense problems in concert. This joint consideration by the member nations is contributing measurably to the standardization of concepts and determination of elements of national civil defense organizations which could be coordinated or moved across international borders should an emergency arise. The Committee has been especially concerned with the development of an international warning system; methods to enable mobile columns of fire, rescue, and engineering workers to cross neighboring international boundaries and carry out joint operational phases of

civil defense; and planning for the provision of essential civilian requirements and maintenance of law and order under attack conditions.

In November 1955, the senior civil defense advisor, Wing Commander Sir John Hodsoll, visited the United States to confer with the Department of State on the coordination of NATO civil emergency planning. At the invitation of FCDA, he addressed meetings of the Association of State Civil Defense Directors and the FCDA National Women's Advisory Committee. In April the deputy civil defense advisor visited the United States at the invitation of FCDA, to observe the civil defense atomic tests in Las Vegas.

At the request of the Department of State, FCDA furnished United States representation for the 7 meetings held by the NATO Civil Defense Committee, including 2 in 1955, and representation for working groups studying fire prevention, protective measures against toxic gases, and shelters.

## COOPERATION WITH FOREIGN NATIONS

During 1955 FCDA continued to exchange information with other friendly nations. Many of these were establishing civil defense organizations and looked to the United States for guidance. At the request of the International Cooperation Administrator, FCDA made its training facilities available to civil defense officers from China (Formosa) and Egypt; and basic organizational material was furnished to Pakistan, Argentina, the Union of South Africa, Chile, and Australia.

During the year FCDA was visited by the director general for civil defense and the scientific advisor to the Home Office of the United Kingdom; the commandant of the civil defense staff college and the civil defense director for the Australian State of New South Wales; a representative from the Ministry of Justice of the Union of South Africa; and the commandant general of the Bombay, India, Home Guard. The visitors from Australia and South Africa were especially interested in the organization of civil defense in the United States and the manner in which defenses were being planned against the secondary effects of thermonuclear attack. They were also interested in the participation of civil defense during natural disasters. The visitors from the United Kingdom came to discuss particularly the problems posed by thermonuclear attack and the civil defense measures needed to cope with this type of warfare.

## VISITS BY FCDA OFFICIALS TO CIVIL DEFENSE ORGANIZATIONS ABROAD

During the year the Administrator, the Special Advisor to the Administrator, and other officers attended meetings of the NATO civil

defense committee. In addition, a representative of the FCDA Fire Office represented the United States in a NATO working group on fire prevention, and a representative of the Engineering Office represented the United States in a working group on shelters. Officials attending the NATO committee meetings in Europe also reviewed civil defense developments, and conferred with officials in the Netherlands, Germany, Sweden, Denmark, France, and the United Kingdom. The Administrator visited Sweden, Denmark, the Netherlands, and the United Kingdom; and the Special Advisor to the Administrator toured the civil defense organizations in several Near East nations including Egypt, Lebanon, Turkey, Greece, and Italy.

In all of the free nations, since 1952, requirements of atomic warfare have had an increasing influence on civil defense planning, and by 1955 it had become generally recognized that fallout from thermonuclear weapons could profoundly affect nations which were not themselves directly attacked. Heavily populated nations in Western Europe, which have little room for tactical evacuation or permanent dispersal, began a review of shelter programs and evacuation planning.

There was a noticeable tendency to establish and train specific civil defense forces organized as mobile columns or independent civil defense corps, which would be available exclusively for civil defense purposes in an emergency. It was recognized that, although dependence would continue to be placed on volunteers, and trained elements of the civil population in general, modern warfare required that central governmental authorities establish and control well trained and organized forces which could be dispatched to areas of greatest need.

In the United Kingdom, for example, a mobile civil defense corps composed of Army and RAF reservists was established to provide 48 civil defense reserve battalions within 4 years. Under emergency conditions these battalions would operate under military direction to assist the civil authorities during the initial period immediately following the attack.

Similarly, Denmark continued the organization and intensive training of the mobile columns comprising the national civil defense corps; and centrally directed mobile forces were planned for, or organized, in Greece, Belgium, the Netherlands, and Norway. In many of the western European countries public participation and training in civil defense is mandatory, and all citizens are subject to conscription for civil defense as well as military service.

In those parts of Western Europe in which civil defense measures are more highly developed, it is notable that public participation in, as well as governmental support of, civil defense is much more ad-

vanced than in the United States. All new residential construction must include shelters; industry is required to organize separate civil defense services and provide adequate shelters without financial assistance from the government; laws are available by which the population may be drafted into civil defense; and adults are required to take a prescribed number of hours of civil defense training per year.

# EDUCATION SERVICES

## PUBLIC EDUCATION

Stirred by a succession of major events directly involving civil defense, the American people in 1955 took a fresh look at this fast maturing offspring of the atomic age.

What they saw caused them to express themselves on the subject, through the public media, through their Representatives in Congress and State legislatures, and by individual calls and letters, more extensively than in any year since FCDA was established in 1951.

Overwhelmingly, what they had to say about civil defense was constructive. Not that it was entirely favorable—there was plenty of healthy criticism. People argued over evacuation and shelter and mass feeding, over warning time, sirens, and CONELRAD. They argued whether States or cities or the Federal Government should have the major responsibility for civil defense.

But almost no one argued whether or not civil defense was necessary.

Patient persuasion and the inexorable logic of bigger and better nuclear weapons had won at least this bridgehead to public acceptance.

The first major event which forced renewed public attention to the problems of civil defense was the release by the Atomic Energy Commission in February 1955, of certain data on the behavior of radioactive fallout from thermonuclear ground bursts. For the first time it was dramatically brought home to the American people that, in a very real sense, there would be no such thing as a nontarget area in an enemy attack on the United States. Civil defense, it now became clear, was the direct, personal concern of every citizen, no matter who he was, what he did, or where he lived.

Fallout provided the first full-scale testing ground for a new public information policy called balanced reporting, and the conscious abandonment of so-called scare copy.

Balanced reporting consists simply of always accompanying description of a threat or weapon with an outline of the defenses against it. Balanced reporting is also a vote of confidence in the capacity of the American people to form a sound perspective once they know all the facts, both pro and con.

When the fallout announcement came, FCDA was ready with films for television and organization use in which the Administrator explained the phenomenon and what could be done about it, in simple

language. Radio tapes and fact sheets were likewise ready, followed by illustrated leaflets and other educational and training materials—all designed to take the hysteria out of fallout and reduce it to a manageable, though undeniably serious threat.

The second major development of 1955 affecting public attitudes toward civil defense was Operation Cue, the tests of atomic weapons effects on typical homes and industrial facilities conducted in May at the Nevada Test Site by FCDA in cooperation with the Atomic Energy Commission and Department of Defense. Again the awesome spectacle of an atomic burst—and more importantly, its effects and the lessons learned in defending against it, was brought into the homes of America by every medium of communication.

The third development was Operation Alert in June. This nationwide civil defense test, which for the first time included direct participation by the President, his Cabinet and some 30 Federal agencies, was front-paged by every major newspaper in the country. Television, and motion picture and still cameras recorded the historic meeting of the President and his advisors at their emergency relocation point.

After Operation Alert came an event on the international scene of quite a different sort. The spirit of Geneva raised the hopes of mankind everywhere that war, with its death and destruction and crushing burden of armaments for victor and vanquished alike, might finally be driven from the earth.

Yet President Eisenhower made plain on his return that, until deeds as well as words reinforced these high hopes, this country would not be lulled into abandoning its defenses. Indeed, observers saw the ability of the United States to lead from strength as one of its greatest assets in the relentless drive for peace in which all free nations were joined.

It is in this concept that the true nature of civil defense is revealed. For it is not, by its very nature, an aggressive movement. Nor was it conceived merely as a device to pick up the pieces. It is, as the President indicated on another occasion, an integral part of the total strength of the Nation. As such—and as a movement participated in by all the people—civil defense in itself is a positive force for peace.

This dynamic concept of civil defense, as a deterrent against aggression, was underlined in FCDA's public education material during the months following Geneva. The assistance of religious leaders throughout the country was sought, and promptly given, in emphasizing the moral purpose of efforts that in other respects might seem like a tacit acknowledgment of the inevitability of war. The value of an America prepared against any form of disaster was repeatedly stressed.

Dramatic confirmation of this peacetime usefulness of civil defense came from an unexpected quarter. Weeks before the normal hurricane season, high winds tore up the Atlantic coast, spreading destruction and piling flood waters ahead of them.

Instantly, civil defense forces were on the ground. Trained volunteers moved in beside professional police, fire, rescue, and welfare workers. The Administrator flew promptly to the disaster scene, to coordinate Federal relief efforts on orders from the President. He was to make many such emergency flights to different parts of the country before the year was out.

Public response to the accomplishments of civil defense, both national and local, was spontaneous and generous. What was done has been recorded, on film and tape, in pictures and in text. It will not be exploited, but the record is there as an inspiration of what trained and organized people can do to help their neighbors in distress.

## A National Plan

The complex task of telling the basic story of civil defense to every citizen, possibly the most extensive and difficult of its kind ever undertaken by the Federal Government, could hardly get anywhere without a master plan. The overall objectives of FCDA's public education program are both brief and simple. There are two:

1. To develop a general acceptance of civil defense as a necessary, permanent element of our total national defense, without hysteria and independent of the ups and downs of international relations.

2. To produce a sober, routine readiness in all American families, based on indoctrination and public exercises, to the point where prompt and effective survival action becomes automatic.

There will be two powerful factors to fight in such a campaign. One is defeatism, for modern weapons of war are so horrendous that there seems at times to be no defense possible. The other is confusion, for civil defense, like the threat it is designed to meet, seems so complex that the human tendency is to put it off as something to be worried about tomorrow.

To combat defeatism, the description of a threat is combined with something positive on the defense against it.

To minimize confusion in the public mind, civil defense is reduced to its simplest elements, embodied in a long range and a short range objective.

1. *Long range.*—Flexible family preparedness, so that whether local instructions are for evacuation or shelter, the family will know what to do, with each member having a specific assignment.

2. *Short range.*—The instinctive association in the public mind of emergency and radio, so that through CONELRAD we can get emergency on-the-spot instructions to the public.

The backbone of this short range program in 1955 was the CONELRAD campaign prepared by the Advertising Council through its volunteer agency, Batten, Barton, Durstine & Osborne. Billboards, car cards, radio and television spots and, late in the year, a newspaper advertising campaign tied in with FCDA leaflets, were produced through the Council's public service efforts, with the generous cooperation of all media.

FCDA owes much, in fact, to the support of the press and broadcasting industries. What they had to say about civil defense was usually favorable and almost always constructive. They asked only to be given the facts.

In keeping with this spirit, four regional seminars were held with representative editors and radio and television station managers. Questions and answers were frequent and frank. Views were freely exchanged. If the newsmen went away with a better understanding, FCDA too was richer for a number of intelligent and useful suggestions. The practice will be continued in 1956.

A detailed breakdown of public affairs activities during the past year, by operating divisions, follows:

## Emergency Information

A new emergency information division to coordinate civil defense information operations during attack as well as natural disasters was formed in the last months of 1955.

Mission of the division is to set up an emergency information operations plan which will include communications, press, radio, and television, and close working relationship with Federal, State, and local civil defense organizations. The division is charged with the public information phase of the survival studies program. One of the major goals of the information studies is the collection of data upon which emergency information operations plans for metropolitan areas can be based.

An operating procedure for a disaster information team was drawn up during December to fill the need for written and visual documentation of civil defense in natural disasters. A team was dispatched from National Headquarters to cover the Yuba City, California, emergency during Christmas week.

During the year, meetings were held with representatives from major wire services to discuss emergency information planning. Four regional seminars were conducted with editors and radio and television station managers to consider emergency information programs.

A pattern of emergency information assignments for use during exercises and actual alerts was tested by the Public Affairs staff. The public information chapter of the *Survival Plan Work Book* was written, and work was begun on a prototype information study to be conducted in the metropolitan Milwaukee area to furnish guidelines for similar studies in other critical target cities.

Projects being developed at the end of the year included: emergency information agreements at all levels to insure a continuous flow of data to the public in event of attack or natural disaster; emergency information exercises at and between all levels to test operational plans; development of emergency programing for CONELRAD, and preparation of disaster information explaining the role of FCDA and the Federal Government in major disaster relief operations.

## Press

An unprecedented interest in civil defense was shown in 1955 by the Nation's newspapers and magazines, news stories, articles, editorials, cartoons, reviews, and letters to the editor. Advertisements devoted to civil defense were estimated to have totaled approximately 2,000,000, nearly doubling the total in any previous year.

To provide survival information to the Nation on the accelerated scale necessitated by the threat of fallout and other effects of modern weapons, the following actions were taken:

1. Newswriters were assigned to work closely with agency offices dealing with the development of survival tactics and techniques.
2. The number of publications receiving news releases was stepped up from a few hundred to more than 2,000, with more important releases being distributed regularly to more than 11,000 newspapers and press representatives. Distribution was made more selective, depending on geographical and other considerations.
3. An illustrated newsfeature page on rural civil defense was distributed monthly to 10,000 small town and rural weekly newspapers.
4. A special staff was assigned to develop material for magazines, trade journals, and house organs.
5. Technical assistance was provided for a new, privately produced monthly magazine devoted to civil defense.
6. Files of civil defense photographs were enlarged and cataloged, and distribution of these pictures accelerated to meet increased demands.

The Nation's press gave outstanding coverage during the year to four major civil defense stories. They were:

*Operation Cue.*—Hundreds of correspondents attended the Operation Cue open shot. A joint information committee of the Atomic

Energy Commission, Department of Defense, and FCDA representatives coordinated dissemination of news.

*Operation Alert.*—This national exercise produced front-page stories and thousands of column inches of news space for the 3-day period of the exercise, and comment by columnists and editorial and magazine writers throughout the following month.

*Northeast flood relief.*—The torrential rains of Hurricane Diane which brought disastrous August floods to the northeastern States produced the third major civil defense story of the year. Press coverage of the Hurricane Diane floods emphasized the Agency's role as coordinator of Federal disaster relief. On-the-spot stories and pictures and editorial comment highlighted the skill and courage of civil defense volunteers who served in rescue and rehabilitation work.

*Western flood disaster.*—The Administrator personally inspected the flooded areas of California, Nevada, and Oregon during the Christmas holidays. Reports highlighted the efforts of the FCDA and its delegated agencies. The Agency was responsible for coordinating the efforts of the Departments of Agriculture, Commerce, Interior, Defense, Labor, and Health, Education, and Welfare. The Housing and Home Finance Agency, Office of Small Business, and Veterans Administration channeled their assistance through the Agency disaster headquarters.

Other important civil defense news stories during 1955 included:

1. Hearings of the Subcommittee on Civil Defense of the Senate Armed Services Committee.
2. Congressional approval of funds for studies for the development of a national survival plan and subsequent progress in the project.
3. The joint United States-Canadian announcement of new simplified public action signals.
4. The third annual conference of governors in Washington.
5. The United States conference of mayors in New York.
6. FCDA announcement of home and industrial shelter designs.
7. FCDA's 1956 planning assumptions.

Indicative of the growing importance attached by the press to civil defense were a series of special reports during the year by the New York Times, the Christian Science Monitor, and the Associated Press, and interviews with the Administrator featured by leading news services and magazines.

In addition to these major stories, a continuing public information program covering the FCDA Staff College, the rescue instructor school at Olney, Md., technical programs, and other Agency projects was carried on through newspapers, magazines, trade journals, and house organs.

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More than 500 news releases were issued by FCDA national and regional offices during the year in addition to the thousands distributed by State and local civil defense offices. Over 5,000 requests by media representatives, private organizations, and individuals for civil defense information were answered. More than 125 information bulletins, totaling over 700,000 copies, were distributed. Articles on FCDA policy and progress were supplied to seven major encyclopedias.

During the year, over 80 articles on civil defense appeared in such leading magazines as *Life*, *Look*, *Better Farming*, *Time*, *Woman's Home Companion*, *Newsweek*, and *U. S. News and World Report*. Hundreds of other articles on civil defense activities were published in professional and technical journals and house organs.

In response to approximately 500 media requests, more than 2,000 civil defense photographs were supplied for publication. Most widely published of civil defense photographs during the year were those of Operation Cue supplied from a selection of 984 pictures taken by FCDA photographers cataloged in Agency files.

## Radio

The Nation's radio stations and networks in 1955 further expanded their already impressive record of carrying civil defense information into millions of homes. A total audience estimated at 175,000,000 was tuned in on some type of civil defense broadcast during the year.

As part of a campaign to promote greater civil defense awareness, the Mutual Broadcasting System in cooperation with FCDA started in October a weekly transcribed 15-minute dramatic show titled, "This Is Civil Defense." By the end of the year MBS had contributed $55,000 in air time to the show. In addition, Mutual averaged 4 announcements each day on civil defense over its entire 550-station network.

For the first time radio stars, including Bing Crosby, Amos and Andy, and Art Linkletter, recorded civil defense announcements. Ten of the Nation's outstanding religious leaders made significant contributions by recording civil defense announcements.

Major networks and a number of local stations sent staffs to Nevada for on-the-scene broadcasts of Operation Cue, and for the first time a broadcast of an American atomic test was sent from the scene direct to London by the British Broadcasting Corp.

FCDA officials and technical specialists appeared on more than 100 nationwide and regional network programs. This included a 30-minute interview of the Administrator on the radio and television program, "Meet the Press," and a discussion by the Administrator of radioactive fallout and the protective measures that can be taken against it. The Agency assisted local radio stations in making long-

distance telephone recorded interviews with FCDA officials on such topics as fallout, evacuation, shelter, communications, and women's activities in civil defense.

FCDA made two 15-minute recorded dramatic programs, "No Second Chance," about the importance of CONELRAD during an emergency, and "Guardian Eyes," on the vital role of the Ground Observer Corps. Twenty-eight spot announcements on civil defense were made available to the Nation's 3,000 radio stations in 1955.

Continued emphasis was placed on acquainting the listening public with the CONELRAD emergency broadcasting frequencies—640 and 1240 kilocycles. As a token of appreciation to the 1,300 radio stations that invested more than $2,000,000 and an untold number of engineering man-hours to make and keep the CONELRAD system operative, joint special public service awards were issued by FCDA, the Air Force, and the Federal Communications Commission.

For the third consecutive year the American Women in Radio and Television made civil defense one of its major projects. Kits of broadcast material covering all phases of civil defense, with special emphasis on civil defense in the home, were mailed out every month to the 1,000 members of AWRT. In addition, news releases on civil defense participation in natural disasters were sent out every 2 weeks. A survey showed that AWRT broadcasters used civil defense material on an average of 4 times a week, and their broadcasts resulted in more than 3,000 requests to FCDA for booklets and pamphlets. AWRT members also took an active part in regional and State civil defense demonstrations, served as civil defense public information officers in some States, and in some instances took the initiative in organizing local civil defense units.

## Television

The Nation's growing television industry devoted increasing coverage to civil defense subjects during 1955. It brought the dramatic picture of an atomic explosion and resulting destruction of typical domestic and industrial facilities into millions of living rooms. It followed evacuation tests in a number of cities. And it reported on such civil defense problems as radioactive fallout and the defense against it.

More than 50 special network programs were devoted to civil defense during the year, and many more were carried by the more than 450 local TV stations.

The biggest civil defense television story of the year was Operation Cue. CBS–TV and NBC–TV, working in a pool operation, sent top commentators and technical personnel to the desert test site to report the event in a series of live telecasts. For nearly 2 weeks the networks made live telecasts 3 times a day from the site, and were largely

responsible for maintaining nationwide interest in the test when the weather forced a number of postponements.

An estimated audience of 100,000,000 saw the shot through television. Movies of the atomic shot and the results of it were telecast by most local TV stations.

Even without Operation Cue, a total audience estimated at more than 23,000,000 received some type of civil defense information through television during the year. The FCDA film, "A New Look at the H–Bomb," was sent to every television station at a time of mounting public interest in radioactive fallout.

The TV dramatic program, "Medic," working in close cooperation with FCDA, produced "Flash of Darkness," a graphic portrayal of the medical problems that would result from an atomic attack, televising it first in February and again in August to an audience of millions.

The major television networks cooperated by making 18 of their top stars, including Jack Benny, Lucille Ball and Desi Arnez, and George Burns and Gracie Allen, available for a series of 1-minute film spot features on civil defense, which are scheduled for use in 1956.

FCDA offered to every television station a station-break slide designed to the station's own specifications, and carrying the station's call letters and the slogan, "Civil Defense is Common Sense". More than 170 stations had requested the slides by the end of the year.

As new television stations appeared on the air, FCDA supplied them, on request, with kits of basic civil defense information, slides, props, spot announcements, and films; assisted in researching and writing scripts; and arranged interviews with civil defense officials and technical experts.

## Motion Pictures

The most comprehensive motion picture program yet undertaken by FCDA was recorded in 1955. Fifteen new films on civil defense subjects were completed or in the advanced stages of production by the end of the year. Nearly all these films were designed for showing to organizations as well as for television use.

Based on past experience, each picture will be seen by a minimum of 20,000,000 persons, giving an anticipated aggregate audience of more than half a billion for the civil defense film program of 1955.

Especially noteworthy was expansion of the sponsored film program initiated in 1954, whereby private industry underwrites the production of civil defense films and FCDA pays for prints. This resulted in the production of 5 new films costing a total of nearly $160,000 with FCDA paying only about 25 percent of the total. Each film was about 14 minutes in length.

The American Trucking Association sponsored "Rehearsal for Disaster," a story of what trucks and truck drivers can do in an emer-

gency; the Marine Division of Chrysler Corp. sponsored "Big Men in Small Boats" to show what small watercraft can do in times of distress; the Burroughs Adding Machine Co. sponsored "Bombproof," a story describing the protection of vital records from destruction; the National Automobile Dealers Association sponsored "Escape Route," a description of how the family car will serve in an emergency; and the Institute of Life Insurance sponsored "To Live Tomorrow," depicting techniques of panic control.

FCDA paid production costs on two films: "Operation Welcome," the test evacuation in Denver, and "Operation Cue," the civil defense aspects of the Nevada atomic test. In addition, 15 civil defense films were in production by private motion picture producers at the end of the year. They included "CONELRAD," a story of radio information in time of attack, "Warning Red," a story of postattack rescue operations, and a series of thirteen 15-minute features titled, "Tomorrow Today."

Important in the year's motion picture operation was the coverage of the Operation Cue atomic test. In addition to the 27½-minute film, "Operation Cue," color footage covering every phase of the test was made available to industries so that they might have an opportunity to study the effects of an atomic explosion on buildings and materials. In cooperation with the Atomic Energy Commission, footage from high-speed automatic cameras was consolidated into 600 feet of film for use in movie theaters and on television. All 5 major newsreel companies sent cameramen to the test site, and 20th Century Fox produced a 10-minute feature short, "Survival City," a color cinemascope film which will be shown in 300 to 500 movie theaters in this country.

*Films completed in 1955*

| Name | Black and white or color | Running time (minutes) | Date released |
|---|---|---|---|
| Frontlines of Freedom | B & W | 13 | January. |
| A New Look at the H-bomb | Both | 10 | February. |
| Conelrad [1] | B & W | 9 | May. |
| Target You | B & W | 10 | July. |
| To Live Tomorrow [1] | B & W | 13½ | Do. |
| Escape Route [1] | C | 13½ | August. |
| Let's Face It | C | 13½ | Do. |
| Operation Welcome | C | 10 | Do. |
| Big Men in Small Boats [1] | C | 13 | December. |

*New Films in Progress*

Bombproof.[1]
Fire Service.
Operation Cue.
Operation Kids.
Rehearsal for Disaster.[1]
Warning Red.[1]

[1] Sponsored and/or financed by a commercial organization with cooperation of FCDA.

## Exhibits

Growing public interest in civil defense was reflected in the demand for civil defense exhibits. FCDA sent exhibits on the civil defense emergency hospital, civil defense in natural disasters, the 1955 Operation Cue and 1953 Operation Doorstep atomic tests, health services, mass feeding, welfare, CONELRAD, attack warning, industry defense, evacuation, and shelter to 160 major gatherings. These included State fairs, and national meetings of business, professional, and fraternal organizations.

More than 3,200,000 persons saw the exhibits during the year and took away with them 2,194,500 pieces of civil defense literature.

Perhaps the most talked about exhibit of the year was the FCDA 200-bed emergency hospital. The unit was shown to the public for the first time at the American Federation of Labor Union Label Industries show at Buffalo in May, where more than 160,000 persons saw it. Eight thousand doctors examined it at the American Medical Association national convention in Atlantic City in June, and in the same month it was shown to 4,700 delegates to the national convention of the American National Red Cross.

Other highlights of the exhibit program are:

More than 136,000 persons saw the emergency hospital, Operation Cue, and civil defense shelter exhibits at the Eastern States Exposition in Springfield, Mass., in September. The audience included 5 State governors, 67 local civil defense directors, and a number of hospital administrators, doctors, and nurses.

At the Connecticut State Fair in Danbury, Conn., in October, 167,000 persons saw the Operation Cue and Operation Doorstep atomic test exhibits. An atomic bomb effects exhibit received widespread public attention during a 3-month display at Atlantic City.

In cooperation with the Army, Navy, Air Force, and Marine Corps civil defense posters were displayed at every continental command post on Armed Forces Day.

Assistance by a number of organizations greatly aided the exhibit program during the year. Such assistance included the giving to FCDA of exhibit space valued at more than $205,000.

## National Organizations

National organizations, consistently strong supporters of civil defense, expanded their backing in 1955. They urged their millions of members to support civil defense, disseminated civil defense information through their magazines, newsletters and other publications, provided time for speakers and space for exhibits at their conventions, and in many instances provided volunteers for civil defense services.

They were directly responsible for the distribution of more than 3,000,000 copies of civil defense publications to their members in all parts of the Nation.

The United States Junior Chamber of Commerce developed plans for a civil defense disaster kit for distribution to its 3,000 chapters.

An article urging the 6,500,000 members of the Catholic Youth Organization to participate in civil defense was published in the winter edition of *Program Services* and sent to the more than 1,000 diocese and parish directors.

The American Legion, with its 3,000,000 members in 15,000 posts, expanded its record of civil defense support. In addition to the hundreds of Legion rescue teams that have been formed to assist local civil defense directors in natural or enemy-caused disasters, the Legion devoted 3 special newsletters to a civil defense public education program, and at its national convention in October unanimously adopted a strong 10-point civil defense committee report urging more active support of civil defense.

The Fraternal Order of Eagles distributed 1,000,000 copies of civil defense publications to its 1,600 Aeries.

The National Jewish Welfare Board, representing 385,000 members, developed a civil defense training program at the organization's community centers, emphasizing first aid, rescue, and survival techniques.

The Boy Scouts of America, with more than 2,000,000 members, intensified its participation in the Ground Observer Corps, engaged in light rescue training programs, and served as civil defense messengers in training exercises.

## Women's Activities

Women throughout the Nation asked for and received more information on civil defense in 1955 than in any previous year. Working through adult and youth groups, they trained in every civil defense activity, with emphasis on programs for the home.

Some of their activities in 1955 follow:

The Veterans of Foreign Wars Auxiliary sponsored its 20th annual essay contest in which 31,272 teen-agers from 2,067 schools wrote on the subject, "What Civil Defense Means to Me."

Seventy officials of the American Legion Auxiliary attended a special FCDA training course at Olney, Md., in January.

Newspaper food editors met at FCDA headquarters in October for a special emergency mass feeding demonstration.

One hundred and thirty-nine women, the largest group ever to witness firsthand and participate in an atomic test, attended Operation Cue.

Future Homemakers of America distributed thousands of leaflets

on CONELRAD and thousands of stickers to mark the CONELRAD frequencies on radio dials.

The more than 260 chapters of Junior Homemakers in South Carolina, working with 120 chapters of New Homemakers, sponsored a series of first aid and home nursing classes.

Girl Scouts from Louisiana, Alabama, and Tennessee at a regional encampment conducted a simulated tornado alert and camp evacuation, following it with practice rescue and first aid missions.

The American Association of University Women, American Medical Association Auxiliary, General Federation of Women's Clubs, Soroptimists, Quota International, Pilots International, Daughters of the American Revolution, Business and Professional Women's Clubs, and the National Home Demonstration Council were among the many large organizations of women that undertook major civil defense projects during the year.

The American National Red Cross continued its cooperation with FCDA in providing civil defense training programs for women.

To help supply the growing demand by women for more information on civil defense, FCDA started publication in January of a newsletter, *By, For, and About Women in Civil Defense*, with an initial distribution of 500 copies to national women's organizations and State civil defense headquarters; by the end of the year the monthly circulation had grown to 12,000.

Literature on civil defense home protection exercises was sent to all Congressmen, and resulted in their requesting 1,007,612 pamphlets to mail to constituents.

To bring attention to FCDA's recommendation that every family maintain a 7-day supply of food and water for an emergency, a Grandma's Pantry promotion was started in the spring. The Grandma's Pantry idea ("Grandma was always ready for an emergency") originated in New York and was expanded in Maine. FCDA produced 1,000 Grandma's Pantry exhibits for use in stores and at fairs, conventions, and other meetings. Sears, Roebuck & Co. took more than half of the exhibits for store displays.

A number of national women's magazines carried civil defense articles during the year. *The American Home* published in August "Can You Survive This?" based on Operation Cue pictures and information, and in September "Grandma's Pantry—New Style." The *Woman's Home Companion* in June published "Take These Steps Now To Save Your Family."

The FCDA Women's National Advisory Committee held its third annual meeting in Washington in November. Members emphasized the need for more training programs for civil defense volunteers, a reevaluation of the warden program, and a uniform policy in school evacuation plans.

More than 40 States had civil defense directors of women's activities at the year's end. Two meetings of the regional directors of women's activities were held, and regional conferences attended by representatives of all the States were held in 5 of the 7 regions. Similar meetings were held in many of the States and cities.

## TECHNICAL INFORMATION AND GUIDANCE

Provision of civil defense technical information and guidance to the States and localities, as required in Public Law 920, is made primarily through FCDA publications and visual aid materials.

In the first full year of the Agency's new location at Battle Creek—1955—the publications program was accelerated by more than 60 percent, an increase of more than half the number of publications issued in the previous year. Visual material showed an even greater increase.

Greater emphasis was placed on the recently developed problems of the radioactive fallout and evacuation of target areas. A series of technical bulletins, a public booklet, and two pamphlets discussing radiological defense measures were published. In addition, a kit of visual and printed teaching materials on the same subject was prepared and ready for distribution at the end of the year.

Guidance materials for States and cities in making their survival studies were prepared and distributed. Included were a basic administrative manual, two technical manuals, and several technical bulletins and technical reports on evacuation planning.

All Agency publications were reviewed to bring them up to date with the latest civil defense concepts; many were reissued with revisions and others completely rewritten. Some were withdrawn as obsolete. Other publications covering civil defense techniques and organization principles still applicable to current civil defense were reprinted.

A filmstrip on Operation Cue, the FCDA atomic test operation at the Atomic Energy Commission's Nevada Test Site, was prepared and distributed. Technical reports on Operation Cue test projects were reprinted and distributed. An overall FCDA report was prepared.

The Agency publications program comprises technical publications and administrative issuances. The former include: technical manuals, technical bulletins, technical reports, administrative guides, program guides, instructor's guides, public booklets, handbooks, and miscellaneous publications. Administrative issuances include: advisory bulletins, general orders, emergency operations orders, bulletins, interagency circulars, disaster orders, contributions memos, regulations, and manuals.

In 1955, 45 new technical publications were produced and distributed. This included 1 handbook, 1 public booklet, 1 program guide, 2 instructor's guides, 3 technical manuals, 5 technical reports,

16 technical bulletins, and 16 miscellaneous publications. Among the miscellaneous were the FCDA Annual Report for 1954, and a reprint of a Public Health Association handbook on communicable diseases. Several other instructor's guides, public booklets, and technical bulletins were at the printer or otherwise in process at the end of the year. Nearly 100 previously published technical publications were reprinted or revised and reissued. Over 50 pamphlets, leaflets, and folders were reprinted or revised and reissued.

One hundred and fifty different administrative issuances were published in 1955. These included 41 bulletins, 40 general orders, 20 advisory bulletins, 10 contributions memos, 5 emergency operations orders, 5 manuals, 2 disaster orders, 1 interagency circular, 1 regulation, and 25 changes to existing administrative issuances. Twenty-nine more were in process at the end of the year.

The total number of pieces of material printed and distributed in 1955 was nearly 60,000,000, over 42,000,000 of which were technical publications. This included 472 separate items covering 57,536,572 pieces printed at the Government Printing Office and 236 separate items covering 1,603,100 pieces printed by private contractors.

Of the visual material prepared for technical information and training use, 15 filmstrips were completed and 10 more scheduled for completion early in 1956. Many of these were in color. Three kits, including filmstrip and printed material, were completed and distributed. Three other kits were completed and ready for distribution at the end of the year. One filmograph was completed and distributed and another is scheduled for completion and distribution in 1956. Of the filmstrips and filmograph completed, nearly 12,850 prints were distributed, in kits or separately.

Four different exhibits were completed, over 1,000 copies of which were produced and shown throughout the country. Two more exhibits were in production at the end of the year.

Other visual material produced included 400 charts, 200 illustrations for FCDA publications and additional art for pamphlets and kits, 1,300 color and black-and-white photographs for Operation Cue, 500 photographs for Operation Alert, 2,000 photographic prints for the Agency Staff College, 500 general use photographs, and 300 35-mm. color photos for general use.

## New Publications

Handbook (1)

*Annotated Civil Defense Bibliography for Teachers*, Pub. H–3–1, September 1955.

Instructor's Guides (2)

*Basic Course for Civil Defense*, Pub. IG–3–2, February 1955.

*Introduction to Radioactive Fallout*, Pub. IG–19–1, September 1955.

PUBLIC BOOKLET (1)

*What You Should Know About Radioactive Fallout*, Pub. PA–7, June 1955.

PROGRAM GUIDE (1)

*Needed * * * Home Nursing for Civil Defense*, February 1955.

TECHNICAL BULLETINS (16)

*Biological Warfare Against Public Water Supplies*, Pub. TB–11–18, April 1955.

*Blast Damage From Nuclear Weapons of Larger Sizes*, Pub. TB–8–1, February 1955.

*Evacuation Checklist*, Pub. TB–27–2, May 1955.

*Evacuation of Civil Populations in Civil Defense Emergencies*, Pub. TB–27–1, February 1955.

*Fallout and the Winds*, Pub. TB–11–21, October 1955.

*Industry Defense—Sources of Reference and Guidance*, TB–16–3, December 1955.

*National Communications Priorities*, Pub. TB–4–3, September 1955.

*Plastic Patching for Emergency Pipe Repairs*, Pub. TB–13–11, April 1955.

*The Problem of Panic*, Pub. TB–19–2, June 1955.

*Protection Against Fallout Radiation*, Pub. TB–11–19, September 1955.

*Protection of Vital Records and Documents*, Pub. TB–16–2, May 1955.

*Radiation Physics and Bomb Phenomenology*, Pub. TB–11–22, December 1955.

*The Radioactive Fallout Problem*, Pub. TB–19–1, June 1955.

*Radiological Instruments for Civil Defense*, Pub. TB–11–20, October 1955.

*The Role of the Warden in the H-Bomb Era*, Pub. TB–27–3, August 1955.

*Shelter From Radioactive Fallout*, Pub. TB–5–2, September 1955.

TECHNICAL REPORTS (5)

*Effects of Nuclear Explosions on Drugs*, Pub. TR–11–1, March 1955.

*Operation Firestop*, Pub. TR–9–1, January 1955.

*Operation Kids*, Pub. TR–27–1, September 1955.

*A Scientific Study of the Preattack Evacuation of New York City*, Pub. TR–27–2, October 1955.

*Spontaneous Leadership in a Civil Defense Evacuation Exercise*, Pub. TR–27–3, October 1955.

TECHNICAL MANUALS (3)

*Planning and Organizing for Civil Defense Traffic Operations*, Pub. TM–27–2, November 1955.

*Procedure for Evacuation Traffic Movement Studies*, Pub. TM–27–1, November 1955.

*The Veterinarian in Civil Defense*, Pub. TM–11–11, January 1955.

MISCELLANEOUS (16)

*Air Raid Alert Instruction Cards*, 1955.

*Annual Report for 1954.*

*Civil Defense Rescue Training.*

*Control of Communicable Diseases* (Reprint of APHA book), October 1955.

*Facts About Fallout*, May 1955.

*Facts About the H-Bomb*, February 1955.

*Home Protection Exercises* (A Family Action Program) 1955.

*How to Establish and Organize a Warden Service*, November 1955.

*Industry Defense* (booklet).

*Operation Cue Reports.*

*A Report on the Washington Conference of Governors*, May 2, 3, 1955.

*Shelter Designs.*

*Six Steps to Survival*, June 1955.

*Speakers Kit*, 1955–56.

*States, Counties, Cities and Civil Defense*, March 1955.

*Survival Plan, Blank Manufacturing Co.*

## LIBRARY

This past year a library was established as an aid to Agency technical experts. It provides in a central place reference and research material for the writing and editing of technical material for public dissemination, as well as helps keep Agency staff members up to date on the latest information of interest to civil defense.

The library is for use not only by Agency personnel but also by members of State and local civil defense organizations attending Staff College and persons from outside the Agency participating in conferences and meetings at the National Headquarters.

At the year's end 972 general and technical reference books, 84 directories, 1,034 pamphlets and magazine articles, and several shelves of regional-county-State-city civil defense material were in the library. Seventy-eight magazines and newspapers were being received regularly. In addition, locator files were set up for 201 reference books kept in Agency offices, which can be borrowed from the holding office by other offices on request.

At the end of 1955 plans for a branch of the library in the Washington office were well along, with 52 general and civil defense reference books on order.

# TRAINING AND EDUCATION

The primary objective of FCDA training and education is to train needed numbers of civil defense leaders and workers by direct instruction or by assisting State and local organizations to train them. To do this, the Training and Education Office concentrates its efforts on the following activities:

Educational Relations.
Resident Instruction.
Extension Instruction.
Training Information Exchange and Guidance.
Headquarters Training Assistance.

## Educational Relations

This part of the program is designed to stimulate greater interest in schools and colleges in civil defense.

Under the authority of FCDA Delegation No. 1, to the Secretary of Health, Education, and Welfare, the Office of Education in cooperation with the Training and Education Office of FCDA developed a curriculum project to provide more suitable civil defense instructional materials for the schools of America. Participating in this undertaking were the States of California, Connecticut, and Michigan. In addition to planning for the future use and evaluation of these materials, plans were made for the development of other appropriate educational projects.

By cooperative arrangement, the National Education Association undertook the preparation of a publication, *Civil Defense in Elementary and Secondary Education.* This publication will set forth principles and suggested procedures for the guidance of elementary and secondary school administrators and teachers in discharging their civil defense responsibilities. Working relationships were also maintained with such organizations as the Adult Education Association of the United States of America, the American Vocational Association, the Association for Higher Education, the National School Boards Association, and the American Council on Education.

## Resident Instruction

As part of its resident instruction program, the Training and Education Office continued to operate the Staff College, organized in 1951. Its personnel continued to serve as a strong nucleus for both resident and extension instruction. The major part of the college's work concerned the three basic courses: (1) civil defense administration, (2) civil defense operations, and (3) principles of tactical evacuation. In addition, Staff College personnel participated in special conferences, courses, and extension work.

The civil defense administration course, after an extensive revision, was offered four times during 1955. This 1-week course was primarily a civil defense orientation course for key officials, such as mayors, State, county, and city civil defense directors, and other persons responsible for organizing and directing civil defense programs. The course included a briefing and covered the following subjects: the effects of weapons; methods of assessing vulnerability; the responsibility and functions of Federal and State agencies in supporting local efforts to overcome the effects of natural and enemy-caused disasters; the relationship of shelter, cover, and evacuation in the light of high-yield weapons; the detection system and methods for informing civil defense organizations of the presence of enemy aircraft; the role of small communities in the reception and care of evacuees; recruiting, training, and using volunteers; practical exercises using maps and control center procedure.

Civil defense operations, an advanced course for persons concerned with State and local civil defense operations, was offered three times in 1955. Its objectives were to: indicate the scope and magnitude of attack problems confronting a city civil defense organization; develop skill in recognizing operational problems and breaking them down into manageable parts; emphasize the need for coordinating civil defense services in operations; familiarize students with the types of support resources available; illustrate the use of advance planning to facilitate operations; and familiarize students with methods of conducting their own control center exercises and operational problems. After having developed operational plans, the students participated in a control center exercise. For this purpose, the classroom was arranged to simulate a metropolitan area control center during an emergency; the students assumed staff positions and acted on simulated messages as they were received in the control center.

The course on principles of tactical evacuation was originated and offered four times in 1955. This was an advanced course primarily for persons responsible for developing evacuation plans in target and critical target areas. Its main objective was to introduce the principles of tactical evacuation and show how these principles may be adapted for specific problem areas in various locales. The course included a series of committee studies of problem areas and a discussion of the committees' conclusions by class members. The course was terminated by an operations exercise, applying the evacuation principles previously developed and discussed.

During the year, special courses and conferences were conducted for Public Health Service officers, American Legion auxiliaries, nurses, physicians, dentists, and representatives of industry.

During 1955, courses were conducted at Olney, Md., and Battle Creek, Mich. A total of 512 persons completed the administration, operations, or the principles of tactical evacuation course. An additional 653 persons attended the special courses and conferences, and 320 instructors were trained in the Rescue School. (See p. 119.) Thus, a total of 1,485 persons were trained in 1955, making a grand total of 12,395 trained since April 30, 1951.

## Extension Instruction

To continue making the Staff College administration course more available to persons in need of such instruction, the traveling team project was developed further during the year. In States under contract for this service, the FCDA assists in conducting the initial course, and at least two similar followup courses per year are then conducted under State sponsorship for at least 3 years. Thus, States are assisted in establishing their own civil defense training programs.

In 1955, the Training and Education Office conducted the administration course on request in five States: Georgia, Maine, Maryland, Tennessee, and Wisconsin. A total of 211 persons completed the initial course in those States during the year and 229 persons completed the followup State-sponsored courses. At the close of 1955, four additional States had indicated an interest in this service.

## Training Information Exchange and Guidance

During the latter part of 1955, the Training and Education Office initiated a program to provide guidance, assistance, and coordination in developing uniform training and education plans among FCDA regions, States, and local communities. To do this, information on successful training programs must be collected, analyzed, summarized, and distributed to civil defense organizations. The Training and Education Office arranged with FCDA regional training officers to insure that information on unusually successful training programs would be regularly supplied to the FCDA National Headquarters. Copies of outstanding training materials developed by State and local units were obtained. To facilitate the exchange of ideas and materials preliminary arrangements were made to publish a training newsletter which would periodically disseminate this information to FCDA regional offices, States, and communities. In addition to obtaining training information through the regional training officers, staff members visited and studied training programs in 2 States and in 4 large urban communities.

The Training and Education Office placed major emphasis on developing a training plan to serve as a national model. With the cooperation of the FCDA Planning Staff and of the Technical Ad-

visory Services, work was in progress to unify and standardize civil defense training throughout the Nation.

At a conference of FCDA regional training officers conducted at the National Headquarters late in 1955, a work program for regional training officers was developed and approved.

Experimental rating scales for single training courses and total training programs were developed. After sufficient field testing and necessary revision, the regional training officers will use these rating scales to evaluate State and local training. This evaluation is a very important part of planning and directing training programs, because the extent and effectiveness of training is an indication of national readiness for coping with civil defense emergencies.

## Headquarters Training Assistance

Through the States, the Training and Education Office provided two forms of assistance for the training of civil defense workers: (1) instructor guides containing lesson plans and suggested visual aids for the civil defense skills training courses; (2) financial assistance through the Federal contributions program to help defray the cost of civil defense training.

In preparing instructor guides, the Training and Education Office was assisted by the FCDA Technical Advisory Services to assure technical accuracy. During 1955, several instructor guides were completed and others were ready for printing. These instructor guides covered the following subjects or courses: 3 on rescue, 1 for wardens, 1 on radioactive fallout, 1 for civil defense instructors, 2 on welfare, and 1 on the first aid system. In addition, plans were under way for developing instructor guides for all FCDA approved courses and numerous special training projects.

The Training and Education Office administered the Federal contributions program for reimbursing the States up to one-half of the amount they actually spend on approved civil defense training courses. In 1955, the Federal contributions program was broadened to include funds for training and test exercises, the cost of constructing or remodeling training centers for multiple civil defense purposes, and other improvements for encouraging civil defense training on local and State levels. During the 1955 calendar year, the States matched $568,000 of Federal funds spent for training courses and necessary training equipment.

The Training and Education Office assisted in planning and providing special in-service training for FCDA personnel at the National Headquarters. Such assistance included: preparation of a plan to train personnel for emergency assignments as controllers, plotters, and tellers; presentation of a 7-hour civil defense orientation course for new employees; and planning resident courses in radiological defense.

## RELIGIOUS AFFAIRS OFFICE

The Federal Civil Defense Administration has always recognized the importance of the church in civil defense. The church offers wide coverage and intimate contact with approximately two-thirds of the population of the country. With about 97,000,000 Americans belonging to some organized religious group, the church provides an educational medium, source of recruitment, and facilities unequaled by any national organization.

The purpose of the Religious Affairs Office, established in 1954, is to further the cooperative relationship between the church and FCDA. The functions of the Office are to provide educational materials, promote recruitment, prepare plans for the spiritual function of the church, encourage congregational and institutional self-protection, and to urge the clergy and the churches to participate in mutual aid and mobile support.

The Religious Affairs Office revised the administrative guide, *The Clergy in Civil Defense;* plans are underway for a pilot project to test the organization of the clergy and churches on a statewide basis; a series of leaflets for churches; preparation of news releases for national religious periodicals; program material for congregational societies, conventions, and conferences; preparation and distribution of posters for churches and religious institutions; the distribution of films and filmstrips; and furnishing of package programs for church meetings to local congregations through State civil defense directors. The possibility of stockpiling religious articles and supplies is also being investigated.

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# OPERATIONS CONTROL SERVICES

## EMERGENCY OPERATIONS

The nerve center of civil defense under emergency conditions is the FCDA Emergency Operations Office which is responsible for: (1) collecting and analyzing essential damage information, (2) coordinating the use of national resources, (3) providing advice to other Government agencies, (4) assisting the States, and (5) maintaining a current record of the emergency situation.

Emergency operating facilities are established at 2 national locations and 7 FCDA regional offices. The staff at one national emergency center outside Washington coordinates the use of resources with the heads of Federal agencies and the President. The second national center, located at Battle Creek, Mich., is used for overall operations, providing damage analysis and acting on assistance requests received from the field. The 7 regional offices work with Federal agencies and the States in providing assistance.

To improve the operational efficiency of the system, tests are conducted regularly. The second annual national civil defense exercise, Operation Alert 1955, was held on June 15, 16, and 17, and involved mock atomic attacks on 60 cities in the continental United States, Territories, and possessions. One additional city was added without authorization, and 2 cities indicated before the exercise they would not participate. One city did not report during the exercise, and it must be assumed it did not participate. Forty-nine cities were told in advance they were to receive attacks, and the remaining 11 cities were not advised until the exercise started. All attacks in Canada were blind, with target information provided at the start or during the exercise.

FCDA received excellent cooperation from Canada and United States Federal agencies. Improvement also was noted in city and State activity. However, the exercise showed the need for establishing additional standard operating procedures and policies. For example, some exercise messages included information that should have been established as standard procedures prior to the exercise. Action has been taken to correct this.

Tests such as Operation Alert 1955 have shown that only fragmentary information will be available from States and cities in the first

few days following an attack. FCDA is developing a bomb damage assessment system to provide information quickly on damage caused the Nation by an enemy attack. Included in the project is a study to develop a system of automatic reporting of the time of attack, radius of damage, and height and type of burst for every attacked area.

An important phase of emergency operations in an attack situation would be the prediction of radioactive fallout patterns from bomb bursts. Under civil defense Delegation 3 to the Department of Commerce, the United States Weather Bureau was assigned the responsibility of establishing a routine national twice-daily fallout forecast program for the 70 critical target areas of the United States. This program was implemented on June 1, 1955, with forecasts transmitted over the Department of Commerce National Teletype Facility Service "C" to approximately 500 Weather Bureau and military installations. From those points the forecasts are relayed to regional, State, and local civil defense offices.

The fallout forecasting program was scheduled to be expanded on February 1, 1956, so that it would be applicable to all areas of the United States, Alaska, and Hawaii. Also, meetings have been held with representatives of the Canadian Department of National Defense, and primary accord has been reached for international exchange of fallout forecasts over Service "C." Early in the spring of 1956, a comprehensive twice-daily fallout forecast program will be in effect for most of the North American Continent.

To provide FCDA with operational assistance in fallout forecasting, the Weather Bureau assigned 2 meteorologists to FCDA Headquarters in 1955, and also made arrangements to assign a meteorologist to each of the 7 FCDA regional offices.

There is a need for a national radiological monitoring network to supplement the fallout forecasting system, and FCDA is making plans toward that end.

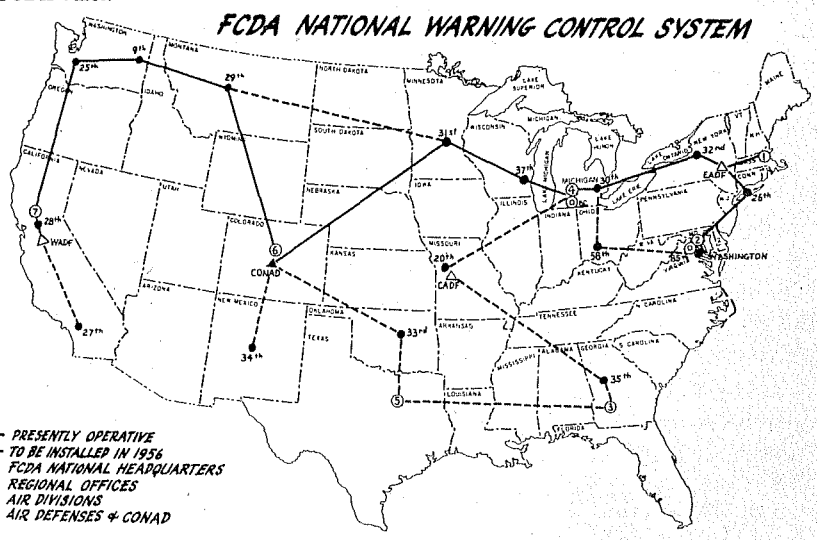
# CIVIL DEFENSE WARNING KEY POINTS

| Map reference No.* | State | City |
|---|---|---|
| | *9th Air Division* | |
| 1 | Idaho | Boise. |
| 2 | | Coeur D'Alene. |
| 3 | Oregon | Pendleton. |
| 4 | Washington | Colfax. |
| 5 | | Coulee. |
| 6 | | Pasco. |
| 7 | | Spokane. |
| 8 | | Wenatchee. |
| 9 | | Yakima. |
| | *25th Air Division* | |
| 1 | Oregon | Eugene. |
| 2 | | Medford. |
| 3 | | Portland. |
| 4 | | Salem. |
| 5 | | The Dalles. |
| 6 | Washington | Everett. |
| 7 | | Olympia. |
| 8 | | Port Angeles. |
| 9 | | Renton. |
| | *26th Air Division* | |
| 1 | Connecticut | Bethany. |
| 2 | | Colchester. |
| 3 | | Hartford. |
| 4 | | Ridgefield. |
| 5 | District of Columbia. | Washington. |
| (*) | | WASHINGTON. |
| 6 | Delaware | Dover. |
| 7 | Maryland | Baltimore. |
| 8 | | Hagerstown. |
| (*) | | OLNEY. |
| 9 | | Salisbury. |
| 10 | New Jersey | Hemmonton. |
| 11 | | Morristown. |
| 12 | | Trenton. |
| 13 | New York | Binghampton. |
| 14 | | Elmira. |
| 15 | | Hawthorne. |
| 16 | | Mineola. |
| 17 | | Newburgh. |
| 18 | | New York City. |
| 19 | Pennsylvania | Allentown. |
| 20 | | Altoona. |
| 21 | | Greensburg. |
| 22 | | Harrisburg. |
| 23 | | Lancaster. |
| 24 | | Philadelphia. |
| 25 | | Punxsutawney. |
| 26 | | Reading. |
| 27 | | Scranton. |
| 28 | | Wilkes-Barre. |
| 29 | | Williamsport. |
| 30 | Rhode Island | Providence. |
| 31 | Virginia | Norfolk. |
| 32 | | Richmond. |
| 33 | West Virginia | Clarksburg. |
| 34 | | Martinsburg. |
| | *27th Air Division* | |
| 1 | Arizona | Kingman. |
| 2 | California | Bakersfield. |
| 3 | | El Centro. |
| 4 | | Los Angeles. |
| 5 | | San Bernardino. |
| 6 | | San Diego. |
| 7 | | Santa Barbara. |
| | *28th Air Division* | |
| 1 | California | Fresno. |
| 2 | | Oakland. |
| 3 | | Redding. |
| | *28th Air Division*—Continued | |
| 4 | | Sacramento. |
| 5 | | Salinas. |
| (*) | | SANTA ROSA. |
| 6 | | Ukiah. |
| 7 | Nevada | Reno. |
| | *29th Air Division* | |
| 1 | Montana | Helena. |
| 2 | Nebraska | Lincoln. |
| 3 | North Dakota | Bismarck. |
| 4 | South Dakota | Pierre. |
| 5 | | Rapid City. |
| 6 | Wyoming | Cheyenne. |
| | *30th Air Division* | |
| 1 | Illinois | Chicago. |
| 2 | | Joliet. |
| 3 | | Rockford. |
| 4 | | Urbana. |
| 5 | Indiana | Evansville. |
| 6 | | Fort Wayne. |
| 7 | | Gary. |
| 8 | | Indianapolis. |
| 9 | | Lafayette. |
| 10 | | Muncie. |
| 11 | | New Albany. |
| 12 | | South Bend. |
| 13 | | Terre Haute. |
| 14 | Kentucky | Frankfort. |
| (*) | Michigan | BATTLE CREEK. |
| 15 | | Bay City. |
| 16 | | Detroit. |
| 17 | | East Lansing. |
| 18 | | Jackson. |
| 19 | | Marquette. |
| 20 | | Paw Paw. |
| 21 | | Port Huron. |
| 22 | | Rockford. |
| 23 | | Sault Ste. Marie. |
| 24 | | Traverse City. |
| 25 | Ohio | Cambridge. |
| 26 | | Canton. |
| 27 | | Cincinnati. |
| 28 | | Cleveland. |
| 29 | | Columbus. |
| 30 | | Dayton. |
| 31 | | Findlay. |
| 32 | | Ironton. |
| 33 | | Toledo. |
| 34 | | Youngstown. |
| 35 | Pennsylvania | Butler. |
| 36 | | Erie. |
| 37 | | Pittsburgh. |
| 38 | | Washington. |
| 39 | West Virginia | Charleston. |
| 40 | | Parkersburg. |
| 41 | | Wheeling. |
| 42 | Wisconsin | Appleton. |
| 43 | | La Crosse. |
| 44 | | Madison. |
| 45 | | Milwaukee. |
| 46 | | Stevens Point. |
| 47 | | Wausau. |
| | *31st Air Division* | |
| 1 | Illinois | Peoria. |
| 2 | | Rock Island. |
| 3 | | Springfield. |
| 4 | Iowa | Cedar Rapids. |
| 5 | | Council Bluffs. |
| 6 | | Davenport. |
| 7 | | Des Moines. |
| 8 | | Sioux City. |
| 9 | | Waterloo. |

# CIVIL DEFENSE WARNING KEY POINTS—Continued

| Map reference No.* | State | City |
|---|---|---|
| | *31st Air Division*—Continued | |
| 10 | Minnesota | Brainerd. |
| 11 | | Duluth. |
| 12 | | Minneapolis. |
| 13 | | Rochester. |
| 14 | | St. Paul. |
| 15 | Nebraska | Omaha. |
| 16 | Wisconsin | Eau Claire. |
| 17 | | Superior. |
| | *32d Air Division* | |
| 1 | Maine | Augusta. |
| 2 | | Bangor. |
| 3 | | Houlton. |
| 4 | | Portland. |
| 5 | Massachusetts | Boston. |
| 6 | | Brockton. |
| (*) | | NEWTON CENTER. |
| 7 | | Northampton. |
| 8 | | Worcester. |
| 9 | New Hampshire | Concord. |
| 10 | | Littleton. |
| 11 | New York | Albany. |
| 12 | | Buffalo. |
| 13 | | Niagara Falls. |
| 14 | | Plattsburg. |
| 15 | | Rochester. |
| 16 | | Schenectady. |
| 17 | | Syracuse. |
| 18 | | Troy. |
| 19 | | Utica. |
| 20 | | Watertown. |
| 21 | Vermont | Montpelier. |
| 22 | | Rutland. |
| | *33d Air Division* | |
| 1 | Arkansas | Little Rock. |
| 2 | Illinois | East St. Louis. |
| 3 | Kansas | Topeka. |
| 4 | | Wichita. |
| | *33d Air Division*—Continued | |
| 5 | Louisiana | Shreveport. |
| 6 | Missouri | Jefferson City. |
| 7 | | Kansas City. |
| 8 | | St. Louis. |
| 9 | Oklahoma | Oklahoma City. |
| 10 | | Tulsa. |
| 11 | Texas | Arlington. |
| 12 | | Austin. |
| 13 | | Boerne. |
| (*) | | DENTON. |
| 14 | | Houston. |
| | *34th Air Division* | |
| 1 | Arizona | Phoenix. |
| 2 | Colorado | Denver. |
| (*) | | DENVER. |
| 3 | New Mexico | Santa Fe. |
| 4 | Texas | El Paso. |
| 5 | Utah | Salt Lake City. |
| | *35th Air Division* | |
| 1 | Alabama | Birmingham. |
| 2 | | Gadsden. |
| 3 | | Mobile. |
| 4 | | Montgomery. |
| 5 | Florida | Jacksonville. |
| 6 | | Miami. |
| 7 | | Tallahassee. |
| 8 | | Tampa. |
| 9 | Georgia | Atlanta. |
| 10 | | Savannah. |
| (*) | | THOMASVILLE. |
| 11 | Louisiana | Baton Rouge. |
| 12 | | New Orleans. |
| 13 | Mississippi | Jackson. |
| 14 | North Carolina | Raleigh. |
| 15 | South Carolina | Columbia. |
| 16 | Tennessee | Arlington. |
| 17 | | Chattanooga. |
| 18 | | Knoxville. |
| 19 | | Nashville. |

*FCDA Office.



## Attack Warning

By law, FCDA is responsible for disseminating warnings of enemy attacks to the civilian population of the United States. With more target areas planning evacuation in case of attack, the task of increasing warning time has become increasingly important. During 1955 the time required to disseminate a nationwide warning was reduced by nearly 25 percent.

The attack warning division supervises the operation and control of a nationwide civil defense attack warning system by which warnings are transmitted to some 200 key point civil defense warning centers. These centers, located in State police, sheriff, and similar offices, maintain personnel on duty around the clock. Information of hostile air action is furnished to FCDA attack warning officers stationed at the 12 joint air divisions of the Continental Air Defense Command (CONAD) which maintains an extensive aircraft detection system. FCDA also has liaison personnel assigned to CONAD headquarters and the headquarters of the three joint air defense forces, where all information on the air situation is available.

The FCDA attack warning officers transmit conditions of warning declared by Air Force commanders and supplemental information to the key points over the civil air defense warning system (CADW), a full period four-wire circuit. From the key points it is further fanned out to more than 3,500 subkey points located in local police and fire stations and similar points. From these the alert is given to local residents. Federal control and responsibility extend to the key points; further dissemination is the responsibility of State and local authorities.

When FCDA took over the civilian attack warning system from the Air Force on July 1, 1952, it required about 20 minutes to notify all key point centers of an alert. By January 1955 the average time had been cut to 10½ minutes, and by the end of the year it had been reduced to 8 minutes.

The CADW system to the key point centers was tested daily during 1955, and in addition, numerous unscheduled tests were held to assure top efficiency.

An operation that was not a test—the first warning yellow (attack probable) ever disseminated in the United States—took place on May 5. The alert resulted from a temporarily unidentified flight of Air Force B–47's off the northwest coast. On orders from the Air Force, FCDA attack warning officers at the 27th and 28th joint air divisions spread the warning yellow to all key points in their areas in less than 1 minute. The alert lasted for about 4 minutes before the planes were identified as friendly aircraft. From the standpoint of

FCDA, the attack warning system worked without a flaw down to the key point warning centers during the alert. However, at the locally controlled subkey point centers there were some delays when the authenticity of the alert was questioned.

To improve the operational capacity of the attack warning system, FCDA began adding attack warning personnel at the air defense divisions in 1955, and by the end of the year the additional staffing was about 75 percent complete. The program, when complete, will provide a 24-hour operation by FCDA personnel in the air defense control centers.

The installation of a new communications system (National Warning Control Net) between FCDA warning centers at the air defense divisions, the seven FCDA regional offices, and FCDA Headquarters was started during the year. The system provides for exchange of attack warning information and control, adding to the effectiveness of the FCDA attack warning system.

Both the civil air defense warning system and the national warning control net have capabilities for use other than warning. During the year they were used to assist in search and rescue operations in many cases of downed or lost aircraft. During the hurricane on the east coast the CADW provided information that made possible early assistance to disaster areas.

## Federal Communications

A nationwide FCDA communication system, set up to minimize communication disruptions following an attack, was placed in operation in 1955. The system, known as the FCDA National Communication System No. 1, utilizes alternate voice-teletypewriter circuits, and is engineered to use regular commercial voice telephone circuits, bypassing the regular teletype communication centers located in critical target areas.

The network connects FCDA National Headquarters with its seven regional offices, alternate National Headquarters, each State civil defense headquarters, and District of Columbia civil defense headquarters, and has provision for control from FCDA Region 5, Denton, Tex., should the FCDA National Headquarters become inoperative.

At FCDA National Headquarters, a radio voice-teletypewriter circuit to the alternate headquarters is in operation as well as a radio transmitter operating on the amateur bands. Facsimile (telephoto) communication and automatic standby electric power generators are installed at both locations.

A continuous training program is maintained to operate the telephone switchboard, teletypewriter, and facsimile systems. About 100 clerical and stenographic personnel participate in the program.

As a result of an analysis of the national exercise, Operation Alert 1955, improvements were made in communication operations to expedite the processing of message traffic. Complete acoustical and air-conditioning treatment of the operations center at FCDA Headquarters was completed to increase operating capability.

A closed circuit TV installation and instantaneous facsimile system was installed at National Headquarters during the year to provide continuous briefing for key officials in an emergency.

FCDA is represented in Washington by one communications specialist who serves as a member of the various panels and working groups of the Telecommunications Planning Committee. This permits constant cooperative planning with all agencies and departments of the Government.

## WARNING AND COMMUNICATIONS

Continuing programs of the FCDA Warning and Communications Office in 1955 included: Developing warning and communications requirements for control centers, both fixed and mobile; improving warning alerting systems from key points down to State and local jurisdictions; assisting in developing State and city communications plans (see chart on page 101 showing development of RACES); furthering research programs of States and cities, particularly pilot studies of equipment and systems; developing plans for effective use of broadcast and commercial radio communications facilities; and negotiating with laboratories and research organizations for further study of warning and communications requirements for evacuation, particularly on specialized voice sound systems (fixed, vehicular, and aircraft) and internal and home warning devices.

Progress in establishing effective outdoor public warning systems continued throughout 1955. Six target area cities procured adequate warning systems. Approximately 30 other cities added to or improved their existing warning systems, and hundreds of smaller communities procured warning devices for mutual aid or mobile support or defense against radioactive fallout. Of the total of 262 designated principal cities in target areas, only 29 did not have warning systems at the end of 1955. Nearly $15,000,000 (Federal plus State) worth of warning devices and related equipment had been purchased by the end of the year. Progress was also made in adapting voice sound systems to civil defense.

In 1955 a total of $6,260,000 in Federal funds was obligated for the expansion of the communications program of State and local civil defense organizations, as well as police, fire, and other local communications services integrated into civil defense. Since the beginning of the communications contribution program in 1952, approximately

$15,585,000 in Federal funds has been spent to improve national and local communications systems. Before that time most local communications systems were unsuitable for natural disaster or war emergency use either because their equipment was in a vulnerable area, or they lacked emergency power or inner communications. These funds have been used to expand radio warning networks and operational civil defense networks, purchase emergency power generators, reroute telephone facilities, and equip control centers with adequate communications facilities.

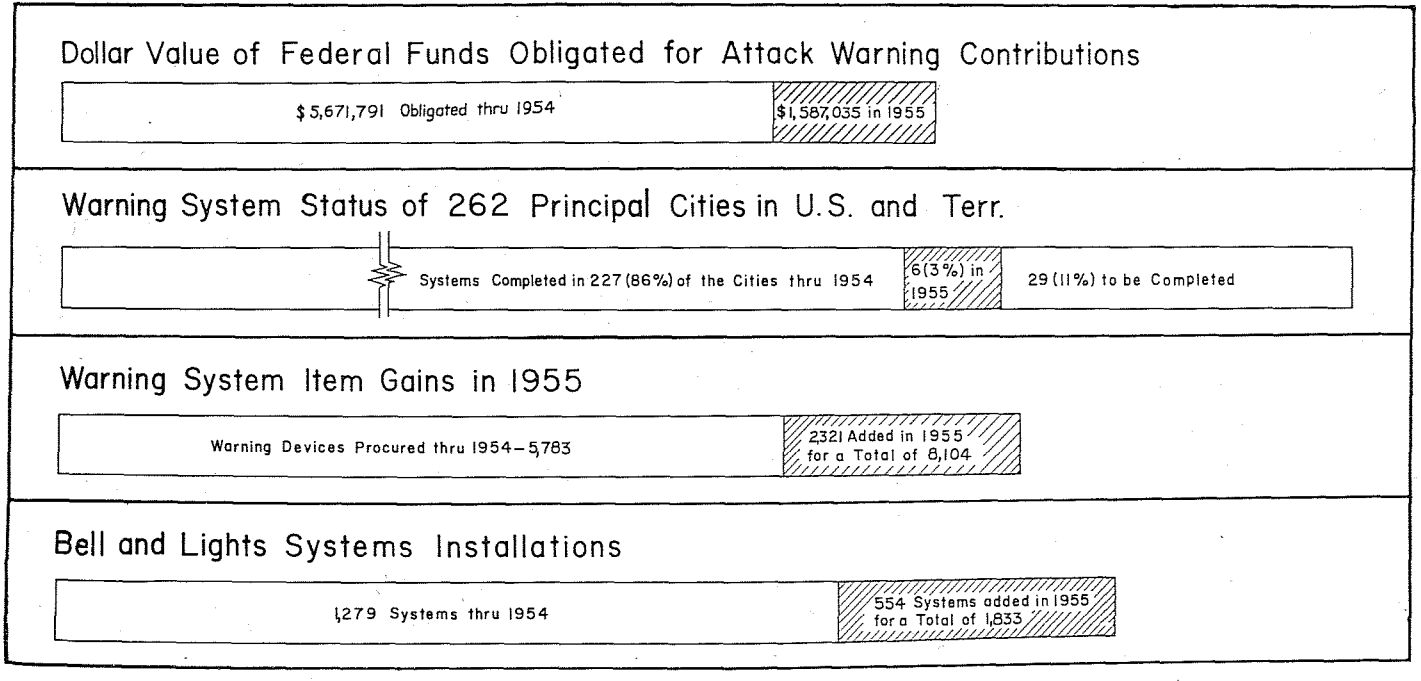
By the end of the year applications for construction of 47 fixed control centers had been approved, amounting to $999,532 of Federal funds under the contributions program. FCDA matches funds only for construction of that part of the building which houses activities concerned with the operation of the control center.

The Federal Government pays 50 percent of the cost of equipment required by States and cities for warning and communications system installations. However, a large part of the overall warning and communications program is borne by the States, cities, and private citizens. The facilities of private and commercial radio services have been used in natural disasters and would be available in the event of enemy attack. Millions of dollars worth of equipment purchased by radio amateurs have been made available to civil defense radio communications networks.

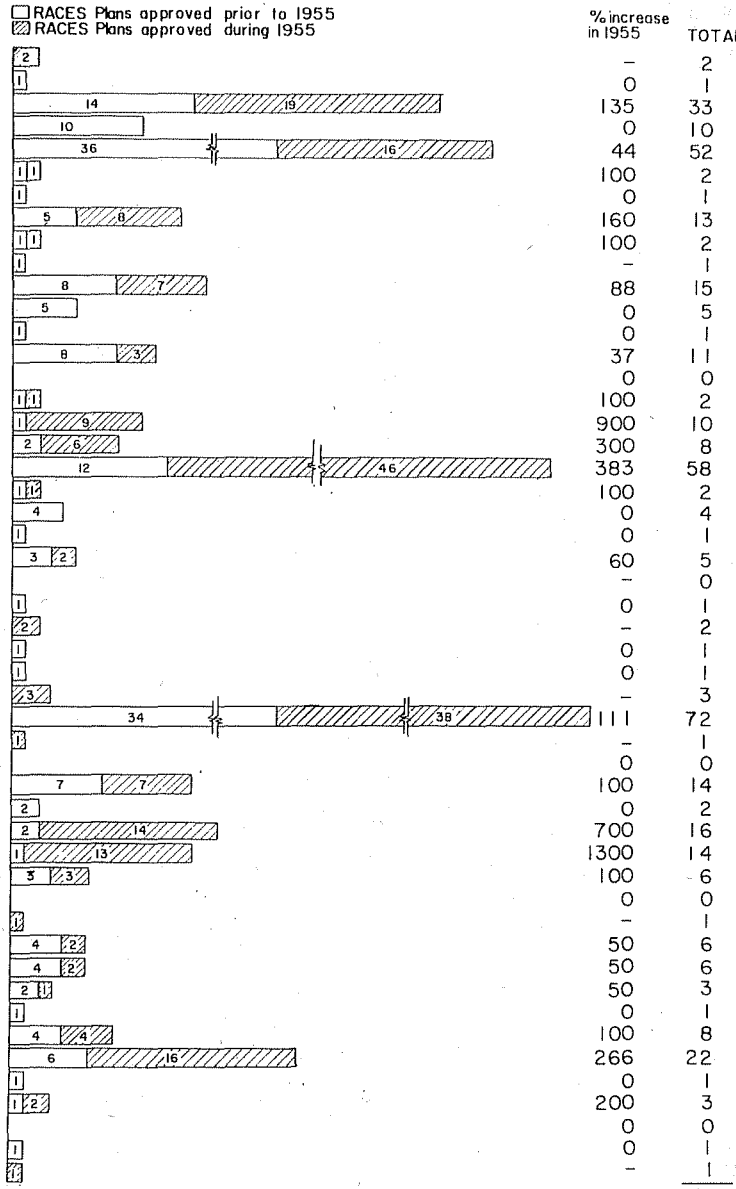
Radio Amateur Civil Emergency Service (RACES) increased from approximately 200 approved plans in 1954 to over 425 plans at the end of 1955. The radio amateurs provide a valuable source of skilled communicators and emergency communications equipment for civil defense. FCDA coordinates national planning for the participation of radio amateurs in civil defense in cooperation with the Federal Communications Commission and the American Radio Relay League. A national organization of amateurs has been established to study problems affecting civil defense and establish standard operating procedures and equitable sharing of frequencies. This group, the United States Civil Defense Amateur Radio Association, will ultimately represent all States and communities actively engaged in civil defense communications.

A number of conferences during the year between FCDA's Warning and Communications Office and representatives of national communications groups resulted in tighter agreements for the use of facilities of these groups in civil defense. Noteworthy were meetings with the Associated Police Communications Officers and the International Municipal Signal Association, both of which appointed committees to work with FCDA. Civil defense personnel also participated actively in the Taxicab Association's national and local conventions, where

# ATTACK WARNING GAINS



## Radio Amateur Civil Emergency Services (RACES) Expansion in 1955



plans were made for increasing integration of the mobile communications of this group into civil defense programs. Conferences were continued with representatives of telephone, broadcast, and of radio and warning equipment manufacturers.

## SUPPLY

Certain medical and engineering supplies would be in urgent demand following an attack on the United States. To assist stricken communities in the first few postattack days, when the need would be greatest, FCDA is stockpiling supplies at strategic locations throughout the Nation, and through Federal matching grants, is assisting the States in procuring supplies.

Through December 31 a total of $161,008,546 had been obligated for stockpiling FCDA medical supplies and equipment. Of that total $117,044,350 worth of supplies had been delivered and stored in FCDA warehouses by the end of the year. Procurement for Federal stockpiles in 1955 amounted to $27,248,731.

A total of $6,561,516 in engineering supplies and equipment has been procured for the Federal stockpile. All of this material has been delivered to FCDA, and stockpiled for emergency water and power supply in a national emergency.

Through the Federal matching funds program, a total of $48,992,691 of medical and engineering supplies, warning devices, communications, and rescue and fire equipment has been procured for the States. Ninety-two percent of these supplies and equipment has been delivered.

All purchases for FCDA stockpiles are made by the established facilities of Government agencies normally engaged in the purchase of the items required. Among these are the Armed Services Medical Procurement Agency of the Department of Defense, for medical items; the Federal Supply Service of the General Services Administration, for engineering, radiological training and defense equipment, and standard supply items; and the Department of the Army for chemical warfare defense equipment.

Whenever State participation under the matching funds program is involved, each procurement action is carefully reviewed. Where a consolidated purchase is feasible, State requirements are included with a Federal purchase. This has resulted in significant savings.

### Distribution and Storage of FCDA Stockpiles

#### Medical

FCDA medical stockpiles are being stored in warehouses considered to be strategically located with respect to probable target areas. They are established in proportion to the population area and to the esti-

mated casualties being supported. Every effort has been made to satisfy conditions related to the predicted effect of probable fallout.

As of December 31, FCDA had acquired 21 warehouses containing 1,911,000 gross square feet of storage space, and 10 smaller capacity storage locations on military installations containing 130,675 gross square feet.

The method of storage of medical supplies is divided into three categories as follows:

*Unitized supplies:* Those which are packed and stored for issue as complete units designed to meet a specific medical requirement.

| *Unit* | *Description* |
|---|---|
| FCDA Replenishment Unit No. 1 (first aid). | Consists of supplies necessary to continue the operation of a first aid station for up to a 48-hour period after a disaster (approximately 1,000 casualties). |
| FCDA Replenishment Unit No. 2 (hospital). | Consists of supplies necessary to continue the operation of a civil defense emergency hospital[1] or an existing hospital of similar size for a period of 1 week following a disaster. |
| FCDA Replenishment Unit No. 3 (blood collection). | Consists of supplies necessary for collecting 1,000 units of whole blood. |
| FCDA Replenishment Unit No. 4 (intravenous solutions). | Consists of supplies designed to provide sufficient intravenous solutions and sets for 100 hospitalized patients for 1 week. |
| FCDA Civil Defense Emergency Hospital[1] (54). | Consists of supplies and equipment for establishing a 200-bed improvised field hospital. |

*Bulk supplies.*—Those expendable items required in quantity at hospitals or treatment centers to provide continued care of patients. These include burn bandages, intravenous solutions, blood plasma, and dextran. These reserves will be issued on an item basis.

*Specialized items.*—Vaccines and antitoxins retained by manufacturers in specialized storage for immediate delivery to FCDA on request.

*Rotation.*—Antibiotics, blood derivatives, and other items in the medical stockpile having limited potency periods, should be rotated for use prior to their expiration date.

In 1955 a contractual arrangement was negotiated whereby quantities of aureomycin chlortetrecycline and aureomycin hydrochloride were delivered to the manufacturer's storage at locations acceptable to FCDA. These quantities are to be rotated by withdrawal of material for commercial sale and concurrent replacement with newly manufactured supplies. All purchase authorizations for additional quantities of these items include a statement requesting that a rotation

[1] Formerly called improvised hospital.

agreement be included in the purchase contract where unit value warrants the cost of rotation.

Continuous efforts have been made to effect rotation through sale of limited potency items to using Federal agencies. In addition, potency periods of these items have been extended as the result of laboratory testing where results have indicated no chemical breakdown. To date, only a small quantity, one item purchased in fiscal year 1952, has reached its potency expiration date. Laboratory tests are in process to determine whether this established potency period can be extended.

### Engineering Equipment

FCDA stockpiles of engineering equipment and supplies have been established and are being maintained in operational readiness in direct support of probable target areas. Stockpiled supplies and equipment were utilized in major disasters during the year. Where practicable, this equipment was reconditioned and returned to civil defense storage.

Forty-five units of pipe, together with other necessary equipment, are stored in 36 locations ready for immediate emergency use. Each unit contains 10 miles of pipe.

### Radiological Equipment

Radiological equipment is being stored throughout the FCDA medical warehousing systems. These instruments are being issued to the various States for training on a loan basis.

### Delegations

Federal agencies which were delegated supply and logistics responsibility not provided by FCDA stockpiling have cooperated in plans to develop a workable distribution system at regional and State level. Delegated responsibilities are covered in the section beginning on page 46.

## TACTICAL OPERATIONS

Guidance to States and localities on civil defense tactical operations continued throughout the year. While increased use was made of the FCDA publication, *Civil Defense Urban Analysis*, TM-8-1, revision of it was started in recognition of larger weapons now available and of the danger to urban and rural populations from radioactive fallout. By the end of 1955, 10 cities had completed urban analyses, including Grand Rapids, Mich., which completed its analysis in June 1955, and 33 more had analyses in preparation. (See table on p. 106.)

To assist States and localities in training, a publication on the conduct of civil defense exercises was developed. Work continued on developing guidance in the fields of organization, operations, and

intelligence, with stress on control center operation. Such guidance made greater use of the principle of dividing the Nation geographically into attack (target) and support areas, with evacuation and support missions. Original research and work was carried on in rural civil defense and support planning.

## Rural Civil Defense

With the advent of larger weapons and the evacuation concept, much of operational civil defense has become a part of civil defense responsibilities of rural areas.

A National Advisory Council on rural civil defense was established in 1955 to furnish advice in developing and disseminating practical plans for organizing and operating civil defense in nonurban areas. An expanded rural civil defense program will get under way in 1956.

Basic rural civil defense responsibilities will include: (1) Preparing against the hazards of modern war such as radioactive fallout, and biological and chemical warfare; (2) Continuing production of food and fiber; (3) Maintaining the ability to process and deliver the crops produced; (4) Receiving and caring for evacuees; and (5) Supplying mobile support to points of need.

## Support Planning

Planning for maximum utilization of the Nation's resources in support of areas which are assumed to be the probable targets of attack with the weapons of modern warfare is a basic and continuing function of the Federal Civil Defense Administration.

This planning was accelerated in 1955 as part of the nationwide exercise, Operation Alert. Provision had to be made for national, regional, intra- and inter-State support of critical target areas, metropolitan complexes, and support areas. Estimates of the amount of destruction resulting from the hypothetical attack were made and of the requirements of the surviving population and State, regional, and national civil defense. These were balanced against estimates of available resources and allocation made accordingly.

Much time and research went into preparation for support activities in Operation Alert, all of which added to the knowledge and operational readiness of the staff responsible for this part of the operation. Unclassified data from publications of Federal, State, and local government agencies, civic organizations, manufacturers' associations, distributors, trade associations, and technical documents were assembled and tabulated. Assumptions and methods for use of this information in making estimates of resources were developed.

In the period May 15 to December 31, five additional planning studies were made as follows: resources and requirements (estimated) 1958; an interstate, interregional operational support plan for civil defense; support action under a hypothetical attack; support operations; and resources planning. The latter was developed for initial discussions of the survival plan program.

Twenty-two of the critical target areas of the Nation include two or more States, which indicates the necessity for interstate support planning. A Standard Operating Procedure, providing for operation under both interstate compact and emergency agreement was developed during the year.

### Urban Analysis Studies in Progress

*Collection of data*

Atlanta, Ga.
Dallas, Tex.
Fall River, Mass.
Flint, Mich.
Kansas City, Mo.-Kansas City, Kans.
Los Angeles, Calif.
Mobile*, Ala.
Oakland, Calif.
Ogden*, Utah.
Portland, Oreg.
Topeka*, Kans.
Tulsa*, Okla.
Waco*, Tex.

*Analysis of data*

Cleveland, Ohio.
Columbus, Ohio.
Denver, Colo.
Detroit, Mich.
Hampton-Newport News, Va.
Jersey City, N. J.
Norfolk-Portsmouth, Va.
Philadelphia, Pa.
Rochester, N. Y.
Seattle, Wash.
Shreveport*, La.
Springfield, Mass.
Wilmington, Del.
Youngstown, Ohio.

*Preparation of report*

Akron, Ohio.
Fort Worth, Tex.
Lynn, Mass.
Toledo, Ohio.
Worcester, Mass.

*Review and editing of report*

Wichita, Kans.

### Urban Analysis Reports Completed

San Francisco, Calif.
Baltimore, Md.
Washington, D. C.: U. S. Capitol—Supreme Court and Congressional buildings.
Dayton, Ohio.
Boston, Mass.
New Orleans, La.
St. Louis, Mo.
Milwaukee, Wis.
Grand Rapids, Mich.
Houston, Tex.

## TRANSPORTATION

As civil defense gears its plans to meet the threat of heavier weapons and the likelihood of severe radioactive fallout following an attack, the Nation's transportation industry takes on an increasingly impor-

*Noncritical target areas.

tant role. In addition to the transportation needs for evacuation operations, FCDA considers that a vital question following an atomic attack on the United States would be not only what is left in the way of food, medical supplies, and other life-essential items, but also how to get what is left to where it is most needed—transportation.

In another step toward civil defense transportation readiness, the FCDA Transportation Office participated in a fact-finding transportation survey in 30 critical target areas in 1955. The survey team, under the direction of the Office of Defense Mobilization transportation coordinator, consisted of representatives of the Department of Defense, Interstate Commerce Commission, and FCDA. Much valuable information resulted from the survey which will assist in developing civil defense transportation operating procedures.

Excellent support was received from the transportation industry during the year. During the Operation Alert 1955 exercise, for example, representatives of the air, highway, rail, and water transportation industries rendered valuable assistance to FCDA both at FCDA Headquarters and at the regional offices.

## Air

The entire aviation industry is prepared to divert its peacetime activities to the support of national defense in the event of an emergency.

The war air service pattern has been developed by the Defense Air Transportation Administration to provide flexibility to our airline system to meet changing requirements during an emergency.

An air priorities system has been established with 20 regional air priorities control offices to protect civil defense and military air transportation requirements.

Some 1,200 transport-type civil aircraft have been designated as the National Emergency Air Fleet by the Defense Air Transportation Administration, and have been allocated to FCDA for direction at the national level. (The total does not include common carrier transport planes.) All smaller civil aircraft have been allocated to the several State civil defense organizations for direction at the State level.

FCDA, with the assistance of the aviation industry and other appropriate Federal agencies, has developed plans to guide the States in establishing uniform organizations and operating procedures that will provide for the maximum utilization of the more than 60,000 civil aircraft in the Nation.

FCDA made matching Federal funds available to State and local civil defense units for the purchase of helicopters for civil defense uses.

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## Highway

The highway transport systems in the United States have a replacement value of more than $100 billion, and include nearly 10 million commercial vehicles.

The trucking industry, by agreement with FCDA, designated an advisory committee responsible for developing plans and procedures necessary for the efficient utilization of its resources during a civil defense emergency.

During the year, the Administrator swore in three industry representatives, who will participate in an emergency as operations personnel, acting as chief of operations, chief of administration, and chief of special staff in the Highway Transport Division.

An Industry Advisory Committee to the Trucking Industry was formed, consisting of representatives of the for-hire trucking business, the private fleet operations, manufacturers, and labor.

A trucking industry civil defense corps was formed to provide and maintain a pool of skilled industry employees. The corps is made up of, but not limited to, 1,500,000 members of the International Teamsters Union. Plans are being made to invite other labor groups, both organized and unorganized, to participate.

In compliance with the Federal Civil Defense Act, FCDA has delegated the responsibility for the establishment of a national civil defense highway net to the Federal Bureau of Public Roads.

## Rail

The Association of American Railroads, representing all class I railroads, is preparing a civil defense plan for emergency operations, and has advised FCDA that this plan will be released during the first quarter of 1956. The chairman of the association's Car Service Division has authorized the district manager, Detroit, Mich., to serve as advisor to FCDA, and has appointed three additional members of their Washington office staff to serve as advisory and emergency operating personnel in the event of a civil defense emergency.

## Water

During 1955, a Memorandum of Understanding was signed by the Administrator and American Waterways Operations, Inc., representing a major segment of the inland waterways operators. Operational plans are being developed for the emergency use of inland waterway facilities.

Arrangements were completed with the National Shipping Authority of the Federal Maritime Administration whereby the district representatives of that agency are authorized to act for it in regard to the emergency use of ocean vessels.

The program for the emergency use of privately owned small craft at the local level is being developed with the aid of volunteer small craft owners. Test exercises, using privately owned small craft, have been held at Baltimore, Md.; Milwaukee, Wis., and the St. Paul-Minneapolis area.

# TECHNICAL ADVISORY SERVICES

## WELFARE SERVICES

Development of evacuation as a civil defense protective measure and survival planning increased the magnitude and complexity of the civil defense welfare problem, which includes provision of minimum housing, feeding, clothing, help in reuniting families, and other services necessary to maintain the strength and morale of millions of people who would be evacuated from their homes and communities in an emergency.

These problems in evacuation called for the need for more information on and study of the capacities of reception areas to care for evacuated populations.

The importance of preparations for self-help on the part of evacuees was stressed in welfare planning during 1955. FCDA recommended survival measures, such as maintenance of an emergency home food supply sufficient for a week's use; maintenance of an evacuation survival food kit with water; maintenance of private automobiles in good repair, with gasoline tanks more than half full; ready access to essential clothing, bedding, and first aid materials.

Revision of the protective shelter policy of the agency required in planning against the effect of thermonuclear weapons necessitated revisions in the welfare program. Protective shelters, either permanent group shelters or emergency temporary group shelters, require equipment and supplies, including food and water. Protective shelters occupied for several days require additional equipment, including bedding. As shelter plans are put into effect, necessary supporting welfare services must also be provided.

Under evacuation planning the base of welfare operations will be at reception areas where resources are more scattered than in cities. Evacuees will have to be housed mainly in private dwellings. These evacuees will also be fed in private homes, as well as institutions, churches, hotels, motels, etc. Welfare centers will (1) insure full utilization of all resources within a specified geographical area; (2) supply additional feeding, clothing, registration, information, and financial assistance; and (3) provide maintenance to persons in permanent protective group shelters or in emergency temporary group shelters, such as trench shelters adjacent to escape routes. These plans require mobility of operation.

Existing housing in reception areas will be a major factor in determining the size, jurisdiction, and nature of the organizations required for mass care. This housing includes family dwellings, churches, schools, theaters, lodges, halls, hotels, and motels. Roadside reception area shelters erected by civil defense would also be used.

Feeding requirements and resources to meet them are also important factors in planning and preparation for mass care. Based on the findings of survival studies specific local plans will have to be made to provide facilities, equipment, and supplies that will be needed.

Residents of reception areas may also require feeding, because supplies, means of transport, and facilities they normally depend on for food and water, may not be functioning.

Governmental and voluntary agencies in target and reception areas should cooperate in evacuation planning.

The traffic drainage section of a target city is a designated geographical tract from which evacuee vehicles are to flow into predesignated evacuation routes. Each drainage section will have its terminal point in a reception area that is clearly defined. Although the roadnet requirements and capacities are the basic factors in determining the drainage sections, these are merely the takeoff point in so far as the welfare services are concerned. In the more complex job of preparing reception areas, facilities for housing, feeding, medical care, sanitation, and protective shelter must be considered. Predesignated reception areas that correspond to predesignated drainage sections will facilitate welfare planning, since it offers welfare services an estimate of how many people may need to be provided for, and where. Drainage sections and corresponding reception areas must be designated locally, and provision made for the organization, staffing, facilities, equipment, and supplies necessary to carry out welfare operations in reception areas.

Plans for the provision of food, clothing, lodging, registration and information, and other welfare services went forward substantially in 1955 in some, but not all, States and localities. In general, the adoption of firm operational plans awaits results of survival study projects to determine resource capacities and requirements for welfare services in assembly and reception areas.

A contract was made on December 12 for a study to develop methods to facilitate inventorying resources of reception areas for welfare care and services to evacuees. Although the study will have special reference to the Milwaukee-Kenosha and Racine areas of southeastern Wisconsin, it is designed to provide information that will be useful in other States and cities. As soon as methods are developed and tested they will be made available to other States and their political sub-

divisions. (See Milwaukee projects, Planning and Research, p. 22.)

The American National Red Cross and the FCDA initiated an accelerated program of planning and action. Red Cross National Headquarters, its area offices, and local chapters are engaged in civil defense activities. An Assistant to the President of the Red Cross was appointed with full-time responsibility for planning civilian emergency services and maintaining close liaison with civil defense.

The Red Cross has loaned some of its most experienced personnel to FCDA to develop the welfare activities under the survival plan program. Red Cross liaison representatives were assigned to several regional offices and others will be assigned to regional and National Headquarters of FCDA during the early part of 1956 to assist civil defense staffs in developing mass care services in which Red Cross chapters will participate. FCDA and Red Cross are jointly developing a comprehensive training program that will cover feeding operations in emergencies of all kinds.

The National Advisory Committee on Emergency Feeding actively participated in the emergency feeding program, notably in planning and conducting the feeding demonstrations in Operation Cue. Breakfast and lunch were served to approximately 1,500 observers. Certificates of service were awarded to members for their contribution.

In the emergency mass feeding schools training was given instructors and emergency feeding personnel in many States.

An advisory bulletin on the preparation of home survival supplies and evacuation-survival kits was prepared for State and local civil defense directors. A technical manual on emergency feeding was nearing completion at the year's end.

The program for reuniting members of families separated as the result of enemy action progressed during the year. Training courses were held; additional training materials prepared; registration forms tested in evacuation exercises; and a technical bulletin on registration and information services in evacuation written. A working agreement was made with the Post Office Department for coordinating their joint resources and operating a system of mutual assistance in carrying out emergency functions.

Welfare exhibit booths were displayed and special meetings held at the annual conventions of the National Conference of Social Work, American Dietetic Association, American School Food Service Association, American Home Economics Association, and similar organizations.

A technical manual, the *Social Worker in Civil Defense*, was prepared in collaboration with five social work associations.

The jointly sponsored FCDA-Department of Defense Training for Mass Feeding, started in 1953, was continued in all parts of the country. Additional plans for a standard welfare services training program to include: (1) a basic, overall course on the welfare program; (2) a basic and an advanced course on registration and information; and (3) a revised, more comprehensive emergency feeding course, suitable for use in training volunteers for any type of disaster were developed. These included training guides of all varieties: instructor outlines, lesson plans, filmstrips, graphic charts and maps, all available under the matching funds program.

## INDUSTRY OFFICE

Work of the FCDA Industry Office is directed toward preparing the following groups for civil defense: people in industrial plants, office buildings, hospitals, schools, and other places where large numbers of people assemble for work, residence, instruction, and recreation.

During 1955 the Industry Office continued to advise and encourage regional, State, and local civil defense offices in organizing industrial plants, commercial facilities, and large institutions for self protection and mutual aid in emergencies.

The Industry Office, assisted by regional public safety officers, advised State and local civil defense organizations on facility program planning and the formation of advisory committees.

A number of States and target cities organized civil defense industry advisory committees during 1955. These committees have been influential in urging manufacturing and trade associations, chambers of commerce, and other organizations to participate in civil defense, and assisting State and local civil defense industry coordinators in developing programs in plants and facilities.

Three technical bulletins, covering casualty services in facilities, protection of records and documents, and a bibliography of industry defense publications, were published during 1955. A do it yourself kit for industrial survival was developed and is being printed. An advisory bulletin on industrial civil defense mutual aid associations and another on the self-protection activities in Government-owned, leased, or operated properties was prepared and widely distributed. In addition many informative articles on industrial civil defense were reproduced and distributed under FCDA's *For Your Information* service.

Field training conferences involving training in procedures for planning, organizing, and operating self-help programs in plants were held in many target cities. Evacuation problems were also considered.

The Industry Office furnished training materials, including course outlines, lesson plans, technical publications, and visual aids. Attend-

ance included plant superintendents, plant safety directors, building managers, representatives of organized labor, and plant protection personnel. Members of the Industry Office participated in such conferences in Pittsburgh, Kansas City, Wichita, Omaha, Peoria, and Springfield, Ill., during 1955.

The response to the first special Staff College course in industry defense held at National Headquarters the week of November 28 exceeded expectations. Over 70 representatives of vital defense industries attended, and an equal number of applications were turned down for lack of accommodations. Enrollments for the second course, scheduled for the week of April 30, 1956, were filled in December. Additional courses will be scheduled to meet the demand for this training.

A series of 6 sound film strips which may be used as training aids were developed in 1955; of these 3 were completed, 2 are near completion, and 1 is being filmed.

## Motion Pictures

A motion picture on protection of records and documents, entitled "Bombproof," is being produced under industrial sponsorship.

A script was prepared for a half-hour movie on industrial preparation for H-bomb attack, and efforts are being made to obtain a sponsor.

Industrial plants in most target cities took an active part in Operation Alert in June. A large parts plant of one of the major automobile manufacturers, employing 14,000 workers and having 87 acres of floor space, produced a 10-minute motion picture of its participation in the exercise. This film is being used as a training aid in other plants of the corporation.

Other reports indicate active participation on the part of industry in evacuation exercises conducted in various cities.

Another indication of progress in civil defense by industry was the publishing of emergency disaster control plans by 14 corporations.

Plans of two newly formed industrial mutual aid associations were also received by the Industry Office.

Organized labor participation in civil defense mounted rapidly during 1955. Local, county, and State labor bodies worked with their opposite civil defense organizations to bring civil defense programs to large numbers of union members through labor union channels.

Members of the Labor Advisory Committee to FCDA and other union officials were observers at Operation Cue. Their reports were available to millions of union members in dozens of union-published newspapers throughout the country.

In September the Labor Advisory Committee met with the Administrator and members of the FCDA staff. Included in the action by

the committee were: (1) agreement to finance the making of a civil defense motion picture for use by labor groups; (2) agreement to urge all union groups in survival study areas to make union resources available to the study teams; and (3) agreement to urge the national convention to make civil defense a going union program in close cooperation with local and State civil defense organizations.

A national union body developed a guide for union participation in civil defense programs, published it in pamphlet form, and distributed it to State and local union officials. Over 4,000 copies donated to FCDA were distributed to civil defense directors in October. Two printings of the pamphlet failed to meet the demand for it. The union ordered a revised edition printed in bulk.

Unanimous support of civil defense was voted at the first convention of the combined American Federation of Labor and the Congress of Industrial Organizations by some 1,400 delegates representing over 15 million members. Their action followed the presentation of the No. 1 resolution to the new organization, a 7-point program calling for accelerated action in civil defense at all levels and increased financial support by Government bodies.

Labor specialists in the Industry Office worked with 9 State labor bodies on civil defense programs. In addition they took part in the conventions of 1 international and 3 national unions. They also maintained liaison with 2 nonaffiliated labor organizations, the United Mine Workers and the Railway Brotherhoods.

Three FCDA regional offices, after consultation with the Industry Office conducted workshops on civil defense at a national labor training institute. Labor training specialists from 19 States and Washington, D. C., took part. During the summer months they also conducted workshops for labor groups at 3 universities—Purdue, Michigan State, and Pennsylvania State.

The Industry Office arranged for an exhibit of the civil defense emergency hospital at the Union Label Trades Department show in Buffalo, N. Y., in April. The emergency hospital was also exhibited at the AFL–CIO convention in New York City in December. Legislative representatives of organized labor from both National and State organizations were briefed on civil defense by a labor representative of the Industry Office.

By convention action in December, National AFL–CIO assigned civil defense functions to 110 labor training officers and an estimated 25,000 volunteer union counsellors. These men and women will work with their local and State civil defense organizations and encourage all union members to participate in civil defense.

The Industry Office personnel participated in the national convention of the National Safety Council and in the Annual Southern

California Safety Congress. Forty-five pages of the 1955 edition of the Accident Prevention Manual for Industrial Operations of the National Safety Council were devoted to civil defense and emergency planning.

The United States Chamber of Commerce has recently established a defense department through which State and local chambers of commerce are urged to cooperate with local civil defense officials in promoting civil defense in industry. The plan provides for chambers of commerce initiating the scheduling of conferences of business and industrial leaders to discuss civil defense.

Information on industrial civil defense was presented by a number of national magazines in 1955. This was particularly true of such periodicals as *Fortune*, *American*, *Machinist*, *Factory Management and Maintenance*, and the publications of the National Safety Council.

During 1955 FCDA assisted and advised various agencies of the Federal Government in organizing and improving self-protection programs. Facilities protection programs, including alternate emergency operation locations, were established within most Government agencies in the Washington area. Some progress was made outside the Washington area.

## FIRE SERVICES

A basic fire research project that holds the possibility of greatly improving the methods of combating both wartime and peacetime fires was initiated by the FCDA Fire Office in 1955 in cooperation with other governmental agencies, national fire organizations, and the National Academy of Sciences.

For some time experts in the fire-fighting field have felt that merely improving existing techniques and tools for fire fighting was not enough, particularly in an era of nuclear weapons that can spread fires miles from the point of a bomb burst. In the opinion of the FCDA Fire Office and others interested, there was a need for research to discover the basic natural laws governing fire and its spread, and for collecting at one point all available information on combustion and fire control.

Accordingly, the FCDA Fire Office and the National Academy of Sciences Research Council arranged for an exploratory conference in Washington on May 24, which was attended by representatives of the Department of Defense, Department of Agriculture, United States Weather Bureau, Bureau of Standards, International Association of Fire Chiefs, National Fire Protection Association, Uni-

versity of California at Los Angeles, Massachusetts Institute of Technology, National Research Council, and FCDA.

The conference found:

1. That conventional fire-fighting equipment and techniques are unequal to the task of controlling and extinguishing fires of the number and magnitude which would result from a war with nuclear weapons.

2. That fire defense is a national problem and should be explored scientifically through a coordinated national research effort.

3. That the Academy's Research Council should establish a continuing Fire Research Conference by contract with FCDA, to provide scientific guidance for a national fire research program to develop new and revolutionary fire-fighting techniques and equipment.

Accordingly, FCDA signed a 1-year contract with the National Academy of Sciences which went into effect on December 1. The contract suggested the following activities:

1. Research on fires, large and small.

2. Identification of fundamental natural laws governing the origin and spread of fires.

3. Investigation of the controlling and extinguishing action of water with a study of the principles and mechanics of obtaining a higher percentage of extinguishing potential from water.

4. The utilization but not duplication of research in other fields on the chemical kinetics of combustion.

5. Application of knowledge of meteorological phenomena problems of fire development and fire spread.

6. Organizing collection and study of data from large natural fires or large model fires.

7. Laboratory studies preliminary to field studies of natural fires or large model fires.

8. Research in new and promising methods of fire prevention.

9. Other areas as mutually agreed upon.

In cooperation with the Committee on Radiological Hazards in Fire Fighting of the International Association of Fire Chiefs, the FCDA Fire Office prepared and published a manual on the fundamentals of nuclear radiation and monitoring techniques for guiding and training fire service personnel.

FCDA cooperated with NATO in an ad hoc working party on fire fighting, established in 1954. The organization met four times in 1955 on fire defense. A final report by the organization, expected in 1956, promises to have unusual value in that it will reflect both the probabilities of damage from modern weapons and the experience gained in Europe of handling extraordinary wartime fire conditions.

# SAFETY OFFICE

## Police Services

With mobility becoming increasingly important in civil defense planning, FCDA police services increased activity in 1955 to solve important police problems such as traffic supervision and control.

The Emergency Traffic Control Course, developed for FCDA by the Northwestern University Traffic Institute and a committee of traffic control experts, was presented to FCDA Headquarters and regional personnel at FCDA Headquarters in March. The same course was given for Kentucky in January, and has now been given in each of the seven FCDA regions, and in Ohio, Kentucky, Michigan, and Louisiana.

As a result of the course in Michigan, a workshop project was conducted in December in which police officials, traffic engineers, transportation officials, national, regional, and local civil defense officials extended the Detroit evacuation plan into the adjoining three-county area of Detroit as another step in the development of a traffic control and regulation plan to encompass the entire State of Michigan.

With the cooperation of civil defense committees of the International Association of Chiefs of Police, and the National Sheriffs Association, a technical manual, *Planning and Organizing for Civil Defense Traffic Operations*, was developed in 1955. The first draft of the manual was prepared by the Northwestern University Traffic Institute.

Planning for control and movement of mutual aid and mobile support into attacked areas, was expanded during the year to include fixed support in rural areas, traffic supervision for evacuation of people from cities threatened by attack, additional movements of people to avoid excessive exposure to radioactive fallout, and action to facilitate movement of supplies for the Armed Forces. With the cooperation of the International Association of Chiefs of Police, FCDA is providing continuous assistance to the States in developing plans to meet these new problems. Principles and techniques have been developed to assist States and their political subdivisions in preparing these plans in technical manual form and training supervision and regulation of traffic for civil defense emergencies and have been provided in course form.

Data on police activities in combating manmade and natural disasters were presented by FCDA to the annual International Association of Chiefs of Police Conference held in Philadelphia in October, and at the Texas Sheriffs Association Conference at Dallas in August.

During the 1955 New England flood, FCDA police services assisted in establishing movement routes for interregional, interstate, and intrastate convoys transporting relief to stricken areas.

A new program of providing matching Federal funds for the purchase of auxiliary police equipment was started in November. This was in addition to matching fund program for auxiliary police communications equipment and training supplies.

## Rescue Service

The increased power of modern nuclear weapons and the danger of radioactive fallout from an enemy attack brought a reevaluation of civil defense mass rescue requirements in 1955.

The new concept reflects the increased need for highly mobile rescue teams, capable of traveling cross-country without benefit of main roads, and rescue and radiological monitoring operations with speed and a minimum of dependency on outside aid.

The concept is based on the premise that, in an attack situation, main roads would be needed for evacuation operations and that radioactive fallout following an attack could greatly reduce the time available for rescue work.

A four-wheel drive light rescue truck, costing about one-third as much as the civil defense heavy rescue truck, Calamity Jane, capable of traveling cross-country, was developed by FCDA during the year. Tests of a number of vehicles provided by the automotive industry started in August, and at the end of the year a final selection was being made on specifications. The new light rescue truck, available on a matching fund basis, will supplement the more than 500 heavy rescue trucks now owned by State and local civil defense units.

In addition to the new rescue truck, more than 30 of the latest types of rescue equipment were tested at the FCDA Rescue Instructor School at Olney, Md., during the year.

Meanwhile, an essential part of the civil defense rescue program—training rescue workers—continued at an accelerated pace. The instructor school graduated 291 instructors, 10 percent more than in 1954. As a product of training by FCDA, State, and local civil defense units, it is estimated that 60,000 Americans have received rescue training.

FCDA developed a new series of instructor guides, based on the latest data on radiological, evacuation, and tactical operations, for basic rescue instruction, tested them, and made them available to State and local civil defense units. At the end of the year 19 States were using Federal matching funds to help finance rescue training programs.

To help meet the demand of State and local civil defense units for information on rescue programs, FCDA supplied suggested plans, distributed literature, and assisted in the development of radio and television programs stressing the role of rescue in national defense preparations. Organizations such as the American Legion and the Boy Scouts of America were provided with tailored rescue programs for national sponsorship.

Continuing international interest was fostered through conferences with and participation in the FCDA rescue program by representatives of other countries. Officials of England, India, Canada, and Egypt conferred with FCDA rescue staff members during the year, and some of them attended the FCDA Rescue Instructor School.

Rescue service provided leadership, training, and equipment in combating many of the natural disasters that struck different sections of the country during the year. Operational experience so gained greatly enhanced local, State, and national rescue preparedness.

## Warden Service

A major revision was made in the concept of the warden service in 1955 to cope with the effects of radioactive fallout, and to help local wardens meet their growing responsibilities in evacuation and shelter operational tactics. The revision was directly reflected in Technical Bulletin 27–3, *The Role of the Warden in the H-bomb Era*, which was distributed in August.

Three new training courses were developed during the year in keeping with the increased emphasis on warden services. The first was a basic 8-hour warden training course, available to local civil defense units on a matching funds basis, covering such topics as warden duties, warden assistance to other services, how to organize neighborhood survival plans, how to train warden volunteers, and how to instruct neighborhood residents in civil defense.

The second was designed specifically for youth, based on the premise that teen-agers will provide future civil defense leadership and are sufficiently mature to share responsibility in several fields of civil defense activity. The course, prepared for use by local groups such as high school clubs, church groups, Boy Scouts, and 4–H clubs, involves training in light rescue, elementary fire fighting and fire prevention, radiological monitoring and decontamination, emergency feeding, traffic control on feeder routes, child care, aid to handicapped and dependent people, first aid, home nursing, nurse's aide training in hospitals, civil defense clerical duties, and emergency sanitation.

A third course for women wardens, containing about 20 hours of group instruction, was developed to provide instruction in preparing

families for evacuation, the care of children, the aged, ill, handicapped, and other dependents in an evacuation situation, emergency family feeding and sanitation, and personal and home decontamination tactics.

The home defense action program, developed in 1953 to assist cities in organizing civil defense warden units, was revised in 1955 in accordance with the evacuation concept, the need for shelter from radiological fallout, and other survival measures. Another program was developed to assist rural counties in establishing rural warden services, to assist rural families in developing survival measures, and to help rural and nonurban residents prepare for the reception of persons displaced from other areas by a civil defense emergency. Both programs were prepared for distribution in kit form, containing all necessary materials for training, mass media support, and organizational support.

Warden training filmstrips were started on the following topics: "Preparing Your Automobile for Evacuation," "Survival Techniques for Wardens—Families and Neighborhood Groups," "Shelter from Fallout," "Evacuation of Neighborhood Handicapped Persons," "Your Family Evacuation Plan," and "Preparing Your Neighborhood for Evacuation." In addition, five existing warden filmstrips were revised to conform with evacuation and shelter concepts.

The final draft was completed on a proposed CONILLUM (Control of Illumination) manual. The plan, prepared by the Departments of Defense, Army, Navy, and Air Force, FCDA, State and city civil defense directors, and the Illuminating Engineering Society, eliminates the need for blackout and provides for the orderly establishment of light control. Its purpose is to control lighting that produces sky glow above metropolitan areas which would aid enemy aircraft to reach critical targets.

The warden service prepared a detailed operations plan in connection with the Operation Cue atomic test. Thirty-five persons from the higher echelons of warden services throughout the Nation, plus FCDA warden service personnel, took part in the test exercise, giving information to observers at the test structures, serving as guides, and patrolling the test lines to keep the crowds away from danger spots. They also assisted the welfare service in mass feeding demonstrations.

Technical guidance was provided to many State and municipal civil defense representatives and civil defense warden officials throughout the United States as well as from some foreign countries. Through the Federal matching funds program, State and local civil defense units were assisted in purchasing equipment and training materials for warden services.

# HEALTH OFFICE

## Medical Care

The simple change in a Federal Civil Defense Administration divisional title—from Casualty Care to Medical Care—indicated an expansion of civil defense medical responsibilities during 1955. Civil defense health services have long been highly concerned with the complexities of caring for great numbers of casualties resulting from nuclear attack. After almost 4 years, a sound foundation for the development of a casualty care system including first aid stations, civil defense emergency hospitals,[1] and use of existing hospitals permits Civil Defense Health Office to study the needs of the remainder of the population who do not become casualties as a result of a nuclear attack.

The noncasualty population represents that immediate potential work force that will provide production for the military and for the remainder of the population in its recovery from an all-out enemy attack. As in peacetime, they will be subject to an incidence of illness and injury after such an attack. Environmental sanitation, maintenance of health, provision of medical care, and hospitalization are requirements toward which the energies of the Civil Defense Health Office are now being directed. FCDA continues to work with national professional health and medical organizations, as well as other governmental agencies.

Because professional help and medical personnel would be greatly overburdened in the event of a nuclear attack, FCDA is seeking methods of training paramedical and auxiliary medical personnel to handle many procedures that they do not now normally undertake. For example, an anticipated shortage of physicians would require that dentists, veterinarians, and registered nurses undertake some of the procedures now handled only by physicians. Similarly, practical nurses, nurse's aides, and others with like training would undertake many of the duties now performed by registered nurses. At the request of FCDA, the Committee on Civil Defense of the American Medical Association's Council on National Defense, in cooperation with other national health organizations, has been requested to work out with FCDA the principles of training such personnel under the supervision of the medical profession.

The success that FCDA region 3 has had with its Implementation Committee for Health Services led the Agency to recommend that similar committees be established in all regions. This committee has the

[1] Formerly called improvised hospitals.

following representatives from each State in the region: The State health officer and a representative selected by each State association of medicine, hospitals, dentistry, and nursing. These representatives, meeting twice a year at a centrally located point, furnish advice to the regional medical officer. Each group of five individuals from each State acts as a medical advisory group to the State civil defense director in his planning for health services for his State.

A Joint Committee of National Health Organizations for Civil Defense, made up of representatives from the American Medical Association, the American Hospital Association, the American Nurses' Association, the National League for Nursing, the American Public Health Association, the American Dental Association, and FCDA, was formed during the fiscal year for liaison in civil defense health matters. This committee met twice in November and once in December. A Task Force Committee was appointed to develop the procedures for the operation of the 200-bed civil defense emergency hospital. Operation of this hospital with simulated casualties will be demonstrated by the military during April 1956. Civilians will be invited to observe the demonstration of the operation of the departments of the hospital.

In November, 26 civil defense emergency hospital units were made available to the States and critical target areas by FCDA for display and training purposes. The hospital unit, developed to fill the gap created by the anticipated destruction of permanent hospitals in a nuclear attack, consists of about 450 packages and crates of materials, weighs about 13½ tons, and can be transported in 1 van. The unit requires about 15,000 feet of space and can be set up in any modern school, gymnasium, or similar-type building. Through the 1955 fiscal year, 107 of the hospital units had been acquired by various States, and FCDA was in the process of stockpiling an additional 932 units. A total of 6,000 is the present number estimated to be needed. Of this total, 5,000 will be purchased by FCDA and 1,000 by the States.

A civil defense emergency hospital was set up for exhibit purposes at National Headquarters and a mobile civil defense emergency hospital exhibit was shown at eight national meetings across the Nation during the year.

Preliminary drafts of four instructor guides on training first aid system personnel were completed during the year and a final draft of one of these was submitted for publication. Training criteria were compiled and sent to FCDA regional medical officers for guidance in recommending State and local applications for Federal contributions.

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Conferences with the National Office of the American National Red Cross resulted in shortening the *Standard First Aid Course Textbook.* Arrangements were made with the American National Red Cross to review and shorten existing nurse's aides and home nursing courses to comply with civil defense requirements.

The curriculum of medical education for national defense training programs was reviewed during the year. Extensions of the MEND program were recommended in accredited training schools for dentists, nurses, pharmacists, veterinarians, and public health undergraduates.

A training officer was appointed in the Health Office for the first time in 1955, due to an increasing demand for technical manuals, training material, and instructor guides from State and local civil defense organizations. There was also an increasing need for closer liaison with other offices and services of FCDA and Federal agencies with civil defense delegations.

Training material for the new evacuation course of the Staff College was compiled and the health services content of the operations and administration courses was completely revised during the year.

Two special 3-day courses for dentists were given at Olney, Md., and one at FCDA National Headquarters. One joint dentist-nurse 4-day course was given at National Headquarters.

## Sanitation Division

The mass movement of people and prolonged occupancy of shelters and temporary structures during a civil defense emergency would pose major health problems. Sanitation measures necessary to prevent the spread of diseases are of high concern to FCDA. While the complexity of the problems requires that each target city and reception area be treated individually, it is necessary to apply certain general criteria to each study in developing a national survival plan.

As a result of the delegation of civil defense responsibilities to the Department of Health, Education, and Welfare, a guide on sanitation aspects of mass evacuation was developed by the Public Health Service for use in civil defense survival studies. A related activity in 1955 was the study of recruitment and use of sanitation personnel for civil defense, using the Kansas City area as a prototype.

At the request of the Food and Drug Administration, the National Academy of Sciences established a Civil Defense Foods Advisory Committee, and conducted a study of the vulnerability of the food processing and warehousing industries to attacks by special weapons, hazards from radioactive fallout, and to the problem of decontamina-

tion in a civil defense emergency. The committee completed the study and submitted its report late in 1955. Following a review of the report, the steps necessary to implement its recommendations through additional research and remedial action by the industries concerned will be undertaken.

Compilation of data on key water supply systems in the United States was made by the Public Health Service, and the data furnished to the Stanford Research Institute for inclusion in the FCDA bomb damage assessment study. Research on the ability of water purification processes to remove chemical and biological warfare agents, together with a study of the vulnerability of water systems to sabotage and radioactive fallout, was continued at the Robert A. Taft Sanitary Engineering Center. Investigation also is being made to improve methods for the emergency supply and purification of water.

A Food and Drug Administration civil defense training course for food and drug officials at State and local levels was started in June. By the end of the year 30 courses had been conducted with an attendance of about 750 officials. As background material for the course, a comprehensive handbook, *Civil Defense Information for Food and Drug Officials*, was published.

The Public Health Service, at its Communicable Disease Center in Atlanta, and Robert A. Taft Sanitary Engineering Center at Cincinnati, developed specialized courses for sanitation personnel in civil defense, and integrated civil defense philosophy into many of its existing courses.

Technical Bulletin, TB–11–18, *Biological Warfare Against Public Water Supplies*, was published by FCDA. The family Handbook, H–11–1, *What To Do Now About Emergency Sanitation at Home*, was revised to reflect the increased period of occupancy in shelters anticipated as a result of radioactive fallout.

As a part of the FCDA Operation Cue atomic test in Nevada, a sanitation service group provided food sanitation and food handling inspections for mass feeding operations, portable handwashing facilities for food handlers, a safe drinking water supply, and facilities for the safe disposal of human waste, garbage, and refuse. The service was composed of seven members drawn from State and municipal health agencies.

Selected emergency sanitation supplies and equipment for use in the control of water quality, water purification, insect and rodent control, personnel disinfestation, and the detection of chemical warfare contaminants in water and food were purchased and stockpiled by FCDA during the year.

## Communicable Disease Control and Biological Warfare Defense

To avoid duplication of effort and take advantage of resources of the Federal Government, FCDA has delegated to the Department of Health, Education, and Welfare, and the Department of Agriculture, responsibility for developing national civil defense plans in communicable disease control, and biological warfare defense.

As part of the delegation, the Public Health Service initiated the following research and training projects: (1) an investigation of basic questions leading to the improvement of vaccines and other immunizing procedures; (2) detection, prevention and control of airborne diseases; (3) laboratory techniques for the rapid identification of biological warfare agents; (4) water supply protection; (5) milk and food protection.

To plan for the defense of livestock and crops against enemy attack, the Agricultural Research Service of the Department of Agriculture, in cooperation with FCDA, developed a number of visual aids dealing with unusual foreign animal diseases to inform veterinarians of these conditions. Twelve colored sound movies have been completed under this program, and many of the films have been duplicated in sufficient numbers to supply the extension service film libraries of the States. The deans of veterinary colleges, State veterinarians, secretaries of State veterinary associations, and government regulatory officials in each State have been asked to use the films for instructional purposes at various professional meetings. Several of the films have been distributed through the Agricultural Extension Service for use by various agricultural groups.

Four conferences were held in 1955 in conjunction with regional livestock sanitary meetings to present the problems of foreign animal diseases. The conferences resulted in a State-Federal emergency disease control program being developed in each State. Six additional conferences were scheduled for March and April of 1956 to follow up on the 1955 efforts.

A book entitled, *Foreign Animal Diseases—Their Prevention, Diagnosis, and Control*, was prepared by the Department of Agriculture during the year and distributed throughout the country.

Improvement was made in the nationwide reporting system of plant diseases and insect pests, particularly those of foreign origin. During the year additional problems of control appeared, and new approaches to the eradication of these diseases were developed. These investigations provided information and experience that should prove useful in the event of a national emergency.

The Agricultural Research Service, with the cooperation of the Public Health Service and the Atomic Energy Commission, started

preparation of a publication for farmers describing the hazards from radioactive fallout, and suggesting precautions to be taken to minimize losses of agricultural products.

## Radiological Defense

The problem of radioactive fallout has grown enormously with the growth of heavier yield nuclear weapons. What was once a threat of radioactivity at or near a bomb burst has expanded to the point where the explosion of one nuclear weapon of megaton range can result in the spread of radioactive fallout hundreds of miles downwind from ground zero.

This means that civil defense has become a vital need in every community, regardless of size. To cope with the problem of radioactive fallout, FCDA in 1955 greatly accelerated its program of radiological defense.

FCDA stepped up its radiological instrumentation program during the year so that, including 1956 procurement, the Agency will have purchased for Federal stockpiling and for training: 90,000 survey meters (ground), 219,000 dosimeters, 7,500 dosimeter chargers, 200 survey meters (aerial), 50 calibration units, 100 source containers, and 200 fixed station monitors.

To meet a growing need for more people trained as radiological survey meter operators and monitors and radiological defense officers capable of interpreting and analyzing radiological field reports, FCDA developed plans for a national radiological defense school at FCDA National Headquarters. The school will be used primarily to train competent instructors in all phases of radiological defense, and will expand and tend to standardize radiological defense training programs already underway in some States. In late 1955 three 1-week courses were developed for the school: An instructor's course in radiological monitoring which will qualify graduates to train State and local civil defense personnel as survey meter operators and monitors; an instructor's course in radiological defense operations which will qualify graduates to train radiological defense officers, and a course on radiological aspects of civil defense, primarily for State and local civil defense directors and other key civil defense personnel who must be prepared to deal with problems created by the radiological aspects of an atomic attack. To qualify for the instructor's courses, students must have a college degree in the physical or biological sciences, or the equivalent, and an active or projected responsibility in radiological defense training. The first course was scheduled for January 23–27, 1956.

During the Operation Cue civil defense atomic test in Nevada, FCDA carried out an extensive radiological defense test program

including instrument testing, testing of buildings for radiation shielding characteristics, and field training of radiological defense personnel.

Four technical bulletins on phases of radiological defense were published during the year: *Protection Against Fallout Radiation*, *Radiological Instruments for Civil Defense*, *Fallout and the Winds*, and *Radiation Physics and Bomb Phenomenology*.

FCDA continued to cooperate with other Government agencies, particularly the Public Health Service and the Atomic Energy Commission, in carrying out its radiological defense program, and expanded its contractual relationship with the National Bureau of Standards for testing instruments, and consultation regarding the physics aspects of the program.

At the request of FCDA, the National Committee on Radiation Protection appointed a subcommittee to study FCDA radiation protection problems and publications and advise the Agency concerning them.

## Chemical Warfare Defense

One of the assumptions of FCDA in making civil defense plans is that an enemy attack against the United States would be an all-out attack, and that it would include chemical warfare. To meet the threat, FCDA carries on a chemical warfare defense program to provide essential protective equipment for civil defense workers, make available protective masks and atropine for civilians in critical target areas, provide technical information and training to civil defense personnel, and enlist the support of nongovernment agencies.

During 1955, FCDA started procurement on some 10,000 new-type protective masks for the States under the matching funds program, plus 2,000 for stockpiling in FCDA warehouses. The mask, developed for FCDA by the Army Chemical Corps, costs $6, plus 5 percent delivery charge, and gives excellent protection against chemical and biological warfare agents and the inhalation of radioactive particles.

The development of a kit to detect nerve gases and mustards, and to distinguish between them, was completed. The kit was originally designed for the United States Navy. FCDA has notified the States that it may be obtained under the matching funds program for $15. When funds are available, developmental work will be resumed on a simpler and smaller kit, more suitable for civil defense, which will cost about $5.

Since atropine is the only effective drug known to counteract the effects of nerve gases, an additional 348,000 individual injections were procured for Federal stockpiling. Multiple-dose rubber diaphragm bottles of atropine and atropine tablets, for use in first aid stations and hospitals, also were added to the list of stockpile items.

To complete work on a good but inexpensive civilian protective mask, FCDA transferred $67,500 to the Army Chemical Corps in November. A conference was held with representatives of Johnson & Johnson and the Army Chemical Corps early in December to lay out and expedite a program for the development of a mask. With FCDA funds and under FCDA guidance, the mask will be made available for mass production as soon as possible. It will be made in six sizes, and will cost about $2.

FCDA transferred $20,000 to the Army Chemical Corps to modify an existing Army infant protector for civilian use. The modified protector will be lighter in weight, smaller, less expensive (costing about $15), and capable of mass production. The plastic and metal device, which resembles a baby-size pup tent, filters out poison gas, bacteria, and gives partial protection from radioactive particles. It is suitable for children up to about 3 years of age.

One of the responsibilities of FCDA in chemical warfare defense is providing technical information and training to civil defense personnel. In October, a program was started for the writing and distribution by FCDA of a series of technical bulletins on chemical warfare defense. Previously, the bulk of technical information available on the subject was in Army manuals, and much of that information was not suitable for civil defense purposes. By the end of the year the first two of the technical bulletin series, *Unconventional Warfare*, and *General Concepts of Chemical Warfare*, were completed and being readied for distribution.

A training program in chemical warfare defense was part of the civil defense delegation made to the Department of Health, Education, and Welfare. Teams have been organized and sent to various States to instruct selected State officials.

At the request of FCDA, the county medical societies of the American Medical Association formed an ad hoc committee to study reports on the treatment of nerve gas casualties and make recommendations. The committee submitted its report at the October meeting of the American Medical Association in Chicago, and the report was forwarded to the Army Chemical Corps for comments and further recommendations.

The American Pharmaceutical Association agreed to investigate establishing a course in chemical warfare defense designed for pharmacists. A paper entitled, "The Role of the Pharmacist in Chemical Warfare Defense" was presented in October before the Wisconsin Pharmacists Association. Both actions were in accord with the belief of FCDA that the pharmacist at the corner drugstore would be of inestimable value in the event of an enemy attack, and would be one logical distributor for civilian protective masks and atropine injectors.

In December, the Board of the American Chemical Society agreed to establish a Committee on Civil Defense to advise the FCDA Health

Office on matters pertaining to chemical warfare. In asking the society to establish the committee, FCDA suggested that FCDA technical bulletins be distributed to all local ACD chapters, and that the chapters be urged to take an active part in local civil defense organizations.

## Federal Reserves of Emergency Medical Supplies and Equipment

The FCDA Medical Reserves Program has had as its goal the acquisition of medical and surgical supplies and equipment necessary to care for 5 million casualties for 3 weeks. The program is valued at $411 million. New concepts in nuclear warfare make it necessary to expand this goal, but there is still a considerable distance to go before a goal of preparing for 5 million casualties is reached.

The calendar year 1955 was devoted to completing Federal procurement on enough medical supplies, except for civil defense emergency hospital units, for 2,500,000 casualties for a 3-week period, and to initiating new procurement for the care of another million casualties for the same period of time.

While the program for the 200-bed emergency hospital has not kept pace, considerable progress is being made. The increased production of the hospital unit has reduced the price from nearly $26,500 to $22,500.

Total supplies for the program, being made available as a result of $165 million appropriated through fiscal year 1955, include:

| *Program* | *Item* | *Amount* |
|---|---|---|
| Reserve Supplies | Reserves of medical and surgical supplies and equipment (83 items). | For 3,500,000 casualties (3 weeks treatment). |
| Hospital | Supplies and equipment for 200-bed improvised hospitals (civil defense emergency hospital). | 932 assemblies. |
| Blood and Shock Therapy. | Supplies and equipment for collecting and transfusing whole blood. | 2,625,000 sets. |
| | Blood derivatives (plasma and serum albumin). | 1,529,335 units. |
| | Plasma volume expanders (PV and dextran). | 4,294,186 units. |
| Biological Warfare Defense and Communicable Disease Control. | Vaccines, sera, and antitoxins | 32,122,500 doses. |
| | Specially required antibiotics | 1,395,000 doses. |
| | Sulfadiazine | 60,000,000 tablets. |
| | Equipment for rapid emergency production of animal vaccines as required. | 88 pieces. |

| *Program* | *Item* | *Amount* |
|---|---|---|
| Radiological Defense. | Survey meters | 90,125 units. |
| | Dosimeters | 219,000 units. |
| | Dosimeter chargers | 7,490 units. |
| | Dosimeter readers | 160 units. |
| | Training kits | 100 units. |
| | Source container | 200 units. |
| Chemical Warfare Defense. | Gas masks, organizational | 2,000 units. |
| | Atropine | 4,437,500 doses. |
| | Chemical agent detector kits | 125 kits. |
| Sanitation | Sprayers and dusters | 14,000 units. |
| | Chlorine comparator | 1,400 units. |
| | Food and water testing kit | 1,653 kits. |
| | Water purification tablets | 50,064,000 tablets. |

### Medical Contributions Program

This program has had as its goal the acquisition of medical and surgical supplies and equipment to care for 5,000,000 casualties during the first few postattack hours until Federal reserves arrive. This goal will expand as plans are made to cope with the greater threats of thermonuclear warfare.

At present, there are needed under this program 8,160 first aid stations, 1,000 civil defense emergency hospitals, 3,750,000 blood collecting and transfusion sets, and gas masks and radiological instruments for civil defense workers. Fifty percent of the cost of this material is borne by the Federal contributions and 50 percent by the participating States.

Through fiscal year 1955, total medical material acquired by over 40 of the participating States included:

| | |
|---|---|
| First aid stations | 6,710 |
| Civil defense emergency hospitals | 107 |
| Blood collecting and transfusion sets | 2,611,000 |
| Gas masks | 19,000 |
| Dosimeters | 7,100 |
| Radiological survey meters | 5,400 |

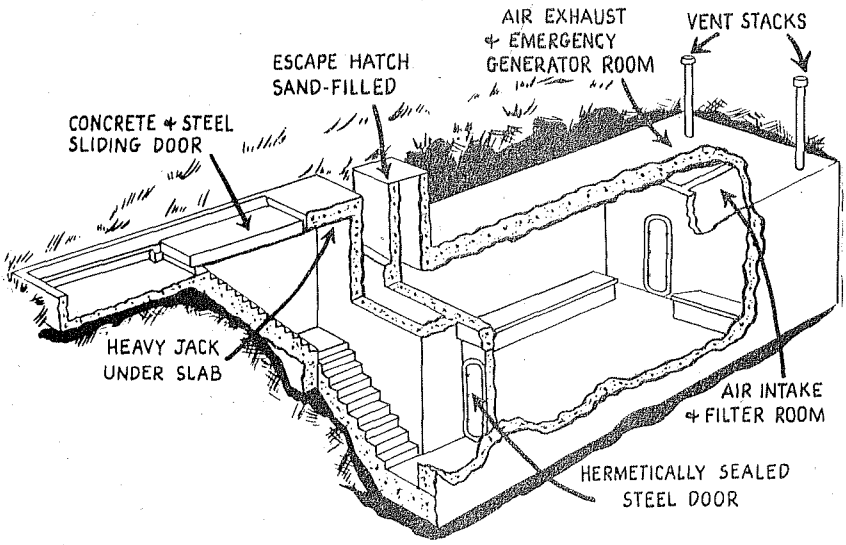
## ENGINEERING SERVICES

### Protective Construction

Early in 1955 information released on new high-yield weapons resuilted in changes in protective construction planning. Not only did the new weapons produce far greater blast and fire damage, but they created a dangerous new hazard hundreds of miles from the blast—radioactive fallout. This meant that the population of target cities could no longer find safety in shelter close to the blast. Nor could people living in suburban or rural areas feel secure from fallout. Although evacuation remained the best protection in 1955, FCDA

INDUSTRIAL SHELTER

CUTAWAY VIEW




planning had to include the possibility that there might not be time for total evacuation. It was evident that protective construction must supplement evacuation both in target cities and fallout areas.

To obtain information which could be applied to high-yield weapons, FCDA's engineering staff participated in Operation Cue, particularly in the testing of shelters, structural elements, and houses. The shelters were for test purposes only and were not prototypes. They included a mass shelter for 30 persons incorporating new protective features against fallout, underground family-type shelters, basement shelters, aboveground tool-shed-type shelters, and a new bathroom shelter for houses without basements. The latter survived intact although the house was totally demolished. Several houses, of conventional and new design, were tested under various blast loadings. These tests demonstrated that the conventional house offers little resistance to blast, while those designed for new construction methods can be given substantial blast resistance.

The fallout hazard called for a new approach to shelter design because of the probability that people would have to stay in shelters for several days instead of a few hours. The minimum space allowance had to be increased from 6 to 10 square feet and the minimum ceiling height to about 6 feet 6 inches to permit occupants to lie down or move about. Doors to keep out radioactive dust were necessary; also filtered mechanical ventilation in the larger shelters. The mass shelter incorporating these features, which was tested in Operation Cue, was

made available for public and industrial use in September. In addition, home shelter designs based on information derived from Operation Cue were made available to the public.

Throughout the country an interest in the construction and marketing of home shelters developed. FCDA's engineering staff reviewed many of the designs and certified those that met tentative FCDA standards.

In the shelter ventilation field, FCDA cooperated with other Government agencies and manufacturers in developing ventilating equipment and filters for shelters.

The survival plan studies begun in 1955 by a selected group of cities require shelter surveys correlated to evacuation planning. The survey methods previously used provided more detailed information than is required for the survival plan studies but were obsolete because of the larger weapons and the fallout problem. During the year a contract was awarded to a research organization to develop a simplified survey procedure. Another contract was awarded to a field-study organization to make a pilot survey of shelter capabilities in Milwaukee, the results to serve as a guide in other cities.

During 1955 several companies engaged in essential defense production took advantage of accelerated amortization for tax purposes of protective construction. FCDA assisted, when requested, in planning such construction, reviewed designs, and certified to the Treasury Department when they met FCDA standards.

Protective construction is required for all State and city control centers built under the contributions program. FCDA also reviewed proposed control center designs to determine whether they met minimum standards.

## Emergency Restoration of Facilities

During the period from July 1, 1954, through December 31, 1955, approximately $250,000 of Federal funds were approved for engineering equipment and supplies under the contributions program. Items procured included 8-inch quick coupling pipe, portable generators, portable pumps, and water chlorinators.

Early in 1955 all FCDA stockpiled engineering equipment was ordered moved to locations expected to be safe from radioactive fallout. By the end of the year 37 10-mile units of equipment were relocated; 8 remained to be moved. In addition, maintenance criteria to insure immediate operational readiness of all stockpiled engineering equipment were developed and supplied to the regional offices. FCDA also assisted the regional offices in operational testing and inspection of engineering equipment, and expedited rehabilitation work following natural disasters.

FCDA engineering equipment and supplies continued to be used on an increasing scale for training and in natural disasters. Eight cities borrowed training units during the year; while 14 States used equipment to alleviate critical water or power shortages following natural disasters. A water purification unit expected to remove a high percentage of radioactive material from water is being studied for its applicability to civil defense. Initial research was done by the Army's Engineering Research and Development Laboratories at Fort Belvoir, Va.

FCDA developed specifications for use by States and political subdivisions in procuring engineering equipment and supplies under the contributions program. The specifications, which were coordinated with manufacturers where possible, included emergency lighting equipment, portable high-capacity pumping units, lightweight aluminum quick-coupling piping, mobile chlorinators, and gasoline-engine generator sets covering the entire range of sizes now in production by manufacturers.

Operation Cue provided valuable background data and information on blast effects on community facilities such as gas and electric power lines. Experience was also gained in surveying structural damage to buildings and determining safety measures necessary before their use.

# CIVIL DEFENSE FUNDS AND OPERATIONS

The Congress appropriated to FCDA $49,325,000 for expenditure for civil defense purposes during fiscal year 1954 (July 1, 1954, through June 30, 1955). Of this amount $10,025,000 was for operations; $13,300,000 for Federal contributions to the States; and $26,000,000 to increase reserves of emergency supplies and equipment.

For fiscal year 1956 Congress has appropriated $68,675,000: $12,125,000 is for operations; $12,400,000 is for Federal contributions to the States; and $32,650,000 is for additional necessary increases in emergency supplies and equipment. (See table a, below.)

Two new programs were approved for fiscal year 1956. These are: Surveys Plans and Research for which $10,000,000 was appropriated; and Salaries, and Expenses, Civil Defense Functions of Federal Agencies for which $1,565,000 was appropriated. The total appropriations for FCDA by fiscal years 1951 through 1956 are shown on the chart on the following page.

In addition to funds appropriated, there is pending a request for $427,000 to cover the costs of the pay raise approved during 1955.

TABLE a. *Emergency supplies and equipment—comparison of obligations for fiscal year 1955 with estimate for fiscal year 1956*

| Medical supplies and equipment | 1955 actual | 1956 estimate |
|---|---|---|
| 1. Civil defense emergency hospitals | $2, 254, 718 | $2, 200, 000 |
| 2. Medical and surgical | 16, 315, 282 | 14, 000, 000 |
| 3. Blood and shock therapy | 4, 263, 259 | 7, 900, 000 |
| 4. Other | 3, 026, 123 | 4, 362, 000 |
| Total | 25, 859, 382 | 28, 462, 000 |
| Radiological and chemical warfare defense equipment | [1] 0 | 3, 910, 000 |
| Maintenance and relocation of stockpile | [1] 0 | 218, 000 |
| Total | 25, 859, 382 | 32, 650, 000 |

[1] Included under medical prior to fiscal year 1956.

TABLE b. *Operations obligations—comparison of obligations for fiscal year 1955 with estimate for fiscal year 1956 by major FCDA programs*

| Operations | 1955 actual | 1956 estimate |
|---|---|---|
| Planning | $203, 713 | $275, 236 |
| (a) Research | 884, 214 | 422. 000 |
| Education services | 1, 593, 887 | 2, 046, 982 |
| Operations control services | 3, 107, 781 | 4, 887, 451 |
| Technical advisory services | 766, 466 | 911, 802 |
| Field representation | 1, 320, 847 | 1, 996, 832 |
| Executive direction | 274, 532 | 329, 013 |
| General administration | 1, 953, 418 | 1, 617, 684 |
| Total | [1] 10, 104, 858 | [2] 12, 487, 000 |

[1] Includes transfer from Federal contributions of $80,512.
[2] Includes $362,000 anticipated supplemental for pay raise.

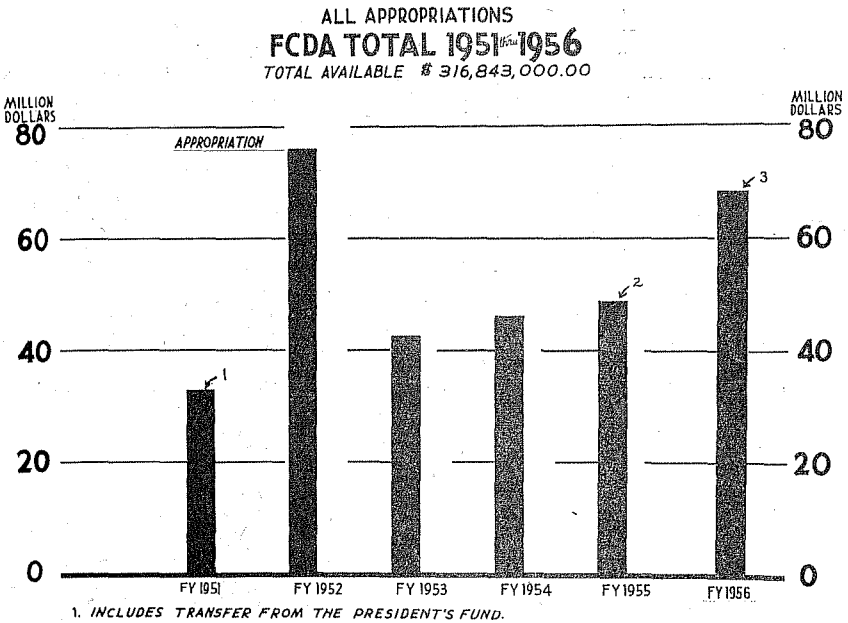
TABLE c. *Operations obligations by object classification*

| | | 1955 actual | 1956 estimate |
|---|---|---|---|
| 01 | Personal services | $4, 502, 068 | $6, 000, 526 |
| 02 | Travel | 479, 173 | 498, 000 |
| 03 | Transportation of things | 94, 540 | 55, 308 |
| 04 | Communication services | 1, 220, 935 | 1, 434, 478 |
| 05 | Rents and utility services | 48, 781 | 60, 135 |
| 06 | Printing and reproduction | 385, 106 | 635, 278 |
| 07 | Other contractual services | 3, 006, 463 | 3, 523, 357 |
| 08 | Supplies and materials | 199, 786 | 185, 983 |
| 09 | Equipment | 128, 277 | 58, 242 |
| 13 | Refunds, awards, and indemnities | 8, 000 | 0 |
| 15 | Taxes and assessments | 25, 729 | 29, 693 |
| | Unvouchered | 6, 000 | 6, 000 |
| | Total | 10, 104, 858 | 12, 487, 000 |

## OPERATIONS

Table b, page 135, shows the actual obligation of funds for operations during fiscal 1954, together with an estimate for fiscal 1955 by civil defense program.

Table c, above, shows the same operation funds by object classification.




1. INCLUDES TRANSFER FROM THE PRESIDENT'S FUND.
2. INCLUDES REAPPROPRIATION OF $1,300,000.
3. INCLUDES $2,500,000 IN THE PROCUREMENT FUND TO BE RETURNED DURING FY 1956.

TABLE d. *Federal contributions—comparison of fiscal year 1955 obligations with estimate for fiscal year 1956*

| Program | 1955 actual | 1956 estimate |
|---|---|---|
| Attack warning | $1, 189, 483 | $1, 000, 000 |
| Communications | 1, 858, 953 | 2, 150, 000 |
| Public safety | 176, 994 | 1, 000, 000 |
| Medical supplies and equipment | 345, 944 | 2, 150, 000 |
| Education services | 339, 919 | 2, 500, 000 |
| Mass care equipment | 43, 758 | 1, 000, 000 |
| Engineering | 57, 384 | 1, 250, 000 |
| Construction and general equipment | 0 | 1, 350, 000 |
| Total | 4, 012, 435 | 12, 400, 000 |

TABLE e. *Survey plans, and research—fiscal year 1956 estimate by program*

| Program | 1955 actual | 1956 estimate |
|---|---|---|
| Survey plans | 0 | $8, 333, 000 |
| Research | 0 | 1, 667, 000 |
| Total | 0 | 10, 000, 000 |

TABLE f. *Salaries and expenses, civil defense functions of Federal agencies—comparison of obligations for fiscal year 1955 with estimate for fiscal year 1956*

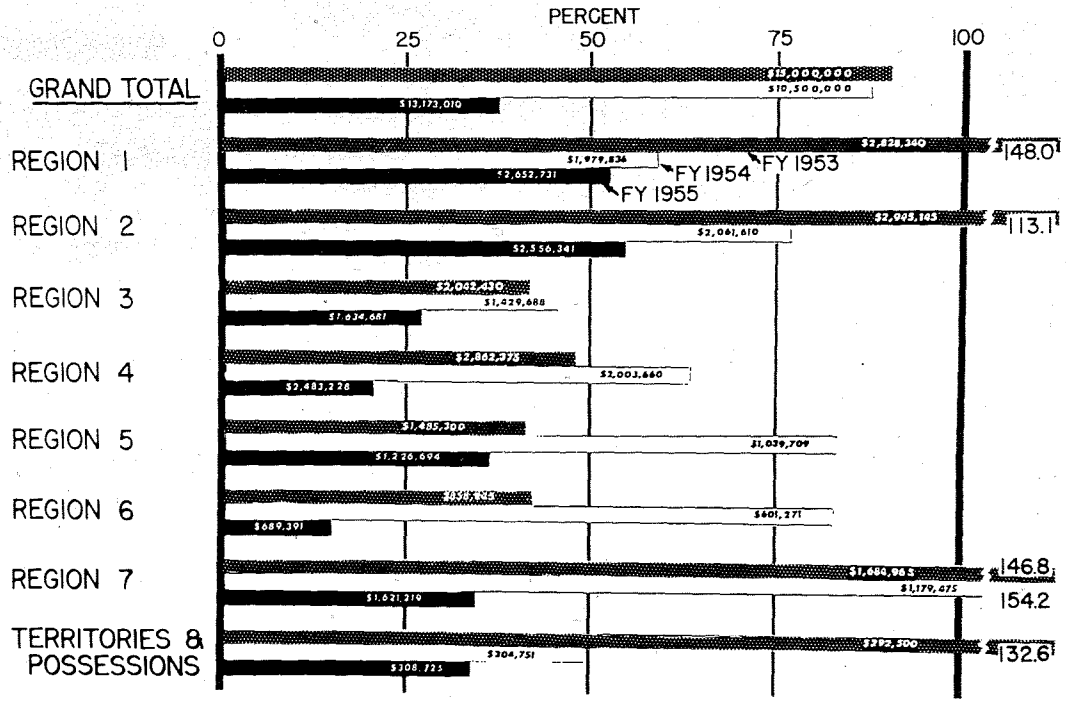
| | 1955 actual | 1956 estimate |
|---|---|---|
| Housing and Home Finance Agency | 0 | 26, 500 |
| Department of Commerce | 0 | 190, 000 |
| Department of Health, Education, and Welfare | 889, 972 | 1, 259, 300 |
| Department of Interior | 0 | 20, 000 |
| Department of Labor | 0 | 69, 200 |
| Total | 889, 972 | [1] 1, 565, 000 |

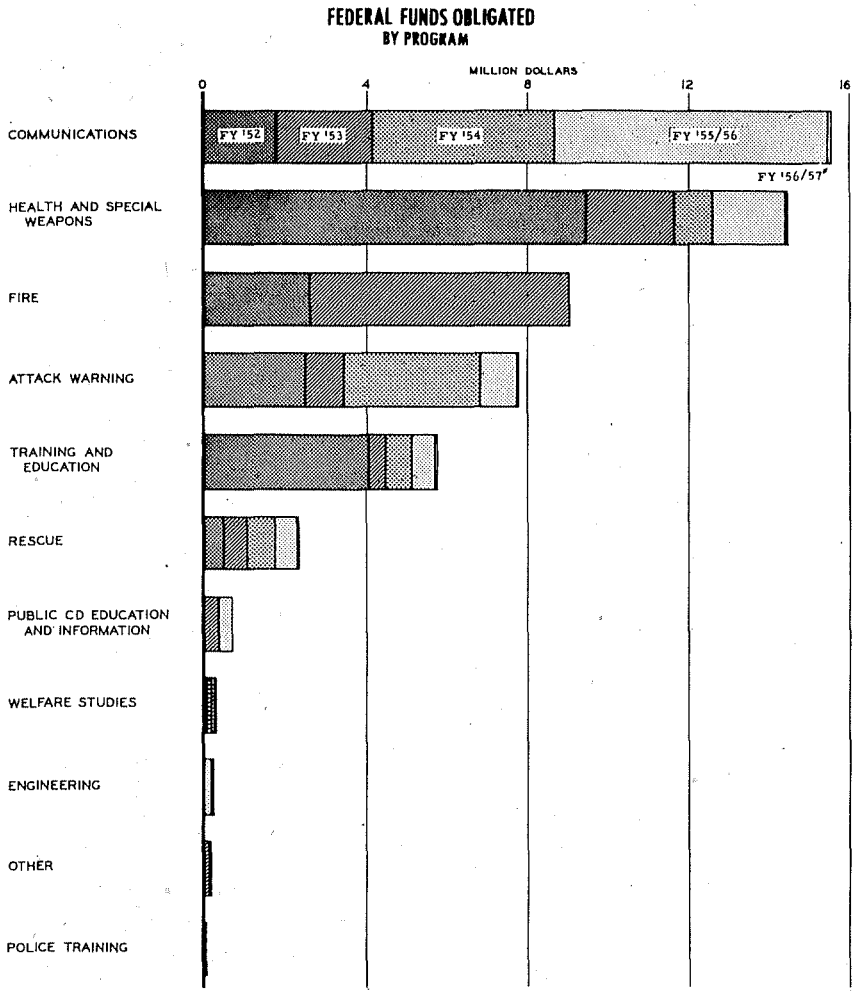
[1] Includes $65,000 anticipated supplemental for pay raise.

FEDERAL CONTRIBUTIONS PROGRAM

# UTILIZATION OF ALLOCATIONS

BY REGION






## FEDERAL CONTRIBUTIONS PROGRAM

The Federal Civil Defense Act of 1950 (Public Law 920, 81st Cong.) authorized the Administrator of FCDA to make financial contributions to the States for civil defense purposes on the basis of programs and projects approved by the Administrator. Objectives of the Federal contributions program are to assist the States and their political subdivisions in acquiring essential civil defense materials and equipment and to assist them in the training of civil defense workers to the end that adequately trained and equipped organizations may be developed to assure a minimum loss of life and property in a civil defense emergency.

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Federal contributions are made to the States on the basis of individual project applications submitted to and approved by FCDA regional administrators in accordance with uniform programs and standards established by the Agency. All States, Territories, and possessions, except Alaska, are required to match Federal funds on a 50–50 basis. The matching ratio for Alaska is 70 percent Federal and 30 percent local.

The program became operative in fiscal year 1952. Appropriations by Congress for the program have been as follows:

| Fiscal year | Available for use in fiscal year(s) | Amount of appropriation |
|---|---|---|
| 1952 | 1952 | $22, 350, 000 |
| 1953 | 1953 | 15, 000, 000 |
| 1954 | 1954 | 10, 500, 000 |
| 1955 (reappropriation) | 1955 | 1, 300, 000 |
| 1955 | 1955–56 | 12, 000, 000 |
| 1956 | 1956–57 | 12, 400, 000 |

From the program's inception through December 31, 1955, the amount of Federal funds contributed or obligated to the States, Territories, and possessions totaled $55,824,000. Doubling this figure to include a similar amount contributed by the States and their political subdivisions gives a total expenditure figure of nearly $112,000,000 for civil defense materials, equipment, and training under the program.

The communications program and the health and special weapons defense program each received more than one-fourth of the total Federal contributions. As shown by the chart on page 141 health and special weapons defense was the largest program up through fiscal year 1954. By December 31, 1955, however, the communications program had moved ahead to become the largest in terms of funds obligated. The fire service program, in effect only in fiscal years 1952 and 1953, received over 16 percent. Training and education received slightly over 10 percent and rescue service about 4 percent. The other programs each received 1 percent or less. The police service program is new, appearing as a program only in September 1955.

| Program | Federal funds obligated fiscal year 1952 through Dec. 31, 1955 | |
|---|---|---|
| | Amount (thousands) | Percent of total |
| Total—all programs | $55, 824 | 100. 0 |
| Attack warning | 7, 259 | 13. 0 |
| Communications | 15, 585 | 27. 9 |
| Engineering | 250 | . 4 |
| Fire service | 9, 098 | 16. 3 |
| Health and special weapons defense | 14, 479 | 25. 9 |
| Police service | 35 | . 1 |
| Public civil defense education and information | 636 | 1. 1 |
| Rescue service | 2, 322 | 4. 2 |
| Training and education | 5, 748 | 10. 3 |
| Welfare service | 254 | . 5 |
| Other services | 158 | . 3 |

Three-fourths of the total Federal contributions went to the States in FCDA regions 1, 2, and 7. These are the States with heavy concentrations of population in the Northeastern United States and on the west coast. New York, California, and Pennsylvania, in that order, were the three States receiving the largest amounts of Federal funds.

| Region | Federal funds obligated fiscal year 1952 through Dec. 31, 1955 | |
|---|---|---|
| | Amount (thousands) | Percent of total |
| Total | $55, 824 | 100. 0 |
| Region 1 | 18, 063 | 32. 3 |
| Region 2 | 13, 881 | 24. 9 |
| Region 3 | 3, 021 | 5. 4 |
| Region 4 | 5, 360 | 9. 6 |
| Region 5 | 2, 606 | 4. 7 |
| Region 6 | 1, 692 | 3. 0 |
| Region 7 | 9, 926 | 17. 8 |
| Territories and possessions | 1, 275 | 2. 3 |

The appropriations for fiscal years 1952, 1953, and 1954 were available for use only within those years. The 1955 appropriation of $12,000,000 was made available for obligation in fiscal years 1955 and 1956 and the 1956 appropriation of $12,400,000 is available in fiscal years 1956 and 1957. With the funds available over a 2-year period, the States have more time in which to formulate and coordinate their programs with local subdivisions and a better opportunity to plan for and provide the necessary matching funds.

Most of the project applications approved from July through December 1955 were for funds which would come out of the 1955–56 appropriation of $12,000,000. By December 31, 1955, applications had been approved against this appropriation in the amount of $10,969,654. More than $5,000,000 of this was approved in the last quarter of 1955. Cumulative approvals, by quarters, from the time the appropriation became available were as follows:

| Period | Dollar value of applications approved | |
|---|---|---|
| | Amount | Percent of appropriation |
| July 1, 1954, through: | | |
| Sept. 30, 1954 | $0 | 0 |
| Dec. 31, 1954 | 758, 890 | 6. 3 |
| Mar. 31, 1955 | 1, 752, 258 | 14. 6 |
| June 30, 1955 | 3, 707, 223 | 30. 9 |
| Sept. 30, 1955 | 6, 312, 238 | 52. 6 |
| Dec. 31, 1955 | 10, 969, 654 | 91. 4 |

Up to September 30, 1955, each State had been allocated a specified amount against which project applications could be submitted. It became evident, however, that some States were not going to use all of the funds allotted while others had need of more than their initial allotments. During the last quarter of 1955, therefore, FCDA regional administrators were authorized to approve project applications from the States on a first-come first-served basis in order to permit the States, with programs and projects ready, to move forward.

The 1956–57 appropriation of $12,400,000 became available for obligation as of July 1, 1955. Applications approved against this appropriation totaled only $132,470 by December 31, 1955. These funds will be used more extensively in early 1956 as the 1955–56 funds are exhausted. Each FCDA regional administrator has been given an allocation from the 1956–57 appropriation from which he can approve applications from the States in his region as their programs are developed and ready to move ahead.

As shown in the table on page 144, Federal funds contributed to the States, Territories, and possessions amounted to 34.3 cents per capita on a national average from the beginning of the Federal contributions program through December 31, 1955. An equal amount has been spent, of course, by the States and their political subdivisions. Delaware received $1.896 per capita—more than any other State. New York, Pennsylvania, and California were next in order with 79.2, 65.2, and 61.5 cents per capita. As shown by the chart on page 146, 9 States have received less than 10 cents per capita.

# FEDERAL CONTRIBUTIONS—SUMMARY—ALL PROGRAMS

| | Dollar value of Federal funds obligated (by fiscal year appropriation) | | | |
|---|---|---|---|---|
| | Total | 1956–57 [1] | 1955–56 [1] | 1952–54 |
| Total | 55,824,163 | 132,470 | 10,969,654 | 44,722,039 |
| Region 1 | 18,063,258 | 51,869 | 3,514,388 | 14,497,001 |
| Connecticut | 1,161,307 | 25,546 | 192,751 | 943,010 |
| Maine | 247,336 | ---------- | 111,330 | 136,006 |
| Massachusetts | 2,123,151 | 16,154 | 270,576 | 1,836,421 |
| New Hampshire | 116,626 | 4,573 | 36,650 | 75,403 |
| New Jersey | 1,800,964 | ---------- | 303,194 | 1,497,770 |
| New York | 12,215,733 | ---------- | 2,522,089 | 9,693,644 |
| Rhode Island | 317,426 | 224 | 46,552 | 270,650 |
| Vermont | 80,715 | 5,372 | 31,246 | 44,097 |
| Region 2 | 13,881,266 | 80,601 | 3,444,725 | 10,355,940 |
| Delaware | 667,422 | 6,141 | 174,687 | 486,594 |
| District of Columbia | 214,457 | ---------- | 34,777 | 179,680 |
| Kentucky | 320,252 | ---------- | 159,931 | 160,321 |
| Maryland | 1,288,294 | 47,473 | 162,074 | 1,078,747 |
| Ohio | 3,910,277 | 760 | 1,252,638 | 2,656,879 |
| Pennsylvania | 6,683,825 | 12,914 | 1,505,593 | 5,165,318 |
| Virginia | 754,554 | 13,313 | 149,619 | 591,622 |
| West Virginia | 42,185 | ---------- | 5,406 | 36,779 |
| Region 3 | 3,021,005 | ---------- | 929,841 | 2,091,164 |
| Alabama | 483,468 | ---------- | 117,107 | 366,361 |
| Florida | 447,271 | ---------- | 261,882 | 185,389 |
| Georgia | 826,220 | ---------- | 230,261 | 595,959 |
| Mississippi | 179,449 | ---------- | 77,020 | 102,429 |
| North Carolina | 205,059 | ---------- | 88,827 | 116,232 |
| South Carolina | 99,307 | ---------- | 17,855 | 81,452 |
| Tennessee | 780,231 | ---------- | 136,889 | 643,342 |
| Region 4 | 5,360,396 | ---------- | 751,327 | 4,609,069 |
| Illinois | 1,746,859 | ---------- | 119,712 | 1,627,147 |
| Indiana | 495,626 | ---------- | 73,349 | 422,277 |
| Iowa | 138,758 | ---------- | 21,018 | 117,740 |
| Michigan | 1,512,023 | ---------- | 263,290 | 1,248,733 |
| Minnesota | 579,882 | ---------- | 78,240 | 501,642 |
| North Dakota | 21,597 | ---------- | 255 | 21,342 |
| South Dakota | 55,016 | ---------- | 47,042 | 7,974 |
| Wisconsin | 810,635 | ---------- | 148,421 | 662,214 |
| Region 5 | 2,605,561 | ---------- | 856,342 | 1,749,219 |
| Arkansas | 207,856 | ---------- | 127,780 | 80,076 |
| Louisiana | 596,292 | ---------- | 133,824 | 462,468 |
| New Mexico | ---------- | ---------- | ---------- | ---------- |
| Oklahoma | 484,931 | ---------- | 136,567 | 348,364 |
| Texas | 1,316,482 | ---------- | 458,171 | 858,311 |
| Region 6 | 1,692,230 | ---------- | 276,897 | 1,415,333 |
| Colorado | 252,853 | ---------- | 68,344 | 184,509 |
| Kansas | 354,102 | ---------- | 40,629 | 313,473 |
| Missouri | 854,140 | ---------- | 115,202 | 738,938 |
| Nebraska | 186,908 | ---------- | 37,445 | 149,463 |
| Wyoming | 44,227 | ---------- | 15,277 | 28,950 |
| Region 7 | 9,925,818 | ---------- | 1,041,704 | 8,884,114 |
| Arizona | 160,418 | ---------- | 59,063 | 101,355 |
| California | 7,721,558 | ---------- | 600,695 | 7,120,863 |
| Idaho | 44,719 | ---------- | 31,102 | 13,617 |
| Montana | 73,970 | ---------- | 34,312 | 39,658 |
| Nevada | 31,380 | ---------- | 13,720 | 17,660 |
| Oregon | 786,316 | ---------- | 149,026 | 637,290 |
| Utah | 126,257 | ---------- | 12,188 | 114,069 |
| Washington | 981,200 | ---------- | 141,598 | 839,602 |

[1] Project applications approved by regional administrators prior to entry on official records of FCDA at National Headquarters.

## Summary—All Programs—Continued

| | Dollar value of Federal funds obligated (by fiscal year appropriation) | | | |
|---|---|---|---|---|
| | Total | 1956–57 [1] | 1955–56 [1] | 1952–54 |
| Territories and possessions | 1,274,629 | | 154,430 | 1,120,199 |
| Alaska | 412,047 | | 5,246 | 406,801 |
| American Samoa | | | | |
| Canal Zone | 11,948 | | 1,560 | 10,388 |
| Guam | 19,411 | | 665 | 18,746 |
| Hawaii | 377,124 | | 39,440 | 337,684 |
| Puerto Rico | 452,036 | | 106,490 | 345,546 |
| Virgin Islands | 2,063 | | 1,029 | 1,034 |

## Federal Funds Obligated Per Capita, Fiscal Year 1952 Through Dec. 31, 1955

| | Federal funds obligated, per capita (cents) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | All programs | Attack warning | Communications | Engineering | Fire | Health and special weapons | Public civil defense education and information | Rescue | Training and education | Welfare service |
| Total United States, Territories, and possessions | $0.343 | $0.047 | $0.095 | $0.002 | $0.055 | $0.088 | $0.004 | $0.014 | $0.035 | $0.002 |
| Total—Continental United States | .341 | .047 | .095 | .002 | .056 | .087 | .004 | .014 | .035 | .002 |
| Region 1 | .592 | .057 | .127 | .002 | .084 | .232 | .007 | .024 | .055 | .003 |
| Connecticut | .523 | .061 | .141 | .002 | .075 | .172 | .003 | .023 | .043 | (1) |
| Maine | .266 | .029 | .097 | .005 | | .040 | .012 | .031 | .032 | .020 |
| Massachusetts | .429 | .066 | .085 | .001 | .050 | .163 | .002 | .025 | .036 | .001 |
| New Hampshire | .219 | .028 | .103 | | | .044 | | .008 | .033 | .002 |
| New Jersey | .343 | .034 | .059 | .002 | .096 | .086 | .004 | .024 | .031 | .007 |
| New York | .792 | .063 | .166 | .001 | .099 | .348 | .010 | .024 | .075 | .002 |
| Rhode Island | .385 | .105 | .106 | .003 | .099 | .020 | (1) | .023 | .017 | .012 |
| Vermont | .210 | .006 | .086 | .002 | .060 | .002 | (1) | .013 | .036 | |
| Region 2 | .454 | .076 | .130 | .003 | .077 | .102 | .007 | .021 | .033 | .003 |
| Delaware | 1.896 | .262 | .552 | .002 | .603 | .193 | .012 | .104 | .136 | .005 |
| District of Columbia | .257 | .100 | .017 | | | .117 | .023 | | (1) | |
| Kentucky | .107 | .018 | .051 | .004 | .022 | .005 | .001 | .002 | .004 | |
| Maryland | .505 | .093 | .098 | .005 | .011 | .184 | .005 | .029 | .061 | .019 |
| Ohio | .462 | .065 | .159 | (1) | .059 | .092 | .012 | .025 | .044 | .004 |
| Pennsylvania | .652 | .108 | .177 | .007 | .138 | .156 | .005 | .024 | .034 | .001 |
| Virginia | .222 | .052 | .062 | (1) | .035 | .029 | .004 | .020 | .020 | (1) |
| West Virginia | .022 | .006 | .010 | | | .002 | (1) | .002 | (1) | |
| Region 3 | .135 | .021 | .062 | (1) | .022 | .008 | .002 | .005 | .015 | (1) |
| Alabama | .155 | .020 | .064 | | .036 | (1) | .002 | | .033 | |
| Florida | .127 | .028 | .072 | | (1) | .005 | .001 | .002 | .018 | |
| Georgia | .226 | .031 | .106 | .002 | .041 | .007 | .011 | 012 | .016 | (1) |
| Mississippi | .081 | .007 | .057 | | | .007 | (1) | .009 | .001 | |
| North Carolina | .048 | .014 | .019 | (1) | .003 | .006 | (1) | .004 | .001 | (1) |
| South Carolina | .044 | .005 | .035 | | | (1) | (1) | | .004 | |
| Tennessee | .232 | .033 | .079 | | .063 | .026 | .002 | .005 | .024 | |

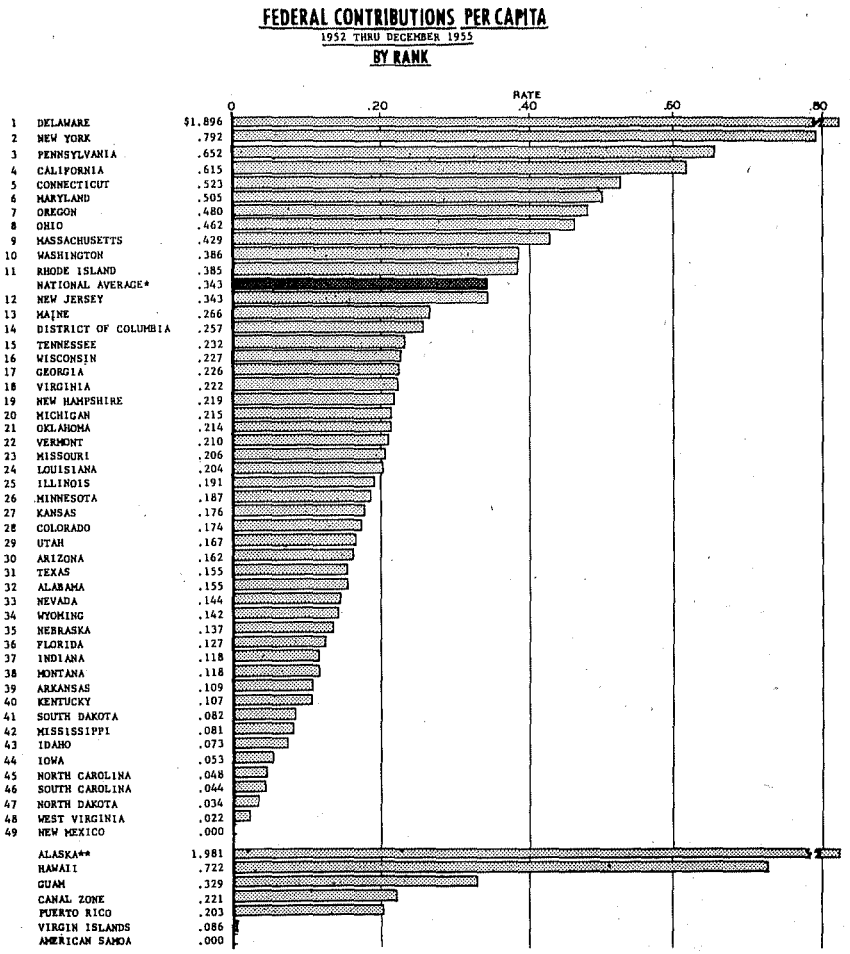
See footnote at end of table.

# Federal Funds Obligated Per Capita, Fiscal Year 1952 Through Dec. 31, 1955—Continued

| | Federal funds obligated, per capita (cents) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | All programs | Attack warning | Communications | Engineering | Fire | Health and special weapons | Public civil defense education and information | Rescue | Training and education | Welfare service |
| Region 4 | .173 | .032 | .047 | (1) | .040 | .024 | .002 | .010 | .015 | .001 |
| Illinois | .191 | .040 | .052 | (1) | .081 | .004 | .001 | .008 | .005 | (1) |
| Indiana | .118 | .034 | .013 | .001 | .031 | .014 | .004 | .004 | .012 | .004 |
| Iowa | .053 | .019 | .017 | ------- | .007 | (1) | ------- | .004 | .006 | ------- |
| Michigan | .215 | .022 | .078 | .001 | .038 | .033 | .004 | .008 | .029 | (1) |
| Minnesota | .187 | .052 | .020 | .002 | .029 | .021 | .002 | .037 | .024 | ------- |
| North Dakota | .034 | ------- | ------- | ------- | ------- | .002 | ------- | ------- | .032 | ------- |
| South Dakota | .082 | ------- | .080 | ------- | ------- | .001 | ------- | ------- | .001 | ------- |
| Wisconsin | .227 | .032 | .062 | (1) | .002 | .099 | .004 | .009 | .018 | (1) |
| Region 5 | .159 | .023 | .092 | (1) | .021 | .002 | .002 | .007 | .013 | ------- |
| Arkansas | .109 | ------- | .092 | ------- | .006 | (1) | ------- | .005 | .005 | ------- |
| Louisiana | .204 | .021 | .086 | ------- | .062 | .003 | .004 | .009 | .019 | ------- |
| New Mexico | ------- | ------- | ------- | ------- | ------- | ------- | ------- | ------- | ------- | ------- |
| Oklahoma | .214 | .023 | .123 | ------- | .022 | .006 | (1) | .003 | .037 | ------- |
| Texas | .155 | .030 | .094 | (1) | .012 | .001 | .002 | .008 | .008 | ------- |
| Region 6 | .182 | .038 | .068 | (1) | .032 | .013 | .003 | .002 | .024 | (1) |
| Colorado | .174 | .025 | .088 | (1) | .016 | .012 | .008 | ------- | .023 | (1) |
| Kansas | .176 | .023 | .034 | ------- | .033 | .033 | .002 | (1) | .050 | ------- |
| Missouri | .206 | .057 | .071 | ------- | .050 | .003 | .003 | .005 | .012 | (1) |
| Nebraska | .137 | .017 | .086 | ------- | ------- | .010 | (1) | ------- | .024 | ------- |
| Wyoming | .142 | .040 | .070 | ------- | ------- | .018 | (1) | ------- | .014 | ------- |
| Region 7 | .498 | .064 | .116 | .003 | .074 | .134 | .001 | .019 | .082 | .002 |
| Arizona | .162 | .035 | .077 | ------- | .004 | (1) | (1) | .015 | .030 | ------- |
| California | .615 | .079 | .126 | .003 | .098 | .176 | .001 | .021 | .107 | .001 |
| Idaho | .073 | ------- | .072 | (1) | ------- | ------- | ------- | ------- | (1) | ------- |
| Montana | .118 | .025 | .072 | ------- | .018 | ------- | ------- | ------- | .002 | ------- |
| Nevada | .144 | ------- | .059 | ------- | ------- | .004 | (1) | ------- | .081 | ------- |
| Oregon | .480 | .034 | .210 | .001 | .054 | .092 | .002 | .036 | .044 | .007 |
| Utah | .167 | .028 | .081 | ------- | .006 | .010 | .002 | .001 | .038 | ------- |
| Washington | .386 | .059 | .063 | .013 | .053 | .119 | (1) | .016 | .052 | .011 |
| Territories and possessions | .409 | .049 | .092 | ------- | .081 | .127 | .004 | .003 | .054 | ------- |
| Alaska | 1.981 | .494 | .339 | ------- | .679 | .316 | .011 | .003 | .139 | ------- |
| American Samoa | ------- | ------- | ------- | ------- | ------- | ------- | ------- | ------- | ------- | ------- |
| Canal Zone | .221 | .087 | ------- | ------- | ------- | .133 | ------- | ------- | .001 | ------- |
| Guam | .329 | .080 | .071 | ------- | ------- | .013 | ------- | .057 | .108 | ------- |
| Hawaii | .722 | .044 | .040 | ------- | .020 | .490 | .008 | .009 | .111 | ------- |
| Puerto Rico | .203 | .008 | .086 | ------- | .044 | .030 | .002 | ------- | .033 | ------- |
| Virgin Islands | .086 | ------- | .044 | ------- | ------- | ------- | ------- | ------- | .042 | ------- |

[1] Less than 1/10 of a cent.

NOTE.—Separate data are not shown for the police service and evacuation studies programs which were in effect in fiscal year 1955 and for which no State received as much as ½ cent per capita. The fire program was in effect during fiscal years 1952 and 1953 only.




*Based on total Federal contributions, fiscal year 1952 through December 1955, and United States Bureau of the Census estimates of population as of July 1, 1954.
**Matching ratio—70 percent Federal, 30 percent Alaska.

## PERSONNEL

On December 31, 1954, 4 months after the FCDA National Headquarters was moved to Battle Creek there were 664 persons employed by the Agency. The National Headquarters had 396 members on its staff and there were 268 employees at other offices in the Nation. These other offices include the Washington office, staff of the rescue school at Olney, Md., regional offices, and personnel assigned to the Continental Air Defense Command system as attack warning officers and liaison officers. At this time the National Headquarters staff was 88 percent complete. The ceiling for Battle Creek was 450.

As a result of the vigorous recruiting campaign during 1955 the total number employed in Battle Creek was raised to 568. The ceiling

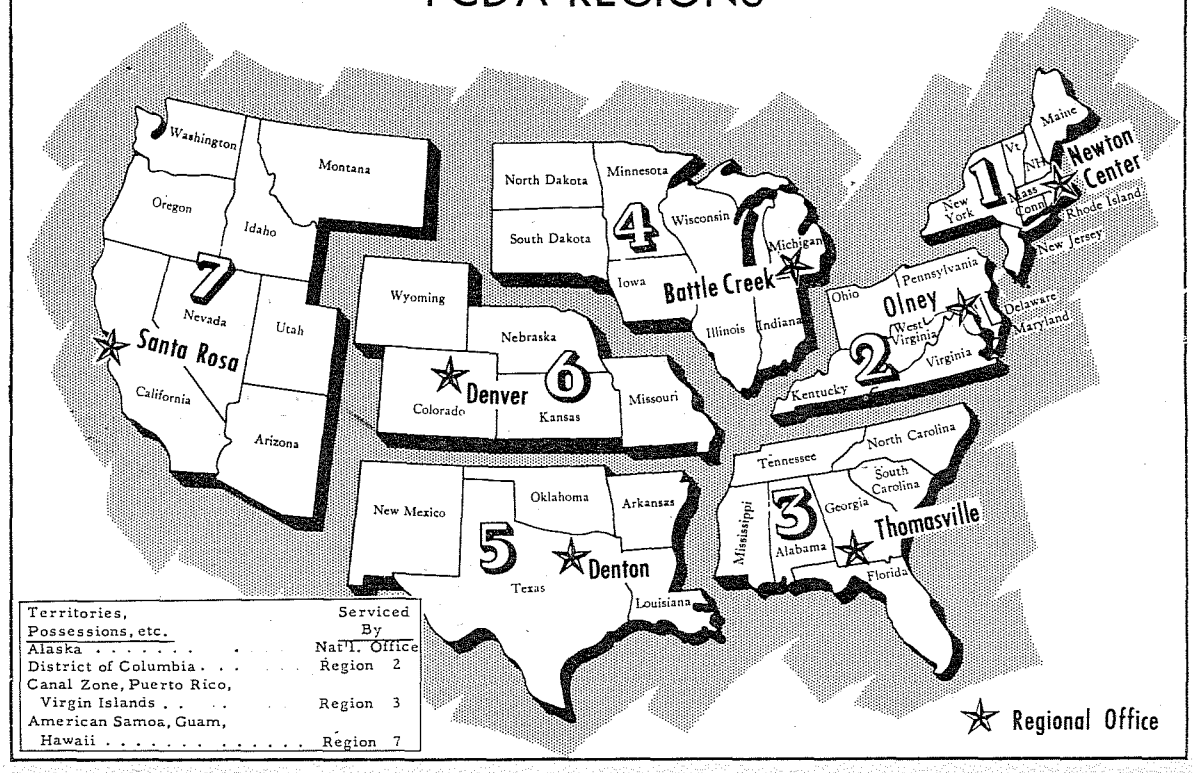
for the National Headquarters December 31, 1955, was 625. The number of employees in service away from the Headquarters was 323, and the total number employed by the Agency at this time was 891. The personnel ceiling for the Agency for 1955 was set at 1,111. At the close of 1955 the staff of the Agency was 87 percent complete.

## SECURITY

In accordance with the provisions of section 403 (a) of the Federal Civil Defense Act of 1950, and Executive Order 10450 as amended: "Security Requirements for Government Employment," all personnel employed by the Federal Civil Defense Administration are investigated and processed for security clearance, and every provision of the law and the Executive Order is being observed. All classified security information within the custody of the Agency is fully protected in accordance with Executive Order 10501 "Safeguarding Official Information in the Interests of the Defense of the United States." Necessary regulations, plus requisite facilities and personnel to accomplish these ends, have been provided.

The carrying out of the personnel security program is effected in cooperation with and the assistance of the United States Civil Service Commission and the Federal Bureau of Investigation. The Federal Civil Defense Administration Security Office also cooperates with the Atomic Energy Commission in processing clearances for access to AEC restricted data and also to the atomic test proving grounds. Routine inspections by the Civil Service Commission and the Atomic Energy Commission indicated security standards were being successfully maintained.

# FCDA REGIONS




| Territories, Possessions, etc. | Serviced By |
|---|---|
| Alaska | Nat'l. Office |
| District of Columbia | Region 2 |
| Canal Zone, Puerto Rico, Virgin Islands | Region 3 |
| American Samoa, Guam, Hawaii | Region 7 |

# CIVIL DEFENSE IN THE STATES AND CITIES

Under the Federal Civil Defense Act of 1950, the responsibility for civil defense falls primarily upon the States, counties, and municipalities, with FCDA providing coordination and guidance.

The seven regional offices of the FCDA are the links between the national office and those working levels of civil defense, providing such assistance as is needed and coordinating the activities of the States within each of the regions.

This assistance, which the States and cities may accept or reject as they choose, includes planning, organizing, training, and operation of civil defense systems. The regional administrators, under delegated authority from the Administrator, also are responsible for coordinating the efforts of other Federal agencies to which civil defense has delegated responsibilities.

Geographically, the seven FCDA regions approximate the regional commands of the Armed Forces.

Wide variations exist, not only in civil defense problems but also in public attitude toward civil defense from region to region and even within a region, because of geographical, social, and economic differences. Since the publication in 1955 of data on the destructive power of thermonuclear weapons and the vastly increased fallout danger, these differences are tending to disappear.

Seacoast States, as in the past, generally were more civil defense conscious than those in the interior. Heavily industrialized States still were far ahead of the less settled areas in civil defense planning, but there was a growing awareness that every section of the United States is vulnerable today, even though the nearest target may be hundreds of miles away.

The new data, especially on fallout, gave impetus both to area planning and specific training programs throughout the country, and necessitated major changes in training concepts, particularly in regard to the warden and emergency welfare services.

## RELOCATION PROGRAM

During the year, the headquarters of region II was moved from West Chester, Pa., to Olney, Md., and that of region IV from Joliet, Ill., to Battle Creek, Mich., in line with the policy of relocating all regional offices at points of comparative safety. This left only the region VI office, in Denver, in a critical target area.

Medical and engineering stockpiles were relocated in safer spots during the year to prevent loss of critically needed supplies in the event of attack.

## NATURAL DISASTERS

An increasing awareness of the value of civil defense today was apparent as a result of FCDA's relief activities in the natural disasters which struck virtually every section of the country.

Civil defense skills, supplies, equipment, and money were brought into action as disastrous floods swept the States of all 7 of the regions, tornadoes laid waste to large areas in regions IV, V, and VI, 3 hurricanes—Connie, Diane, and Ione—cut destructive swathes through the eastern seaboard States, and an explosion in a Whiting, Ind., gasoline plant caused millions of dollars in damage.

Civil defense was on the job, too, when volcanic eruptions drove hundreds of families from their homes on the island of Hawaii, in region VII. Stockpiled engineering equipment was distributed in many areas of the Middle West and Southwest to alleviate water shortages.

Tragic though they were, these natural disasters were a major source of favorable publicity for civil defense in all the country's public relations media. They also provided invaluable training for thousands of civil defense volunteers, and administrative staffs, from the National Headquarters to the smallest community.

## REGION I

## REGIONAL OFFICE, NEWTON CENTER, MASS.

States: Maine, Vermont, New Hampshire, Connecticut, Massachusetts, Rhode Island, New York, New Jersey

Eighteen critical target areas, including New York and Boston, are located in region I, which has a population of 30,892,000, according to the July 1, 1954, census.

Although it again was put to test by a series of hurricanes and floods, region I was able to show marked progress in its survival program during 1955.

The year's activities included:

1. A series of meetings, conferences, and staff sessions involving all of the eight States in the region, aimed at increasing understanding of the FCDA evacuation policy.

2. Completion of evacuation studies and plans by the city of New York.

3. Actual evacuation exercises, involving more than 30,000 persons, in Bangor, Maine; Bridgeport, Conn.; Manchester, N. H.; and Loring

Air Force Base, Limestone, Maine. In addition, 26 Veterans' Administration volunteers test-walked 13 established escape routes in Providence, R. I.

4. Comprehensive survival plan projects begun for the New York metropolitan area, and the States of Connecticut and Massachusetts.

5. Evacuation memoranda, developed by the States of Massachusetts and Rhode Island, distributed to all local directors in those States.

PUBLIC AFFAIRS

Coverage of civil defense by newspapers and radio and television stations was more extensive and more favorable during 1955 than ever before.

Even closer relations with top news media representatives can be expected to result from the organization of a Regional Civil Defense News Committee. This Committee held its first meeting with the Administrator and the Public Affairs Director on September 28 in Boston. The committee is composed of 50 of the most influential newsmen in the eight northeast States, representing newspapers, wire services, radio and television stations, State publishers, and broadcasters and telecasters' associations.

The regional emergency public information staff was expanded during 1955 to a total of 13. This number is still not considered adequate and efforts are being made to increase it.

Each of the eight States in this region now has a State civil defense public information officer. In 5 cases the State PIO devotes all of his time to public affairs, whereas in 3 he gives part of his time to such activities. In 1 State, the PIO has a staff of 6, in all others he has only the part-time help of a clerk-typist.

State PIO's estimates indicate that there are at least 300 county and local civil defense PIO's in this region. The names and addresses of 205 have been forwarded to National Headquarters. The breakdown by States: Connecticut, 22; Maine, 41; Massachusetts, 22; New Hampshire, 13; New Jersey, 18; New York, 82; Rhode Island, 3; and Vermont, 4. A few of these are full-time paid PIO's. Most of them are volunteers and many are newspaper and radio personnel, or formerly were.

A joint national-regional-State-local program was developed to promote civil defense when the FCDA improvised hospital was shown at the Eastern States Exposition. Each State of the region sent a special team to take over the exhibit on its particular State day at the exposition and use the exhibit to publicize its own State medical program. Each team included the State medical officer and PIO as well as other State personnel. In addition, the Massachusetts Civil Defense Agency provided civil defense and other personnel from localities in

the four western counties of the State to assist the State team. The program was planned, organized, and administered by the regional public affairs officer and served as a pilot project that could be adapted to other services.

### Training and Education

Following the initial course put on by the national staff traveling team, the University of Connecticut in Storrs inaugurated two courses of its own in 1955. The experience gained in the first course was applied to the succeeding courses; and adaptation has been made to Connecticut's particular problems, so that the maps and exercises used in the course are all based on the Connecticut civil defense plan.

In September the FCDA team initiated a course at the University of Maine in Orono. The Maine staff assisted in giving the course, as did representatives from the regional office.

During the year, New Jersey trained large numbers of auxiliary firemen and police at its State rescue school. Plans are underway for establishing a Massachusetts rescue school, authorized by the last State legislature.

New York continued its series of State-directed county exercises, with emphasis this year on support areas. In August, a training session was held for all of New York's upstate directors on evacuation and reception planning. In September a similar session was held for New York City directors and those from surrounding areas.

The training developed as part of the preparation for Operation Alert 1955 was of great value to the States within the region and to the regional staff. An augmented staff of 300 persons worked in the regional office during this operation. The results proved the importance of training and the need for a continuing staff training program.

Increasing requests for information on radiological monitoring and the charting of fallout data led to several training sessions within the States, conducted by the regional radiological defense officer. This type of instruction also is given at the Connecticut and Maine Staff Colleges.

### Women's Activities

During 1955 a continuing effort was made to channel women volunteers into specific civil defense services, and participation of women has been substantially increased. All but two of our State civil defense offices now have full-time directors of women's activities.

To develop interest in the need for women as neighborhood wardens, a regional conference on wardens was held February 1. The chief wardens, directors of women's activities, and two other persons representing either a local warden service or a statewide women's organiza-

tion attended from each State. This meeting was held at the headquarters of the New York State Civil Defense Commission.

The newly developed Women's Advisory Council in Vermont undertook as its initial project a course at the University of Vermont for instructions in home nursing. This course was jointly sponsored by the Red Cross and the State office of civil defense.

The Massachusetts Civil Defense Agency cooperated with the Massachusetts Federation of Women's Clubs in staging an emergency mass feeding program which attracted more than 500 women.

Connecticut developed in New Haven a corps of women known as civil defense guards, who have been given 40 hours training to fit them for emergency police duty. In time of emergency they may be assigned as guards at hospitals and welfare centers, as traffic directors for these institutions, and as special assistants for the care of evacuees.

The medical training program in New York State also is inducting women into the many units of the medical service.

### Warning and Communications

Of 1,406 project applications processed in this regional office up to the 1st of October, 242 were for attack warning and 783 for communications. There were 13 disapprovals in the attack warning program and 8 disapprovals in the communications program.

Of 59 principal cities in region I, it is estimated that 45 have adequate attack-warning coverage according to FCDA standards, or will have such coverage when approved projects have been completed. Of the remaining 14, several have submitted letters of intent to meet the June 30, 1956, deadline. The balance have been unable to obtain the necessary appropriations to qualify for Federal matching funds.

Seven out of eight States of region I now have an approved RACES communications plan, and a plan for the eighth State will be submitted shortly. In addition, RACES communications plans have been approved for 65 counties and 118 communities—a grand total of 190 approved RACES plans.

It is estimated that there are 211 eligible broadcast stations in region I, of which 118 are now participating in the CONELRAD plan. Of this number, 39 operate as single stations; and the remaining 81 stations are organized for cluster or sequence operation in 25 nets.

### Safety

A civil defense training center with modern rescue training facilities is soon to be established in Massachusetts.

Good examples of progress made in developing auxiliary police services are to be found in the State of Maine and in Bergen County, N. J.

As of July 1, 1955, the State of Maine had slightly more than 5,000 auxiliary police assigned for service with regular police forces.

During a single civil defense exercise in Bergen County, N. J., a total of 1,700 uniformed police auxiliaries reported to the county mobilization point, equipped for emergency duty.

The change of emphasis from take-shelter to evacuation has required a general reevaluation of the warden service. Plans for recruiting and training wardens are being revised in both target and support States.

SUPPLY

The flood disaster of August demonstrated that the term supply means anything of any kind and in quantities from very little to huge amounts. Items requested and supplied during the emergency included household goods, emergency dwellings, engineering equipment, and food and medical supplies.

Three States of this region now have full supply staffs, sufficient to operate in emergencies. Five States have partial staffs, which will require about 50-percent augmentation. Most of this augmentation will be obtained by absorbing personnel from existing State agencies, such as welfare, engineering, and medical, when an emergency occurs.

The regional supply office is augmented in an emergency by groups from the Central Services Administration and the United States Department of Agriculture. Ninety percent of the regional augments have received training through several test exercises; and key personnel were on duty at the regional supply office for 10 days during the flood disaster.

During the year, agreements and plans were completed with States having critical targets for an automatic issue of medical supplies from FCDA warehouses.

The States of this region also have plans by which they will move the balance of regional reserve and national reserve as directed by the regional office.

A considerable amount of the engineering equipment in this region was used by the States during the 1955 floods in combatting water shortages, power failures, fire hazards, and disruption of sanitary facilities.

The engineering stockpiles have also been widely used for training purposes by the States; and it is planned that a portion of four stockpiles will be permanently located in training centers approved by FCDA.

All States in this region now have plans for the acquisition and use of basic food elements in an emergency. While some State plans are more detailed and advanced than others, all plans are considered sufficient to operate satisfactorily in an emergency.

TRANSPORTATION

Progress has been made in all States toward securing complete information on available resources in the States.

Most of our cities are in process of revising their transportation plans which have contemplated postattack conditions. The revised plans, which will embrace preattack and evacuation situations, will be synchronized with plans of other communities in the areas involved.

An inevitable specific task in the event of emergency caused by enemy action is the movement of medical supplies from three Federal warehouses at Gilbertville, Mass., Ellenville, N. Y., and Somerville, N. J., and as a pattern for the other warehouses, a volunteer transportation organization has been set up at Gilbertville.

A similar program is under way at the Ellenville, N. Y., warehouse under the auspices of the New York State Civil Defense Commission working through local and county organizations.

A program is also underway for the preassignment of vehicles for the emergency transportation of the eleven 10-mile units of steel pipe, fittings, and accessories stored by FCDA at 10 locations in region I, in the custody of State and local civil defense organizations.

HEALTH

The year generally was one of orientation and adjustment to the challenge of the hydrogen bomb. Modifications in planning were made in all States as a result of information released on the power of thermonuclear weapons and the threat of radioactive fallout.

First aid station supplies in Connecticut, Massachusetts, New Jersey, and New York State are being supplemented, stored, and dispersed to fringe locations, and measures are being taken to insure their availability when needed.

Plans for the evacuation and expansion of existing hospitals and residual shelters of such hospitals were reappraised and strengthened during the year. The program for the purchase and use of improvised hospitals was given added impetus. The number of such hospitals now in process of delivery and assembly includes: Connecticut, 10; Maine, 3; Massachusetts, 7; and New Jersey, 2. New York State has 67 in process of assembly and has programed the purchase of 148 additional units on which procurement has begun.

RADIOLOGICAL DEFENSE

A health physicist was hired in April to serve as regional radiological defense officer. Liaison with the military, the Atomic Energy Commission, the Weather Bureau, and Health, Education, and Welfare Offices with related delegated responsibilities has increased the capacity for dealing with radiological fallout.

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It was possible to demonstrate operationally for the first time during Operation Alert 1955 the use of a new aerial survey technique in civil defense. Using a telemetering system link from plane to regional office, in less than 2 hours a monitoring survey of over 1,000 square miles of contaminated land area was conducted in the vicinity of New York City and Long Island. Such information would have prevented millions of casualties if the exercise had been the real thing.

A special regional radiological defense conference was held at Hartford, Conn., on October 25 and 26. More than 150 top State and local radiological defense planners attended this meeting.

### Welfare

In the field of welfare, the States of region I during 1955 were primarily concerned with restudying their programs and reevaluating operational principles formulated before the preattack evacuation policy was announced.

The civil defense responsibilities and duties of the 400 employees of the Connecticut State Welfare Department were defined as a result of discussions held between personnel of the State civil defense welfare service and the State welfare department. State welfare department personnel were organized into four mobile welfare teams. Extensive training activities were held throughout the State, emphasizing large-scale mass feeding techniques and procedures.

In New York State, an extensive analysis of a small rural area was undertaken as a case study to demonstrate the organization required in a rural area to receive critical target city evacuees. The Director of the New York State Civil Defense Welfare Services headed up a group studying reception area resources. New York State officially adopted the FCDA Registration and Inquiry forms and established an initial stockpile of 3 million forms. During the year, localities throughout New York State held exercises based on simulated atomic attacks of small cities throughout the State.

The Massachusetts Civil Defense Agency (1) revised the Massachusetts Registration and Inquiry forms and rewrote a welfare memorandum on the R & I program, (2) wrote an evacuation memorandum on the welfare phases of the evacuation program for use in local communities, and (3) began the development of welfare training material to be used on a statewide basis.

The principal work undertaken by New Jersey Civil Defense Welfare Services in 1955 emphasizes the training and orientation of county and municipal civil defense and disaster control personnel in welfare control center procedures. For this purpose, frequent meetings were held throughout the State and emphasis was laid on training personnel at county levels so that they in turn could develop training programs for municipal civil defense welfare personnel.

Increased emphasis and responsibility is being placed on the rural counties in New Jersey. A factual study is being made of the welfare needs and capacities of rural counties to determine their optimum expansion for the reception of evacuees from the densely populated metropolitan industrial areas. A standard inventory form was developed by the civil defense welfare office to expedite the collection of data.

A pilot course on the county level is being started in Hancock County, Maine, a coastal county. The first meeting was held October 27 and 28. Plans are being made for one or more reception centers at the county level, with provisions for necessary welfare services and a welfare center in each community. When the Hancock plan has been tested, it will then be tailored to meet the individual needs of each of the 16 counties in the State.

Civil defense welfare services in Rhode Island undertook a careful analysis of the operational lessons learned as a result of the major natural disasters that occurred there in August and October, then issued additional memoranda to communities throughout the State on evacuation, housing, feeding, and registration.

### Operation Alert 1955

All States in region I participated in the exercise. Twenty-four cities were under simulated attack in 6 States. The remainder of the States, cities, and towns throughout the region played a support role. All control centers throughout the region were activated. All of the States except Massachusetts had audible signals during the exercise. Four States—Maine, New Hampshire, New Jersey, and New York—used the old signals. They felt they could continue to concentrate on people taking shelter until their evacuation plans were further developed. Massachusetts, on the other hand, believed it would be better to have no public signal until their evacuation plans were developed, since emphasis in the future would be upon evacuation rather than upon taking shelter. Three States—Connecticut, Rhode Island, and Vermont—used the new signals.

All States sounding audible signals except Connecticut required complete public participation, including taking shelter and stopping traffic. Connecticut required stopping traffic into critical target areas.

### Legislation

By executive order the Governor in Massachusetts reorganized and strengthened the State civil defense agency, dividing the State into 4 areas with 20 sectors.

Most significant civil defense legislation passed in this region during 1955 was the disaster law of New York State. This added to the

responsibilities of civil defense organizations the responsibility for acting in natural disasters as well as in those caused by enemy attack.

Maine's amendments to the civil defense and public safety law made it possible for the director to make or amend reasonable rules and gave law enforcement officers power to enforce the provisions of the civil defense law during an emergency or an alert.

As a result of the hurricanes of last year, the Rhode Island Legislature granted additional emergency powers to the Governor so as to enable him to take immediate action, if necessary, and later obtain consent of the State council of defense.

In New Hampshire, additional power was granted to the Governor to direct and control pedestrian and vehicular traffic, transportation and communication facilities, public utilities, and the movement and conduct of all persons within the State during practice blackouts, drills, and tests and immediately prior and subsequent thereto, and with powers of delegation. Another change makes it mandatory for a local political subdivision to have a local civil defense organization. Another amendment provides that the State director and such local and State civil defense officials as designated by him in writing are authorized to administer the loyalty oath; and still another provides that civil defense auxiliary police shall have the same power of arrest as peace officers.

As a result of the August flood in this region, special sessions of the legislature were called in Connecticut, Massachusetts, and New Jersey, to appropriate funds for disaster relief.

## Natural Disasters

### Cause of the Disaster

Hurricane Diane brought rainfall of 15 to 20 inches within a 36-hour period to southern New England, southeastern New York, and northern New Jersey, producing floods of record proportions on August 17–18–19.

Less than a week before the start of rains from Hurricane Diane, its predecessor, Connie, had produced rains ranging from 4 to 6 inches or more along the Atlantic coast from North Carolina to southern New England between August 9 and August 13.

Because of the previous long dry spell, the earth absorbed these rains but left the ground and the trees well-soaked, and streams were at relatively high levels when the rains from Diane began on the 17th.

### Effects of the Floods

The sections hit worst by the floods were: Massachusetts, Connecticut River Valley from Holyoke south and Worcester County; Con-

necticut, Naugatuck, Housatonic, Connecticut and upper Thames River Valleys; in Rhode Island, the Woonsocket area; in New York, the Catskills area; in New Jersey, the Delaware River and tributaries in the northern part of the State.

The August flood caused an estimated damage of approximately $400,000,000 to 32 political subdivisions in the 5 States. Highway and bridge damage was estimated at $60,685,500, and railroads reported $10,850,000 damage.

The American Red Cross reported that 91 lives were lost in the 5-State area. The number of homes destroyed or damaged was 16,880. Approximately 27,631 families suffered loss, 5,513 people were injured or hospitalized, and 85,000 were put out of work.

### Regional Preparation and Operation

FCDA region I was on an emergency alert basis for Connie from August 9 through August 13. As the Connie threat to New England terminated, Diane had been discovered in the Atlantic and had developed into a full-fledged hurricane. Region I was realerted, and from August 17 until August 27, a 24-hour emergency operation was maintained.

Liaison personnel from Headquarters First Army operated at the regional office for 2 weeks, coordinating the use of armed services resources. Engineering personnel from FCDA National Office in Battle Creek, Mich., were assigned to region I and worked for 2 months at the regional level.

### Augmented Regional Staff

FCDA Task Force Offices were organized in the affected States of Massachusetts, Rhode Island, Connecticut, New York, and New Jersey. The Department of Commerce through the Bureau of Public Roads provided 8 engineers to the region for a 2-month period. The Department of Health, Education, and Welfare dispatched 20 sanitary engineers from the Public Health Service, and 28 food and drug inspectors and chemists to the flood-stricken areas. Their emergency work extended over 2 weeks.

### President and Governors Meeting in Hartford, Conn.

The President of the United States flew to Hartford, Conn., to see the extent of the flood damage and confer with the Governors of the 6-State area.

The conference was attended by Gov. Val Peterson, FCDA Administrator; E. Roland Harriman, National Chairman, the American National Red Cross; Governors: Averell Harriman, New York; Abraham A. Ribicoff, Connecticut; Robert B. Meyner, New Jersey;

George M. Leader, Pennsylvania; Christian A. Herter, Massachusetts; Dennis J. Roberts, Rhode Island; Senator Prescott Bush; Congressman Thomas Dodd; Wendell B. Barnes, Small Business Administrator; Congressman Albert Cretella; Region I FCDA Administrator; State civil defense directors and other Federal and State officials.

### Federal Agency Participation

Materials and supplies were provided stricken States from FCDA stockpiles and many Federal agencies. The FCDA, through State and local municipalities, obtained from commercial sources 250,000 doses of paratyphoid antitoxin, 1,000 vials of 7.5 cc. of tetanus antitoxin, and many chlorinators. Large quantities of injection needles and materials required for preventive innoculations were supplied, and 300 pounds of warfarin for rodent control. FCDA provided 52 generators, and eighteen 1,500 g. p. m. pumpers. The Department of Agriculture, through the American National Red Cross, civil defense, Salvation Army, and State welfare agencies, distributed food to 13,700 individual recipients, and for mass feeding in Connecticut, Massachusetts, Rhode Island, and New York. Included were 702 cases of foods containing dry milk, butter, cheese, cottonseed oil, shortening, and 49 bags of rice and dried beans. The Housing and Home Finance Agency released 300 portable family housing units, 134 emergency trailer housing units, and approximately 1,000 units of Lanham and federally aided public housing. The General Services Administration turned over items that included 6,000 blankets, clothing, space heaters, shovels, and school buses. Other Federal agencies making available their services and personnel were: Department of Health, Education, and Welfare, Federal Communications Commission, Civil Service, Department of Commerce, Bureau of Public Roads, Weather Bureau, Interstate Commerce Commission, Department of Interior, United States Department of Labor, Post Office Department, Selective Service, Small Business Administration, Farmers Home Administration, Veterans' Administration, and the Internal Revenue Service.

### Department of Defense

The Department of Defense, through the First Army Headquarters, provided many urgently needed items of equipment and supplies. All military services, including the Army, Navy, Air Force, Marine Corps, and Coast Guard, flew a total of 990 airlift missions to evacuate disaster victims, and to deliver supplies and necessary personnel. The greatest part of the equipment was supplied by the Army. Included were: 32 planes and 53 helicopters, 35 Bailey bridges, 65,000 gallons of DDT, 95,000 sandbags, 550 Lister bags, 12,000 C rations, 2,600 cots, 4,000 blankets, 870 mattresses, 300 sheets, 100 pillows and 100 pillow cases, 29,000 square feet of canvas duck, 50 pumps, 25 generators, 81

hand sprayers, 100 pairs of hip boots, 50 latrine screens, 12 squad tents, 20 tarpaulins, 24 burial sacks, 7 ice-making machines, 3 water purification sets, 4 amphibious trucks, 16 gas masks, 25 life rafts, 2 searchlights, 2 flame throwers, and 1 mobile radio. Airlifts delivered over 3,000 halizone tablets for water purification. Fifty thousand more were flown from the west coast. Flown in also were 150 tons of chloride of lime. Helicopter pilots and crewmen, on August 19 and 20, rescued 183 marooned flood victims.

The Corps of Engineers let contracts on the spot for emergency repairs. They provided technical advice and financial assistance to communities for permanent restoration of essential public facilities in amounts equal to the cost of temporary repairs. The total estimated expenditure by the corps to date for emergency work performed in the 5-State area is approximately $35,000,000.

### Action by the States

Following the President's declaration of disaster in the five States in region I, dated August 20 and August 22, 1955, the Governors took the following action in their respective States:

The Connecticut Flood Recovery Committee, appointed by Governor Ribicoff on August 27, recommended on November 9 a $30,000,000 appropriation by the Connecticut General Assembly to meet flood expenses.

The Massachusetts Flood Relief Board was established by the Governor on August 23. On the same date, the Massachusetts Legislature authorized 2 bond issues, not exceeding $55,000,000 for alleviation of financial burdens imposed by the August floods on the communities of the commonwealth.

On August 22, the New Jersey Governor appointed a flood disaster coordinating committee, and on October 13, the New Jersey Legislature appropriated $5,600,000 for flood relief.

The President allocated the following direct amounts for flood relief to the States: Connecticut, $1,000,000; Massachusetts, $1,000,000; New Jersey, $1,000,000; Rhode Island, $1,000,000, and New York, $500,000.

### Major Problems Encountered

Major problems developed in water supply and sanitation in Connecticut, Massachusetts, and Rhode Island. Through the cooperation of other States, potable water was supplied in such communities as Putnam, Conn., and in Southbridge, Mass. FCDA and sanitary engineers cooperated with municipal officials to expedite the reburial of 30 bodies exhumed by flood waters in Woonsocket, R. I. The appearance of rodents in industrial plants and other unsanitary conditions in Rhode Island dwellings were corrected, also, through the speedy cooperation of these officers. Another significant feature of

the services provided was a land-fill operation in Woonsocket, R. I., which called for thousands of cubic yards of fill to dispose of large quantities of flood-damaged and condemned foods.

## OCTOBER FLOOD

### *Cause of the Disaster*

The flood of October 13–16 was described as a severe southeast storm. It caused heavy rains to flood 258 political subdivisions in Connecticut, Massachusetts, New York, and New Jersey. Portions of these States reported an 8- to 10-inch rainfall.

The American National Red Cross reported 19 more lives were lost, 4,245 homes were destroyed or damaged, 196 persons were injured or hospitalized, 4,848 families suffered loss, and 25,000 were put out of work.

The total estimate of damage for the October flood in the 4 States was approximately $50,000,000.

Rail transportation in Connecticut was disrupted for a second time by washouts. Passenger and freight service between New York and New England over the shoreline was crippled for almost a week. The estimate of railroad damage was $1,000,000.

### *Extent of Damage in October Flood*

Damage by the second flood was most extensive in the following areas: in Connecticut, Stamford, Norwalk and the lower Naugatuck Valley area, including Ansonia, Waterbury, and Danbury; southern portions of the western and central parts of Massachusetts; southeastern portions of New York, particularly in Westchester County; and in the northern portions of New Jersey at Ellenville and Port Jervis.

Damaged for a second time in as many months were 106 communities in the 4 States. One hundred and fifty-two political subdivisions, that had escaped the August flood, reported floodings in October. Approximately 50 percent of the Connecticut highway and bridge repair work that had just been completed following the August disaster was reported damaged in the second flood.

### *Extension of August Disaster Order*

The President's disaster declaration, dated August 20 and 22, was extended on October 18 to cover the disasters resulting from heavy rains and floods beginning October 13.

### *Federal Assistance and Cooperation*

When the second flood began in October, additional Federal personnel was immediately reassigned to the affected States. These included the Corps of Engineers, 2 Housing and Home Finance Agency officers, 7 Bureau of Public Roads engineers, 3 Public Health engi-

neers, and 5 Food and Drug inspectors. The American National Red Cross reopened shelters in strategic locations. The Housing and Home Finance Agency provided 19 more emergency trailer-housing units for Danbury, Conn.

*Department of Defense*

The Department of Defense ordered 35 helicopters in, or to stand by. In addition, the First Army Headquarters provided the following equipment and materials: 5 Bailey bridges, 35 generators, 316—55 g. p. m. water pumps, 10 ducks, 4—2½-ton trucks, 400 blankets, 200 cots, 3 quonset huts, 2 icemakers, 1 truck wrecker, 2 water purification units, 2 sedans, and 1 Air Force C–47 plane.

*Value of Disaster Experience*

Town, city, and State civil defense units, military installations, and Federal agencies as well as the regional FCDA office, conducted emergency operations in both floods with greater speed and efficiency. This was the third successive year FCDA was called upon to provide guidance and assistance to States in region I, hit by a major natural disaster.

In the States and localities, protective work such as sandbagging, evacuation prior to and during the floods, and other precautionary measures aided in preventing a substantial amount of damage. Cooperation between all civil defense units and the American Red Cross made possible the smoother functioning of the emergency operation and aid and assistance to the disaster victims.

## REGION II—REGIONAL OFFICE, OLNEY, MD.

States: Delaware, District of Columbia, Kentucky, Maryland, Ohio, Pennsylvania, Virginia, and West Virginia

Twenty-one critical target areas, 5 of them with more than 1,000,000 population each, are concentrated in this region. It also includes what is assumed to be the No. 1 critical target area—Washington, D. C. The population of the region is 32,053,000, according to the July 1, 1954, Bureau of the Census estimate.

The regional office, formerly located in West Chester, Pa., was moved in midyear to the FCDA facility near Olney, Md., to provide a more central location with respect to the area served, to take advantage of the already existing facility, and to bring about a closer working relationship between the region and the District of Columbia.

The year was marked by a series of conferences between the regional administrator and the Governors of all of the 7 States and the Board of Commissioners of the District of Columbia, members of the White House staff, and the mayors, city officials, and civil defense directors of

many of the critical target areas. As a result of these conferences, a better understanding of civil defense problems was brought about at all levels.

During the latter part of the year the regional staff was reorganized to conform to the national organization pattern. Four divisions were set up: Operations Control Services, Technical Advisory Services, Education Services, and Administrative Services.

A ceiling of 51 personnel was approved by the National Office. As the year ended all but 12 of the total vacancies had been filled.

### Survival Planning

Following the announcement that Congress had appropriated $10,000,000 for evacuation studies, every State in region II, and the District of Columbia, filed notice of intent to conduct survival plan project studies.

The Washington metropolitan area became the first critical target complex in the Nation to receive FCDA approval of its survival plan agreement, which provides for an advance of $10,000 for phase I of the 4-phase project.

At year's end, preliminary work on phase I was underway by the Washington Area Survival Committee, composed of the civil defense of Maryland, Virginia, and District of Columbia, and an administrative officer from each organization.

Involved in the Washington study are 5 adjoining counties in Maryland and 20 counties in Virginia.

Evacuation plans also were in various stages of completion for the Philadelphia metropolitan complex, the State of Pennsylvania, the Baltimore area, the nine critical target areas in Ohio, the Norfolk-Hampton Roads area of Virginia, and the city of Louisville, Ky.

Actual evacuations were carried out in many areas of the region during the year. The largest of these exercises involved 500 persons from Media, on the outskirts of Philadelphia, and 692 from Berks County, Pa. Media's evacuees, assumed to be casualties as a result of a hit, were moved successively to Chester County, Lancaster County, Berks County, and finally to the National Guard reservation in Indiantown Gap, where a mass feeding unit was in action. Meanwhile all of the 780 residents of Bernville, Berks County, except assigned civil defense personnel were evacuated to Spaatz Air Field, near Reading, Pa.

A total of 1,500 trained civil defense personnel, including medical corpsmen, nurses, and mass care center personnel, from 7 Pennsylvania counties participated in the exercise.

In Cleveland, 1,500 people from the Navy's Finance Center, in the heart of the city's business district, braved icy winds in mid-February

and walked to preassigned evacuation areas. At the same time, all local schools conducted security drills.

### Radiological Defense

Assigned a full-time meteorologist by the Weather Bureau in December, the regional office began distributing daily fallout data to all other civil defense offices in the seven States and the District of Columbia. The Weather Bureau, meanwhile, announced it was sending daily wind information by teletype to Wilmington, Del.; District of Columbia; Louisville, Lexington, Covington, and Bowling Green, Ky.; Baltimore, Md.; Akron, Cincinnati, Cleveland, Columbus, Dayton, Toledo, and Youngstown, Ohio; Arlington, Richmond, Roanoke, and Lynchburg, Va.; and Charleston, Huntington, and Parkersburg, W. Va.

### Operation Alert 1955

Control centers of the seven States and the District of Columbia, comprising region II, joined with the Regional Emergency Operations Center for the conduct of Operation Alert 1955. Eleven cities were included in the bombing pattern—Akron, Baltimore, Cleveland, Dayton, Norfolk, Philadelphia, Pittsburgh, Toledo, Washington, Wilmington, and Youngstown.

Evacuation tests, actual or simulated, were conducted by 14 cities. The District of Columbia evacuated 15 Government agencies, led by the President, to emergency operations quarters, for a 3-day period. Philadelphia conducted token evacuation including approximately 4,000 people from 4 different areas of the city. Problems were injected by the region in order to bring in Federal agencies and provide more action at State and regional level.

Ohio participated fully in Operation Alert, led by Gov. Frank J. Lausche. When the alert signal sounded, the Governor, his staff, and 50 key officials dispersed by auto to alternate sites of State government. An emergency cabinet meeting was held to consider reports of the "attack," from the State civil defense director, after which lunch was served the State officials. They returned to Columbus later in the day.

Youngstown had one of the most comprehensive public participation exercises in the test. Led by Mayor Frank X. Kryzan, the city evacuated. The mayor and other city officials were transported to an alternate location. All of Mahoning County participated in the exercise, in cooperation with Youngstown. Eleven downtown buildings, including that of the U. S. Steel Co., evacuated personnel on the alert signal. Dispersal of 65 percent of fire equipment and other city equipment was effected.

A mobilization of physicians brought 135 of the county's 250 doctors to the registration points 8 miles from the city. Civil defense personnel in the entire country were mobilized.

Adding realism to the exercise the 554th Explosive Ordnance Detachment detonated a mock bomb near the city's center. An unexploded ordnance reconnaissance unit participated.

All traffic was halted throughout the county and shelter procedures were undertaken.

In mobile support areas, 1,200 civil defense volunteers and 60 vehicles were mobilized and moved into a simulated disaster area in which actual operations were carried out under realistic disaster conditions. This included huge fires, explosions, and an operation which activated the entire warden service, communications, fire service, rescue, first aid casualty center, and decontamination units.

Pennsylvania took part in the exercise on an all-out statewide basis, although the new public action signals had not yet been adopted. In all segments of the State public participation was mandatory for a 10-minute period, following the red alert.

In Philadelphia, 4,000 persons were evacuated from the 4 city regions, 1,000 from each region. These evacuees were guided to points from 8 to 15 miles distant, then returned.

### Natural Disasters

Personnel of region II office became heavily involved in natural disasters, particularly Hurricanes Connie and Diane in August, as well as recurrence of heavy rains in mid-October. Eastern Pennsylvania was declared a major disaster area, with 17 counties involved.

Overall damage estimates totaled $76,739,700 for the August flood disaster in Pennsylvania with an estimate of $1,151,000 for additional damage in October. The Presidential Disaster Declaration of August was extended, both in time and area, to cover additional damage suffered in October. An advance of $1,000,000 was made to the Commonwealth of Pennsylvania for payment of disaster relief claims under Public Law 875. The full coordination, cooperation, and utilization of all Federal agencies concerned, particularly the Corps of Engineers, assisted materially in alleviating distress and suffering, and in making essential repairs of temporary nature.

Nine additional counties in Pennsylvania were affected by the October floods, listed as follows: Bradford, Lycoming, Montour, Northumberland, Snyder, Sullivan, Susquehanna, Tioga, and Union.

Ten counties originally included in the August disaster were struck again in October. This list included: Carbon, Columbia, Lackawanna, Lehigh, Luzerne, Monroe, Northampton, Pike, Wayne, and Wyoming.

When Hurricane Diane threatened to strike portions of region II, the Regional Administrator placed the staff on a 24-hour operational basis. On August 17, however, when the Weather Bureau reported Diane had spent her fury, the staff returned to normal operations.

By the evening of August 18, when reports of floods in the Poconos began sifting in, the region returned to 24-hour operation.

Local civil defense organizations did an outstanding job when the disaster struck. Through civil defense some 600 children were evacuated by military helicopters from islands in the Delaware River.

When the main bridge between Stroudsburg and East Stroudsburg was washed out, civil defense personnel operated motorboats as ferries between the two boroughs.

At an emergency meeting of the Monroe County Board of Commissioners and the Stroudsburg Borough Council on August 20, the reins of government were turned over to the county civil defense director. He, in turn, designated the Pennsylvania State eastern area director to head up the disaster relief work.

Various teams were organized, including a body recovery team. A temporary morgue was established in a local shop, which offered the only refrigeration. Mass care centers were established in schools and churches.

Two babies were born during the emergency in mass care centers. They were delivered by civil defense doctors from Berks County.

When a tornado struck at Youngstown, Ohio, March 1, 225 trained civil defense workers reported for duty at the call of the Youngstown-Mahoning County civil defense director. They assisted in rescue, debris clearance, police, medical, and in mass care for the victims.

Early in the summer an explosion rocked the town of Andover, Ohio. Civil defense volunters from Ashtabula responded, as did eight ground observer corps volunteers, who joined with other trained civil defense personnel in assisting in guard and relief duty.

### Legislation

Important legislation affecting civil defense was passed in 1955 by the legislatures of four States. Delaware and Pennsylvania passed laws giving responsibility for action in natural disasters to civil defense. This makes region II now 100 percent in that area. Two States—Ohio and Pennsylvania—passed Workmen's Compensation laws covering civil defense volunteers, while the Delaware Legislature defeated similar legislation. The West Virginia Legislature authorized the purchase of land for the construction of a State control center.

### Other Federal Agencies

The importance of close coordination with other Federal agencies and the American National Red Cross was further demonstrated during the 1955 Pennsylvania flood disaster, when the agencies charged with responsibilities under the Natural Disaster Act and the Red Cross played a major part in alleviating human suffering and temporarily restoring damaged public property.

A mutual understanding of the respective problems resulted from numerous conferences between regional staff officers and the liaison representatives appointed by each Federal agency. In some areas the appointment of liaison representatives was complicated by lack of uniformity in the regional areas. In most cases, however, the regional office was able to bridge territorial areas and obtain a single appointment to represent the several portions of each Federal agency's regional area. Additional contact was made at the regional level to provide liaison should an emergency preclude going through the central contact.

WARNING AND COMMUNICATIONS

During the year the District of Columbia acquired and placed in operating condition a new group of gasoline-operated sirens for the attack warning system. A warning signal room was maintained on a 24-hour basis.

Of the 44 principal cities in target and critical target areas in the region, 31 have completed, or have contracted for Federal contributions to complete their warning systems, an increase of 9 during 1955. Of the remaining 13, all except 1 (Akron, Ohio) have partially completed, or contracted for Federal contributions to partially complete their warning systems.

A total of 365 requests for warning equipment and recurring charges in connection with warning equipment were received from the States in region II for Federal contributions, totaling $697,000. The majority of these were from smaller cities and communities which provide support of target and critical target areas, and which would probably be affected by fallout. It is estimated that when all the equipment for which Federal funds have been contracted is installed, warning coverage in region II principal cities in target areas and critical target areas will be approximately 90 percent complete.

The contributions program for communications systems in region II progressed during 1955, with a total of 541 communications requests received for Federal contributions totaling $2,406,000.

Participation by radio amateurs in the RACES program has increased during 1955. At the present time, there are 33 authorized RACES plans in operation throughout region II, 16 of which were approved in 1955.

In West Virginia a radio communications room was established during the year in the basement of the State capitol at Charleston. The room was completely equipped by the State division of civil defense for the training and use of radio amateurs. A mobile communications unit was placed in operation in conjunction with the fixed station in the capitol. Throughout the State the communications program was expanded.

SUPPLY

In line with the regional goal of operation readiness, the 14 engineering stockpiles in region II were moved from critical target areas to safer localities.

In addition to the three medical warehouses in operation in the region, plans are being completed to open other warehouses during the early part of 1956, as suitable facilities in approved areas are made available.

TRANSPORTATION

Transportation moved several steps nearer the operational readiness goal during 1955.

The first draft of the regional water transportation organizational plan was completed with the aid of the Regional Transportation Advisory Committee and circulated among the States. As the year ended the plan was being studied for joint application by States and localities.

The second draft of the *Regional Joint Transportation Operational Procedures Manual* was published.

Four transportation conferences were conducted during the year, 2 regionwide 2-day meetings, 1 in Columbus and the other in Hagerstown, Md., in conjunction with State directors' meetings. The other conferences were in Washington and Norfolk.

During Operation Alert 1955, the entire Regional Transportation Advisory Committee, embracing all phases of transportation, was active as an operating organization. This group included, in addition to public and private transportation organizations, the Federal agencies having statutory powers of regulation or control over transportation.

Maryland, Pennsylvania, Delaware, and Virginia completed Gateway Emergency Transportation organizations during the year. These States, as the year closed, were completing operational procedures.

The executive committee of the Ohio Civil Defense Corps concluded that transportation should be a State and area responsibility, rather than that of local or county organizations. As a result, the State, working through its six mobile support areas, completed Gateway plans in all cities and arranged for handling boats on rivers and lakes. Plans for rail, air, and highway transportation already had been developed.

ENGINEERING

The regionl office assisted the States in the use of engineering stockpiled equipment for training purposes and conducted two demonstrations. Assistance and guidance also were given the Pennsylvania

Council of Civil Defense and the Bucks County civil defense director in the construction of a shelter area for 1,700 persons at a new chemical plant on the Delaware River.

The Baltimore City Water Department inaugurated a training program in the fall of 1955 to familiarize its personnel with the use of FCDA stockpiled engineering equipment, particularly water purifiers and mobile chlorinating units, under the direction of the Baltimore city deputy civil defense director.

When a water main broke in November in the Weems Creek section of Annapolis, Md., creating a fire hazard, the regional office released 540 feet of pipe for emergency use until repairs could be made.

During the northeastern Pennsylvania flood disaster of 1955 the regional engineer was assigned to the disaster area from August 23 until early December and processed and approved applications for reimbursement under Public Law 875.

### Rescue Service

As the year ended the District of Columbia was the only State of region II considered up to program requirements in trained rescue personnel. Following is a breakdown of estimated requirements, number enrolled, and number trained, where information was available from the States:

*Rescue Service program status*

| | Estimated requirements | Number enrolled | Number trained |
|---|---|---|---|
| Delaware (engineering and rescuing) | 9, 405 | 1, 411 | 1, 403 |
| District of Columbia | 3, 500 | 3, 500 | 3, 500 |
| Kentucky (mobile support) | 1, 930 | 558 | [1] INA |
| Maryland | 14, 235 | 2, 150 | 2, 150 |
| Ohio | 17, 754 | 6, 320 | INA |
| Pennsylvania | 17, 846 | INA | INA |
| Virginia | 3, 509 | 4, 255 | 3, 771 |
| West Virginia | 15, 000 | 350 | INA |
| Total | 83, 179 | 18, 544 | 10, 824 |

[1] INA—Information not available.

Pennsylvania was the only State in the region having enrolled and trained more auxiliary firemen than the estimated requirements. A breakdown of the fire program status as the year ended, based on information available from the States, follows:

| | Estimated requirements | Number enrolled | Number trained |
|---|---|---|---|
| Delaware | 7, 500 | 6, 500 | 6, 500 |
| District of Columbia | 1, 375 | 1, 110 | 1, 110 |
| Kentucky (mobile support) | 2, 985 | 5, 252 | [1] INA |
| Maryland | 17, 991 | 9, 553 | 9, 553 |
| Ohio | 56, 000 | 17, 422 | INA |
| Pennsylvania | 67, 977 | 71, 000 | 71, 000 |
| Virginia | 6, 306 | 5, 433 | 4, 173 |
| West Virginia | 9, 655 | 5, 710 | INA |
| Total | 169, 789 | 121, 980 | 92, 336 |

[1] INA—Information not available.

## Police Services

During the year, the regional public safety services specialist participated in an emergency traffic control course at the University of Louisville, a traffic control session at the Maryland State Police Institute, University of Maryland, and a civil defense session of the Ohio Mobile Support Training School at Camp Perry. He assisted Montgomery County, Md., in preparing training material for the county's civil defense auxiliary police course.

Harford County, Md., organized and trained a horse patrol that, at the year's end, had created unusual interest in civil defense. The mounted auxiliary police unit was given regular civil defense auxiliary police training, and a special course for mounted patrols. In addition to being ready for emergencies, the patrol was in great demand for parades and other public functions.

Cleveland's civil defense auxiliary police gained widespread recognition during 1955 for extracurricular activities. In addition to special assignments throughout the year, the auxiliary police direct traffic at 71 churches every Sunday. When the annual loyalty day parade was held in downtown Cleveland, 200 uniformed civil defense auxiliary police took part, comprising the largest single unit in the parade.

The police program status in region II, at the end of 1955, based on information available from the States, was as follows:

*Police services program status*

| | Estimated requirements | Number enrolled | Number trained |
|---|---|---|---|
| Delaware | 3, 134 | 1, 547 | 1, 547 |
| District of Columbia | 6, 278 | 4, 214 | 1, 607 |
| Kentucky (mobile support) | 4, 220 | 4, 781 | [1] INA |
| Maryland | 14, 520 | 5, 870 | 5, 870 |
| Ohio | 55, 418 | 25, 410 | INA |
| Pennsylvania | 60, 000 | 30, 000 | 20, 000 |
| Virginia | 4, 904 | 3, 789 | 2, 876 |
| West Virginia | 9, 405 | 2, 950 | INA |
| Total | 157, 879 | 78, 561 | 31, 900 |

[1] INA—Information not available.

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## Warden Service

As a result of the survival plan program, the warden service in most of the States and critical target areas was being revised late in 1955. In the District of Columbia the warden service was completely revised late in the year. A new director, a volunteer, was named and as the year ended recruitment and training were progressing. Ohio also was reviewing its warden service and developing plans to make greater use of its enrolled personnel in the survival plan studies and program.

Baltimore County, Md., which depends on the warden service for contact with the public in all phases of civil defense, continued its program of organization by sectors. The goal set by the county civil defense director is one warden and an alternate for every block of the county.

Status of the warden program service, based on available information from the States, was as follows at the close of 1955:

*Warden service program status*

| | Estimated requirements | Number enrolled | Number trained |
|---|---|---|---|
| Delaware | 7, 683 | 83 | 83 |
| District of Columbia | 60, 000 | 1, 319 | 791 |
| Kentucky | 28, 050 | 1, 237 | [1] INA |
| Maryland | 40, 720 | 13, 400 | 13, 400 |
| Ohio | 304, 059 | 25, 120 | INA |
| Pennsylvania | 262, 450 | INA | INA |
| Virginia | 21, 094 | 5, 257 | 2, 063 |
| West Virginia | 29, 700 | 1, 950 | INA |
| Total | 753, 756 | 48, 366 | 16, 337 |

[1] INA—Information not available.

## Health and Special Weapons

Allocation of 6 improvised hospitals to region II late in 1955 was expected to stimulate the civil defense medical program throughout the region.

Through the United States Public Health Service, special courses in chemical, radiological, and biological warfare and emergency sanitation were conducted in Maryland and Virginia and plans completed for a similar course in Pennsylvania in mid-January 1956.

The Ohio State Public Health Journal and the Pennsylvania State Public Health Journal each devoted one monthly issue during the year to civil defense.

Equipment for 43 first aid stations was stored by the Delaware State Department of Civil Defense in New Castle County in 1955, primarily for use in Wilmington. As the year ended Wilmington and New Castle County civil defense organizations were planning to recruit and train

personnel and locate sites for first aid stations in the outer fringes of Wilmington.

Training courses for casualty clearing station personnel were conducted by the Maryland civil defense agency, in cooperation with the State Department of Health, in 12 communities during the year. Two hundred persons were trained in casualty care. To stimulate interest in this phase of civil defense, a mobile casualty clearing station toured the State and was used in the 12 training courses.

Spurred by the Ohio State Civil Defense Corps, local and county civil defense organizations increased radiological monitoring recruitment and training during the year. In Cincinnati, in particular, the radiological service was expanded, with the result that the Cincinnati-Hamilton County area had one of the largest trained radiological divisions in the State as the year closed.

Plans for the distribution by counties of $4 million worth of stockpiled medical supplies were completed late in 1955 by the Pennsylvania Civil Defense Council. Distribution was scheduled to begin shortly after January 1, 1956. These stockpiles, purchased under the Federal contributions program, have been accumulated the past 2 years and stored at Indiantown Gap.

A statewide training program for nurses is scheduled to get under way in Pennsylvania early in 1956. Nurses who attended the FCDA special nurses' training course will head the new program. The director of civil defense medical services for Pennsylvania reports an unusual interest in civil defense on the part of nurses.

The Virginia State Medical Society, at its annual meeting in October, devoted considerable time to civil defense. A special conference for physicians was conducted in the fall by the Fayette County, W. Va., civil defense organization.

### Women's Activities

One of the greatest advancements in the region's overall operational readiness goal was made with the enrollment of hundreds of clubwomen in the civil defense program, as a result of a series of training conferences conducted under auspices of the Regional Director of Women's Activities.

The first of a series of 3 all-day meetings was held in March in Philadelphia. This conference attracted some 400 women from all parts of the region.

The second was in Lexington when 500 women from all parts of Kentucky responded. The third was in Wilmington, Del., attended by 150 clubwomen.

Civil defense exhibits of various kinds were displayed at the three meetings, including Grandma's Pantry. At the Lexington meeting the city park department constructed a complete Grandma's Pantry

in the auditorium foyer. This included food-stocked shelves, an old-fashioned stove, and a hand pump. A grandma occupied a rocking chair in the pantry exhibit and answered questions about civil defense planning.

Two similar meetings, though not of statewide proportions, were held earlier in the year in Norfolk, Va., with an attendance of 200.

The Regional Director of Women's Activities did considerable work in 1955 with youth groups. She addressed the Girls' Nation and Girls' State, a Senior Girl Scout Conference, and worked closely with the Future Homemakers of America. She recruited, briefed, and assigned 120 volunteers who augmented the regional staff in operation Alert 1955.

In mid-November, the first of a series of 3-day home protection exercise courses for instructors was held at the FCDA Olney Training Facility. Although these courses are sponsored by the Maryland Federation of Women's Clubs, the Maryland State training officer, Montgomery County civil defense organization and the regional director of women's activities set up the courses in cooperation with the MFWC civil defense chairman.

### Training

Staff College courses were presented by Ohio State University, Columbus, on a quarterly basis during the year. Ohio State University was the first college in the country to enter into a contract with FCDA for this course. The University of Maryland, College Park, entered into a similar contract under the FCDA traveling team program, and conducted its first course in October.

New Castle County recruited large groups for rescue training and applied for erection of a rescue school under the Federal contributions program. In cooperation with the American National Red Cross, New Castle County and the city of Wilmington stepped up their respective first aid and home nurses' training. New Castle expanded its radiological monitoring courses and teams through an intensive program of training. As the year ended the county was developing training courses in communications and warden services.

Training in Maryland continued at increased tempo during 1955. In addition to the FCDA Staff College course the State civil defense agency, in cooperation with local units, conducted 12 rescue courses, training 200 volunteers.

Several classes in explosive ordnance reconnaissance were conducted throughout the State by personnel of Second Army.

A total of 94 classes for auxiliary firemen gave training to an additional 2,000 men during 1955.

Training of auxiliary police showed a marked increase in Maryland during the year. At the University of Maryland Police Institute, 150 civil defense auxiliary police from all parts of the State were graduated. The State civil defense agency issued a revised police training manual late in the year.

Montgomery County civil defense graduated 150 auxiliary police in September; Baltimore County graduated 175, Baltimore city 225, and Harford County 75.

Classes in emergency welfare were conducted in cooperation with the State Department of Forests and Parks.

Baltimore city, in cooperation with Baltimore County, conducted an average of 40 training courses a week during the fall and winter months of 1955. These classes were held throughout the city and county and ranged from light rescue and first aid to heavy rescue and advanced civil defense.

In the spring of 1955 the Pennsylvania Council of Civil Defense was obliged to close its State civil defense training center on the Pennsylvania State College campus at Ogontz Center, when the college required the space used by civil defense. The State training officer was transferred to Harrisburg headquarters and from there organized traveling teams. During the fall and winter the traveling training teams conducted courses in administration, operations, light rescue, and other phases of civil defense in the counties.

### Public Affairs

Early in the year an all-day regionwide public affairs seminar was conducted in connection with a State directors' conference in Columbus. Recommendations made to the State directors at the conclusion of the conference included:

1. A National Civil Defense Day under sponsorship of the FCDA during which the President would address the Nation by radio and television on the importance of civil defense.
2. Holding at least 4 test exercises during the year, 2 primarily for training civil defense personnel and 2 involving public participation.
3. Further study of means of communicating news reports to newspapers and radio in event landlines are knocked out in an attack.
4. Appointment of public affairs divisions at all levels of civil defense.
5. Development by FCDA of more radio and television material for use by States and localities.

During the year the FCDA-produced CONELRAD exhibit was viewed by an estimated 100,000 persons. Displays of this exhibit included the General Federation of Women's Clubs convention in Philadelphia, the Ohio State Fair in Columbus, and West Virginia State Convention of Parent-Teachers Association. When not in use other-

wise the exhibit was displayed at the FCDA National Rescue Instructor Training School at Olney, Md.

The improvised hospital 10-panel photo exhibit was in great demand during the year. This exhibit was viewed by some 600,000 persons in Ohio, Pennsylvania, Virginia, and West Virginia and was a popular display at State medical association conventions.

A State-produced film, "Are You Prepared," in color was completed in 1955 and shown throughout Maryland.

With few exceptions Ohio newspapers devoted more space to civil defense in 1955 and covered more activities than in any previous year. In scattered instances a few newspapers published derogatory editorials, but as a whole the press was most cooperative.

Radio and television also increased programs and announcements for civil defense. The regional office had requests in 1955 from Ohio to develop a special series of radio and television programs for civil defense.

As the year ended only two States in region II, Maryland and Ohio, had public information officers. The District of Columbia lost its fulltime paid PIO in midyear due to a reduction of its appropriation by Congress.

CONTRIBUTIONS

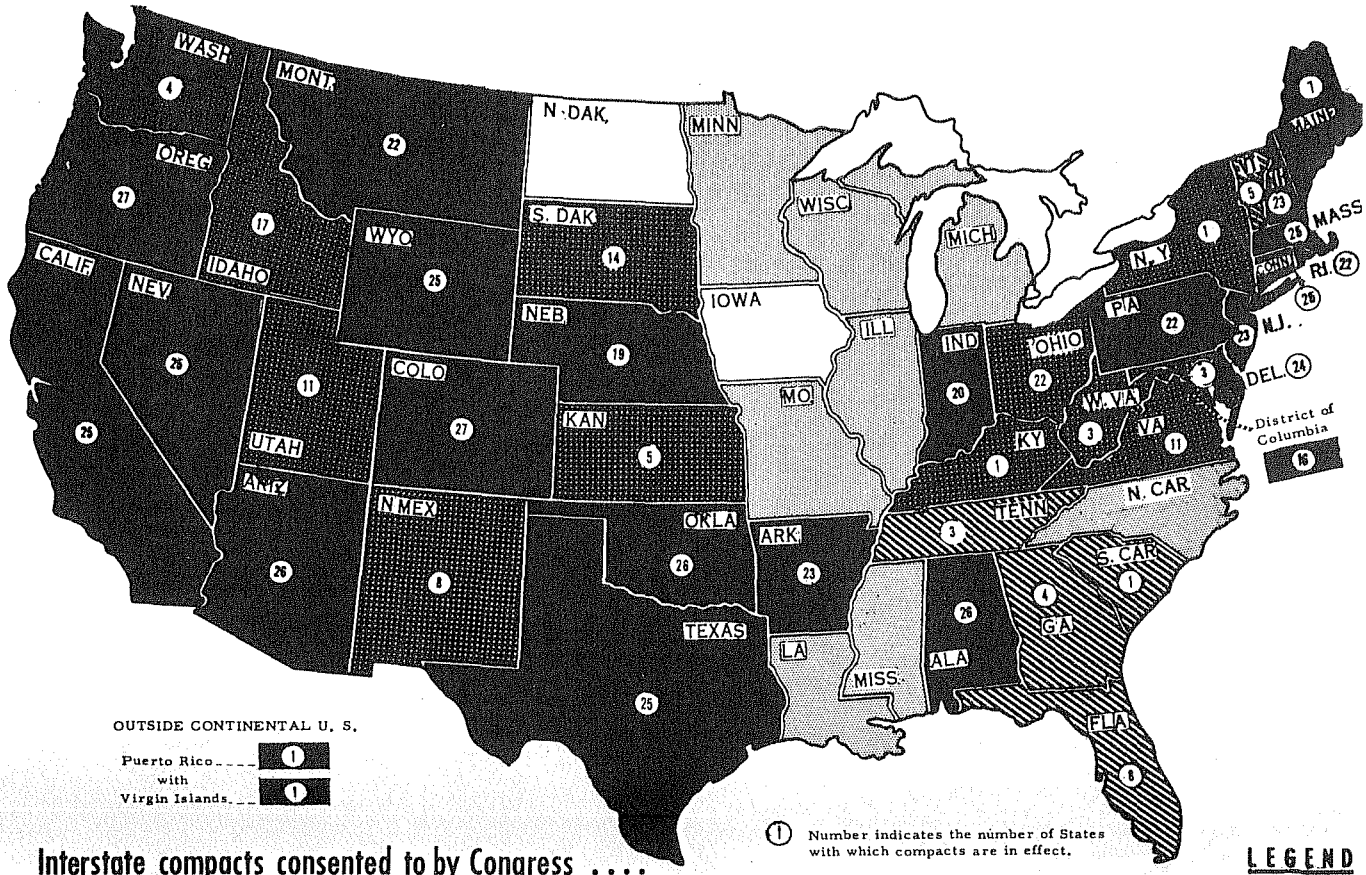
A very active Federal contributions program was administered by the regional office during calendar year 1955. The $2,325,806, allocated to region II for fiscal years 1955 and 1956 was completely obligated by mid-November, and upon authorization approximately $800,000 additional funds were obligated. These were distributed among programs as follows:

| | *Percent* |
|---|---|
| Attack warning | 23 |
| Communications | 51 |
| Engineering | 3 |
| Health and special weapons | 5 |
| Public education and information | 2 |
| Rescue | 7 |
| Training and education | 8 |
| Welfare | 1 |
| Police | 1 |

The following is the percentage of participation by States in region II:

| | *Percent* |
|---|---|
| Pennsylvania | 59 |
| Ohio | 13 |
| Delaware | 7 |
| Virginia | 7 |
| Maryland | 6 |
| Kentucky | 5 |
| District of Columbia | 2 |
| West Virginia | 1 |

# INTERSTATE CIVIL DEFENSE COMPACTS




## Interstate compacts consented to by Congress ....

| | Alabama | Arizona | Arkansas | California | Colorado | Conn. | Delaware | Dist. of Col. | Florida | Georgia | Idaho | Illinois | Indiana | Iowa | Kansas | Kentucky | Louisiana | Maine | Maryland | Mass. | Michigan | Minnesota | Mississippi | Missouri | Montana | Nebraska | Nevada | N. J. | N. Mex. | New York | N. Car. | N. Dak. | Ohio | Oklahoma | Oregon | Pa. | R. I. | S. Dak. | Tennessee | Texas | Utah | Vermont | Virginia | Wash. | W. Va. | Wisconsin | Wyoming |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ★ Alabama | ● | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ★ Arizona | | ● | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ★ Arkansas | | | ● | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ★ California | | | | ● | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ★ Colorado | | | | | ● | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ★ Connecticut | | | | | | ● | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ★ Delaware | | | | | | | ● | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dist. of Columbia | | | | | | | | ● | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Florida | | | | | | | | | ● | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Georgia | | | | | | | | | | ● | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Idaho | | | | | | | | | | | ● | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Illinois | | | | | | | | | | | | ● | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ★ Indiana | | | | | | | | | | | | | ● | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Iowa | | | | | | | | | | | | | | ● | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Kansas | | | | | | | | | | | | | | | ● | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Kentucky | | | | | | | | | | | | | | | | ● | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Louisiana | | | | | | | | | | | | | | | | | ● | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maine | | | | | | | | | | | | | | | | | | ● | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maryland | | | | | | | | | | | | | | | | | | | ● | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ★ Massachusetts | | | | | | | | | | | | | | | | | | | | ● | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Michigan | | | | | | | | | | | | | | | | | | | | | ● | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Minnesota | | | | | | | | | | | | | | | | | | | | | | ● | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mississippi | | | | | | | | | | | | | | | | | | | | | | | ● | | | | | | | | | | | | | | | | | | | | | | | | |
| Missouri | | | | | | | | | | | | | | | | | | | | | | | | ● | | | | | | | | | | | | | | | | | | | | | | | |
| ★ Montana | | | | | | | | | | | | | | | | | | | | | | | | | ● | | | | | | | | | | | | | | | | | | | | | | |
| ★ Nebraska | | | | | | | | | | | | | | | | | | | | | | | | | | ● | | | | | | | | | | | | | | | | | | | | | |
| ★ Nevada | | | | | | | | | | | | | | | | | | | | | | | | | | | ● | | | | | | | | | | | | | | | | | | | | |
| ★ New Hampshire | | | | | | | | | | | | | | | | | | | | | | | | | | | | ● | | | | | | | | | | | | | | | | | | | |
| ★ New Jersey | | | | | | | | | | | | | | | | | | | | | | | | | | | | | ● | | | | | | | | | | | | | | | | | | |
| New Mexico | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | ● | | | | | | | | | | | | | | | | | |
| New York | | | | | | | | | ● | | | | | | | | | | | | | | | | | | | | | | ● | | | | | | | | | | | | | | | | |
| North Carolina | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | ● | | | | | | | | | | | | | | | |
| North Dakota | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | ● | | | | | | | | | | | | | | |
| Ohio | | | | ● | | | | | ● | | | | | | | | | | | | | | | | | | | | | | | | | ● | | | | | | | | | | ● | | | ● |
| ★ Oklahoma | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | ● | | | | | | | | | | | | |
| ★ Oregon | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | ● | | | | | | | | | | | |
| ★ Pennsylvania | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | ● | | | | | | | | | | |
| ★ Rhode Island | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | ● | | | | | | | | | |
| South Carolina | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | ● | | | | | | | | |
| South Dakota | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | ● | | | | | | | |
| Tennessee | | | | | | | | | ● | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | ● | | | | | | |
| ★ Texas | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | ● | | | | | |
| Utah | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | ● | | | | |
| Vermont | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | ● | | | |
| Virginia | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | ● | | |
| Washington | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | ● | |
| West Virginia | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | ● |
| Wisconsin | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ★ Wyoming | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

★ Indicates those States which are willing to enter into the Model Interstate Civil Defense and Disaster Compact with all other States and have so notified the States and Congress.

## LEGEND

38 STATES HAVE ONE OR MORE INTERSTATE CIVIL DEFENSE COMPACTS IN EFFECT AS FOLLOWS:

20 States plus D.C., the Virgin Islands and Puerto Rico have Model Compacts and have offered to compact with all other States.

13 States have Model Compacts but have not offered to compact with all other States.

5 States have compacts with variations from the Model.

8 STATES HAVE AUTHORITY TO COMPACT BUT HAVE NOT FILED WITH CONGRESS.

2 STATES HAVE NO STATUTORY AUTHORITY TO COMPACT.

Vermont now has authority to amend her compact to the Model but has not yet done so.

The Kansas Attorney General has declared Kansas compacts invalid.

## REGION III—REGIONAL OFFICE, THOMASVILLE, GA.

States: Alabama, Florida, Georgia, Mississippi, North Carolina, South Carolina, Tennessee, Canal Zone, Puerto Rico, Virgin Islands

The population of the region, based on July 1, 1954, estimates of the Bureau of the Census, was 24,197,000. Critical target areas are Atlanta, Ga.; Birmingham, Ala.; and Chattanooga, Knoxville, and Memphis, Tenn.

Major objectives in this region have been to develop and maintain effective relationships with the Governors and key public officials of the States; with the State directors and their staffs, and with other Federal agencies, particularly those delegated civil defense responsibilities, and to encourage and assist the States in the quickest possible development of operational readiness.

Steady progress was made in achieving those objectives, in addition to those established for the individual services by the National Headquarters. Some of the highlights follow:

### Relationship With Governors

Immediately upon appointment in 1954, the regional administrator paid personal calls upon the Governors of the respective States, discussed civil defense in general and Public Law 875 in particular, and established close working relationships. Newly elected Governors who took office early in 1955 in three States were paid similar visits. This closer relationship proved its worth during natural disaster operations and is expected to have a long range effect on budgetary, legislative, and moral support of State and city civil defense within the respective States.

Indicative of this is the following resolution adopted by the Chief Executives of 16 States attending the Southern Governors' Conference at Point Clear, Ala., October 17–20:

"Whereas, the Southern Governors' Conference recognizes the outstanding work done by the Federal Civil Defense Administration in the field of promotion, advice, organization of our respective State and local forces and resources for the defense of our Nation, and the prompt and efficient aid rendered to those areas affected by natural disaster; now therefore be it resolved that the Southern Governors' Conference extends thanks and assurances of its continued support and cooperation to Gov. Val Peterson; the Federal Civil Defense Administration; Judge Thomas H. Goodman, the Regional Administrator; all States and local civil defense organizations; and the thousands of volunteers giving of their time and effort to this worthy cause."

### Relationship With State Directors

State directors of the region have formed a formal organization to discuss and solve common problems, to bring about better coordination and more effective assistance in mutually beneficial projects, and to achieve a closer overall working relationship with the regional office. Regular quarterly meetings were held. The association is also proving an excellent medium of mutual guidance, assistance, and advice not only between the individual States, but between the region and the States as a coordinated group. Col. Miguel A. Munoz, Director for the Commonwealth of Puerto Rico, was recently elected President to succeed Robert L. Fox, Mississippi State Director. Meetings have been held at Biloxi, Miss.; Atlanta, Ga.; Thomasville, Ga., and Daytona Beach, Fla.

### Relations With Other Federal Agencies

Other Federal agencies in this region, especially those with FCDA delegated responsibilities and natural disaster relief resources, are progressively taking a more effective part in civil defense. Excellent cooperation and liaison between these agencies and the regional office was established in 1955. Thirty-one Federal agencies were represented at the Regional Control Center by 52 auxiliaries, liaison officers, or observers during Operation Alert 1955.

The Regional Civil Service Commission assigned 6 secretaries to assist the augmented staff. During 3 natural disasters, 20 other Federal agencies were alerted and either committed resources or stood by ready to take requested action. Most excellent cooperation has been afforded by the Third Army and Corps of Engineers, especially in disaster operations, and which will become even more effective with the assignment of a Third Army liaison officer and mobile communications unit to accompany the FCDA disaster team into action at the scene of threatened or actual disaster. A meeting of all agencies with delegated civil defense responsibilities at the regional office during December resulted in clarification of delegated responsibilities and closer relationship. The regional administrator and staff members attended several conferences held by agencies with delegated responsibilities and have assisted in intra-agency training in delegated civil defense functions.

### Evacuation Plans and Tests

Most of the major cities in the region have developed interim evacuation maps and plans, although in most instances much remains to be done in the planning for reception, shelter, and care of evacuees. Several have staged successful evacuation tests. Notable among those which have published and distributed evacuation maps in conjunction with extensive public education programs are: Birmingham, Montgomery, Memphis, Knoxville, and Chattanooga.

Successful evacuation tests were staged in Mobile, Atlanta, Savannah, Jackson, Orlando, Jacksonville, Knoxville, Charlotte, Columbia, and at several air bases. The Mobile test, Operation Kids, held on March 15, was the second large-scale test for that city. Previously the Mobile civil defense organization had evacuated a large section of the downtown business section in the first successful large-scale movement by automobile. During Operation Kids over 37,000 children from 75 of the 84 schools within the county participated. This also was a mass movement by automobile and bus, which attracted observers throughout the Nation. Operation School Test in Atlanta May 18 moved only 8,242 students from 17 schools, but an estimated 160,000 school children in 4 counties took part in the exercise by departing from classrooms and marching to loading areas.

The Savannah test was significant because of plans to use railroad transportation. During Operation Box Car May 25, more than 18,000 Savannah students, accompanied by several hundred teachers and parents, walked out to staging areas at various railroad sidings, where in event of an actual emergency the railroads would supply sufficient freight cars to transport them to safer areas. Evacuation by railroad has been determined the most feasible method because of the lack of exit highways.

Evacuation tests in the other cities have been confined mainly to selected school areas or small business sections. No additional large-scale evacuation tests are scheduled at present and it is felt that most directors will now await further development of the survival plan program in order not only to test the movement of masses, but to extend these tests more thoroughly to the reception, shelter, and care of evacuees.

### Natural Disasters

Three hurricanes, Connie, Diane, and Ione, struck the coastal areas of North and South Carolina during the period August 11–September 19, wreaking untold millions in damage. Many areas had not yet recovered from the devastating damage of Hurricane Hazel which struck both North and South Carolina last year. In addition to the damage to homes, buildings, streets and highways and municipal installations, torrential rains and backed up waters from the bays flooded many areas, in some instances leaving formerly productive farmlands seriously affected by salt deposition. In each instance the regional FCDA disaster team went into quick action on the scene, and all Federal agencies with disaster relief capabilities were alerted. In two instances, the regional administrator was able to accompany the Governor of North Carolina to the threatened area and at the scene coordinated protective and relief work. Administrator Val Peterson flew to the scene for a personal survey of the stricken area within a

few hours after Ione had struck. This was not only reassuring to the residents of the area, but his timely arrival and survey of the situation afforded an opportunity to throw the full resources of the State and Federal Governments into relief activity. A previous major disaster declaration by the President was quickly extended to cover each of the two succeeding disasters, and resources of many Federal agencies, particularly the armed services, were immediately put into action.

The disasters focused attention on the peacetime role of civil defense, and have resulted in greatly advanced operational readiness in all elements of civil defense in North Carolina. Evacuation and rescue tasks were carried out in almost routine manner; emergency communications were fully tested inasmuch as landline communications had failed, and local civil defense personnel assisted the American National Red Cross in feeding, housing, and other welfare tasks. This experience also afforded an opportunity to train State personnel in the proper processing of project applications, and has had important educational value with respect to Congressional intent under Public Law 875 for State and local governments.

Praise for FCDA's administration of Public Law 875 came from State, county, and city public officials, the press, and the general public. Natural disasters, of which this region has had its full share, have also resulted in considerable operational training for the regional staff.

Members of the regional disaster team were at the scene and assisted during the Columbus, Miss., flood of late March, and several water shortages were investigated in cities of the region to determine whether the loan of emergency pipeline and pumps was indicated.

### Increased Public Awareness

There have been several outstanding events to bring civil defense into sharp public focus, in addition to the region's long-range public education efforts. Operation Homefront, a concerted regionwide campaign to stimulate family survival preparedness was conducted during the week of November 6 under the direction of State Coordinators of Women's Activities. Fullest support was extended in most States by issuance of proclamations by governors and mayors, and wholehearted cooperation was forthcoming from major grocery and drugstores and filling station chains. Theme of the week was a 7-day food supply and first aid kit in the home, and maintenance of at least half a tank of gasoline in the family car. Retail outlets of these three segments of business marked the week with special window displays, posters, banners, cooperative newspaper advertising and public distribution of civil defense literature. A phenomenal distribution of nearly 3 million pieces of literature above normal supplies within each State was attained. The pamphlet, *Six Steps to Survival*, was the most popular. Women's organizations cooperated in staging special

events, special civil defense displays were exhibited in prominent downtown locations and at fairs, special homefront floats were entered in numerous Armed Forces Day parades, and extended newspaper, radio, and television campaigns were conducted in most States.

Another event with great public impact because of attendant publicity was the week long series of civil defense activities at Knoxville, Tenn., September 5–10. Centered around a highly successful FCDA Staff College course which attracted 65 students and 10 observers, the week was marked by a conference of Governors and State civil defense directors, a civil defense press seminar for newspaper publishers, and a dramatic fire and rescue demonstration.

Developed by the Tennessee office of civil defense with the cooperation of the two Knoxville newspapers who jointly sponsored the press seminar, the series of events afforded Administrator Peterson and other National Office officials and the Regional Administrator an excellent forum for discussing civil defense concepts, policies, plans, and achievements. Sixteen States were represented either by Governors, State directors, or publishers.

Excellent coverage in public information media was obtained for staff college courses in Georgia and Florida; the dramatic coverage given evacuation tests in several regional cities, and the extensive coverage given FCDA's role in natural disasters further focused public attention upon civil defense in the region.

### Operational Readiness

In addition to the training afforded by natural disasters, two operations exercises have resulted in additional training for regional, State, and city staffs. A regional exercise, Operation Interim, was conducted February 25 with all States participating. Several States activated control centers for the first time, and numerous problems were worked out in advance of Operation Alert 1955, the nationwide exercise of June 15–16. Operation Alert 1955 contributed much to developing a greater operational readiness at all levels. This was especially true of the regional office. For the first time, sufficiently trained auxiliary personnel were available to allow 3-shift operation. These came mainly from the 31 Federal agencies which were represented by 52 officers and 9 secretaries. A number of local volunteers were also on duty.

Other Agencies represented at the Regional Control Center during this exercise included the Bureau of Public Roads, Corps of Engineers, Housing and Home Finance Administration, Civil Aeronautics Administration, Bureau of Labor Statistics, Federal Communications Commission, United States Weather Bureau, Fish and Wildlife Department, Postoffice Department, Public Health Service, Third Army, Public Housing Administration, the Air Force, Bureau of Employment Security, Securities Exchange Commission, Atlanta, Army Gen-

eral Depot, the Navy, Tennessee Valley Authority, Small Business Administration, General Services Administration, Department of Commerce, Veterans' Administration, Civil Service Motor Carriers, National Labor Relations Board, Railroad Retirement Board, Forest Service, and Treasury Department.

Many cities simulated the evacuation of downtown areas. Among those staging actual partial evacuation were Memphis, where an estimated 25,000 were evacuated from office buildings, and Atlanta, where 3,500 government officials, including 2,000 Federal employees, were evacuated from 17 locations. The Federal employees were moved 7 miles, registered, and fed.

### Regional Staffing

Progress was made in securing competent personnel to bring the regional staff into line with the National Headquarters structure. The welfare officer position was filled and there were changes in personnel in the training and education and women's affairs positions.

### Changes Within States

New Governors took office in Alabama, Florida, and South Carolina, and a new Governor was nominated in Mississippi. New State directors were appointed in Alabama, Florida, and the Virgin Islands. The Florida office of civil defense was placed under the State Adjutant General's office by legislative act. The Tennessee civil defense law was modified to include natural disasters.

## REGION IV

## REGIONAL OFFICE, BATTLE CREEK, MICH.

States: Illinois, Indiana, Iowa, Michigan, Minnesota, North Dakota, South Dakota, and Wisconsin

Twelve of the 70 critical target areas are in this region. Regional population was estimated at 31,188,000 by the Bureau of the Census as of July 1, 1954. This represents more than 19 percent of the population of the continental United States.

The regional office was moved from Joliet, Ill., to Battle Creek, Mich., on March 1, 1955, with a minimum of confusion. Although new personnel had to be employed in Battle Creek for all clerical positions, the work of the office suffered only minor interruption.

Indicative of the smoothness of the operation is the fact that a total of 55 volunteers for participation in Operation Alert were recruited in Battle Creek, and by June 15 they had been trained to a state of operational readiness. All participated in the test exercise.

### Test Exercises

Operation Cue attracted much attention and interest throughout the region. Approximately 200 obververs, media, and field exercise personnel from the regional area joined the three regional office staff members at the Nevada Test Site for the open shot.

All States of the region and 138 cities within them participated in Operation Alert 1955. Twenty of the cities tested evacuation plans during the exercise, and 3 conducted actual evacuations.

A number of other Federal agencies took part, including the Federal Communications Commission, Public Health Service, Bureau of Public Assistance, House and Home Finance, Department of State, National Disaster Service, Fifth Army Headquarters, Office of Defense Mobilization, Department of Agriculture, Civil Service Commission, and the American National Red Cross.

### Urban Analysis

The city of Grand Rapids, Mich., completed an urban analysis, and studies to that end are continuing in Detroit and Flint, Mich. Fort Wayne, Ind., held its first urban analysis meeting, and similar meetings were scheduled for Indianapolis, South Bend, Evansville, and Jeffersonville, Ind.

### Operational Program

The regional operations plan was expanded during the year, and considerable progress made toward the integration of the operational plans of all of the States into the regional plan.

New State directors were appointed in Michigan, Minnesota, North Dakota, and South Dakota.

Two key points were added to the Civil Air Defense Warning System, 1 at Rapid City, S. Dak., where the State civil defense headquarters is now located, and 1 at Park Forest, Ill. This brought to 51 the number of key points within the region. Studies continued for the relocation of key points in critical target areas to locations outside the areas of probable blast damage.

### Survival Planning

Survival studies are underway in 4 of the 12 areas selected initially for such projects. They are: Chicago, Detroit, Milwaukee, and Minneapolis-St. Paul. All have entered into the survival plan as part of an evacuation complex and have agreed with State and other political subdivisions involved to conduct the program under area authorities.

Studies of shelter and the reception and care of evacuees have been started in Milwaukee, to continue along the lines established by those made in 1954 by Wilbur E. Smith Associates and the Traffic Institute of Northwestern University.

WARNING AND COMMUNICATIONS

Attack warning coverage for target and critical target areas in region IV, based on actual installations and those approved on project applications for the calendar year 1955, was as follows:

| State | Critical target area | Target area |
|---|---|---|
| | *Percent* | *Percent* |
| Illinois | 100 | 100 |
| Indiana | 85 | 70 |
| Iowa | 100 | 80 |
| Michigan | 75 | 65 |
| Minnesota | 100 | 100 |
| North Dakota | No CTA | 0 |
| South Dakota | No CTA | 0 |
| Wisconsin | 100 | 75 |

All State civil defense communications plans were completed during the calendar year. Assistance in the preparation of these plans was given in every case by the regional office.

All States also have completed RACES plans, and four—those of Illinois, Michigan, Minnesota, and Wisconsin—have been approved by FCDA and the FCC.

Nineteen county and city RACES plans also have been approved, and a regional plan, to utilize local radio amateurs not needed in the Michigan RACES plan, has been developed.

The communications officer addressed regional, State, and city conventions of radio amateurs at Grand Rapids and Muskegon, Mich., and Bismarck, N. Dak., and a combined meeting of post commanders of the American Legion, Veterans of Foreign Wars, and other organizations in the Battle Creek, Mich., area.

Methods for handling civil defense communications over State highway patrol and sheriffs' mobile units were demonstrated to 800 Boy Scouts at a "camporee" in Athens, Mich. The Michigan Bell Telephone Co. also demonstrated a mobile radio-telephone system.

Fifty-five volunteers were recruited and trained for duty in the regional communications center during Operation Alert 1955.

SUPPLY

Three new medical warehouses have been activated—one, with a capacity of 100,000 square feet, in a former naval shipyard at Seneca, Ill.; one at Hampton, Iowa, with 85,000 square feet of space, and a third at Carbondale, Ill., of about 63,000 square feet.

New and safer sites for six engineering stockpiles have been found and the equipment has been moved to these locations. The seventh unit will be moved soon.

TRANSPORTATION

Minnesota held an organization conference of important civil defense and industrial transportation men with the region participating. The organization of the transportation staff is proceeding but is not complete due mainly to settlement of evacuation plans from critical target areas. So far as known, this is the first State to take action and follow through. Michigan is organizing under ODM bulletin TSC–81, but due to evacuation planning further work has been delayed.

Because of the move of the regional office to Battle Creek, the regional transportation operations staff is being reorganized.

Transportation plans for medical warehouses have been completed at Bremen, Ind., and are nearly completed for Marshall, Mich. The plan for the warehouse at Seneca, Ill., is now in the process of organization and the plans for the warehouses at Hampton, Iowa, and Carbondale, Ill., are underway.

PUBLIC SAFETY

The regional public safety officer attended regional conferences in Des Moines, Detroit, and Chicago, and the midwest safety and fire conference in Chicago during the report period. A total of 37 meetings of miscellaneous character was attended during the year. Eight talks were made before public groups and an exhibit was managed at the Michigan State Safety Council meeting in Grand Rapids, Mich., Bismarck, N. Dak., and a combined meeting of post commanders of the American Legion, Veterans of Foreign Wars, and other organizations in the Battle Creek, Mich., area.

Special efforts have been made to stimulate the organization of warden services and the training of wardens throughout the region. Six special 2-day warden instructor's training courses were promoted and held in region IV during the year. These were held at Rock Island, Park Forest, Cicero, Springfield, and Skokie, Ill. Similar courses are now being planned for other States.

A 2-day regional civil defense fire conference was held in Davenport, Iowa, on May 6–7. All States except North and South Dakota were represented by the 160 fire officials who attended.

The regional public safety office conducted a short course in civil defense police duties at the University of Iowa at Iowa City. Twenty-six police officials attended.

Suitable rescue training facilities were completed in Madison, Wis., and Minneapolis, Minn., during the year.

Special efforts were made throughout the year to promote internal civil defense by private industries. Two industrial civil defense institutes were held in Illinois during the year. One, in Peoria in

September, drew 56 industrial representatives to a 2-day program. The other, in Springfield, in October, drew 75 people.

A total of 29 matching funds applications in the rescue category was processed under the Federal contributions program and final disposition was made of a number of applications for fire equipment ordered in previous years.

### Engineering

The regional engineer spent most of his time during the past year on natural disasters within region IV and on assignment to region I in connection with the hurricane and flood disasters in New England.

Damage surveys of northern Indiana flood areas in October 1954 were completed and a Presidential allocation made in January 1955. Assistance was given 15 communities in preparation of applications for reimbursement. Documentation of the indebtedness incurred for 8 of the municipalities was reviewed and reimbursements recommended.

Final inspections were completed in areas affected by the June 1954 floods in central and northwest Iowa. Indebtedness documentation for all counties and municipalities that had approved reimbursement applications was reviewed and reimbursements recommended.

Following requests for assistance by the respective Governors, loans of engineering stockpiled property were made to Mattoon, Ill., and Albia, Iowa, to relieve water shortages. These communities are dependent on surface water storage and their reservoir supplies had been depleted.

### Engineering Training Program

A training program was initiated in August at the FCDA warehouse location at Seneca, Ill., to develop operators experienced in the use of the stockpiled engineering equipment, principally in the operation of the 100-g. p. m. water purification units. Training is also being given engineers of the United States Public Health Service, and State and county public health departments. The United States Public Health and Illinois State Public Health Department are assisting in this program.

### Natural Disasters

The Standard Oil Co. disaster in Whiting, Ind., on August 27–29, could have been a major disaster devastating densely populated areas in the highly concentrated industrial northwestern Indiana had not the prevailing southwesterly winds carried the flames and smoke out over Lake Michigan. A hydroformer, 26 stories high, which converted low-octane gasoline to high-octane gasoline, exploded early in the morning of August 27. The blast destroyed the structure and

two crude oil distilling units. Periodic explosions of 70 large storage tanks continued into the following afternoon. About 1,000 families in a 60-block area were evacuated. Several buildings were demolished and more than 100 dwellings damaged. The early total estimated damage was $100 million.

The regional engineer also spent 10 weeks in New England following Hurricane Diane, in disaster activities in Connecticut, Massachusetts, and Rhode Island and as region I liaison officer with the New England Division of the Corps of Engineers, United States Army.

### Health

Seventeen dentists from the region attended the Staff College special civil defense course for dentists. A comparable number of nurses attended the Staff College course for nurses. The Red Cross first aid course and the home nursing course were given to an increased number of civil defense volunteers. The regional office sponsored a 2-day medical conference in Chicago. This attracted 110 participants. Regional office personnel took part in 3 civil defense training conferences sponsored by the Food and Drug Administration.

Regional personnel attended the civil defense symposium cosponsored by the Michigan Office of Civil Defense and the State medical, dental, and veterinary associations in cooperation with Lederle Laboratories and district nurses' meetings in Michigan and Illinois.

Four 200-bed emergency hospital units were made available to States for training and exhibit purposes.

### Welfare

Visits were made to all States and many communities during the year and conferences held in various areas. A 2-day registration and information instructor conference was held in Chicago, with 60 civil defense leaders from 7 States attending.

A regional emergency mass feeding instructor school was attended by 60 persons from 5 States. This school also served as a demonstration for members of the Food Writers Association. Several States have continued the program. Five such schools were sponsored by the Michigan Office of Civil Defense during 1955. The first emergency mass feeding school to be sponsored in the State of Iowa was held in Des Moines in November. Headquarters, Fifth Army, continued their support of the mass feeding program by making personnel available to assist in several of the schools conducted in the region.

### Public Affairs

Practically every State is now publishing and distributing a monthly newsletter which digests important information for community use.

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Most States are publishing excellent civil defense manuals and pamphlets.

A new policy of making civil defense films available to the general public has been initiated by the regional office. Films returned after showing by television stations are being placed in public libraries that have a film lending service.

More television stations are using films than ever before and more requests for their use are being received by community groups. Besides films on television stations, the regional office has arranged and assisted in the preparation of several television programs produced locally in region IV. Some radio stations have scheduled a continuous series of civil defense programs with assistance from the regional office. Many of the States are active in broadcasting. The Michigan State civil defense office has a series of weekly programs and Wisconsin also has produced their own series. Station WLS, Chicago, developed an outstanding program series entitled, "Fallout," in conjunction with the Illinois State office. Approximately 1,200 letters asking for fallout information were received by WLS, and other stations have asked permission to broadcast the program. Station WJR produced the program, distributed nationally by FCDA, "No Second Chance," in cooperation with the Detroit civil defense office.

A motion picture, "H-bomb Over Illinois," has been produced by the State civil defense office and is being distributed by them. Much of Operation Exit held at South Bend, Ind., was filmed and may be made into a motion picture later.

Civil defense exhibits were featured at conventions and meetings, as well as State and county fairs. Two of the largest, the Illinois and Indiana State Fairs, displayed the CONELRAD exhibit augmented by other State civil defense material.

### Training and Education

Civil defense training in the region increased materially during the year. Several additional courses not previously offered were instituted. The release of information on fallout and the effects of higher yield weapons apparently stimulated increased training in a number of areas.

The FCDA administration course was conducted at the University of Wisconsin with 35 students enrolled. The FCDA Staff College traveling team provided the instruction for this pilot course. Instructors for subsequent courses offered in Wisconsin will be furnished by personnel from the University of Wisconsin and from the State civil defense office.

A radiological workshop and conference was conducted at the University of Illinois for 60 representatives of colleges and universities

situated throughout the State. As a result, 28 colleges and universities in Illinois have procured radiological monitoring instruments and have initiated plans to offer radiological courses. Persons completing these college level courses will provide a reservoir of instructors throughout the State for teaching radiological monitoring. The regional office participated in the national conference on higher education held in Chicago. Over 250 college and university representatives, including presidents, deans, and registrars, attended the session devoted to civil defense.

Technical specialists were assisted by the training officer in planning and conducting 5 warden training conferences, 2 industrial civil defense institutes, and medical, fire, and registration and information training conferences. Approximately 500 civil defense volunteer leaders attended these conferences.

Project applications for matching funds in the training and education, civil defense education, and information programs totaled more than 100. These applications, as well as a comparable number of vouchers under the contributions program, were reviewed and processed.

### Radiological

A radiological officer was added to the regional staff late in 1955. A radiological conference was held at the University of Illinois in which the region participated with most of the colleges of the State. The region also participated in the Civil Defense Conference for Food and Drug Officials in Chicago, conducted by the Food Division, Department of Public Health, Education, and Welfare. The radiological officer attended an aerial monitoring demonstration at Camp Mercury, Nev.

### Women's Activities

Civil defense was included in convention programs, women's clubs meetings, veterans service organization auxiliaries, church and school groups, home demonstration councils, homemaker achievement programs, and other women's meetings. The Director of Women's Activities addressed 25 such groups with an attendance of more than 8,400 women and took part in a civil defense program over station WTMJ–TV, Milwaukee, Wis.

Civil defense exhibits were shown by the women's activities office at 3 conventions, attended by 2,375 persons.

Iowa and Minnesota each appointed a director of women's activities.

A regional women's civil defense conference was held December 8 and 9 at the Palmer House in Chicago for leaders in women's groups throughout the regional area.

# REGION V—REGIONAL OFFICE, DENTON, TEXAS

States: Texas, New Mexico, Oklahoma, Arkansas, and Louisiana

The population of the region is 16,111,000, based on July 1, 1954, estimate of the Bureau of the Census. Region V, the alternate National Headquarters of FCDA, contains four critical target areas—Houston, Dallas and Forth Worth, Tex., and New Orleans, La.

The year just ended was one of considerable progress toward the attainment of regional goals of becoming truly operational and, at the same time, completing assigned tasks of natural disaster relief, notably movement of stockpiles, transfer of accountability to the regional office, and promotion of the Federal contribution and other programs. A summary of the year's major accomplishments follows.

## Federal Liaison

For the first time, region V has a full time liaison officer, with resulting greater activity of the regional Federal civil defense program. One of the largest Federal agency meetings ever held in region V brought together approximately 100 agency people. Numerous meetings have been held with the Regional Defense Mobilization Committee, the Federal business associations in the various cities of the region, and special meetings of Federal employees. In Operation Alert, 155 Federal employees were alerted to augment the region V civil defense staff during the test.

## Operational Readiness

All regional personnel have been given basic training in civil defense, self-protection techniques, and radiological monitoring. Region V has also completed a regional emergency operations manual and is working with the several States and cities in the region to coordinate their operational procedures with those of the region.

## Test Exercises

Several civil defense test exercises were conducted in 1955, the largest in Forrest City, Ark., in May, when 2,500 school children were brought into Forrest City from 8 or 10 adjacent cities and counties. This was the first test exercise of the kind staged in this region and the first in which various departments of the State government took part.

An account of the first large-scale medical test exercise held in Beaumont, Tex., is contained in the medical services section. Other test exercises included actual evacuation movements during Operation Alert as well as mass feeding and siren tests.

Exercise standards for Operation Alert 1955 were a great improvement over those of 1954. An innovation was the establishment of a Federal liaison council, consisting of a liaison officer from each regional

Federal agency in the Southwest, whose duty it was to examine problems of Government agency capability and determine which agency could best handle the problem.

### Fallout Plotting

A program of plotting fallout patterns using the upper air fallout data code was inaugurated and 3 staff members and 5 clerical workers assigned to make up daily fallout plots. Work in this area will increase in proficiency and coverage with the addition of a meteorologist to the staff.

Arrangements have been made with the Weather Bureau to provide the directors of States and cities with the upper air fallout data. The Weather Bureau has agreed to detail a meteorologist to each State and critical target area civil defense office upon receipt of an alert.

The Weather Bureau has cooperated with FCDA in establishing a severe weather disturbance alerting system which keeps the regional office informed of the intensity and movement of severe storms.

### Natural Disasters

In 1955 the Southwest was again stricken with natural disasters. In New Mexico from July 13 to August 10, there were recurrent floods of such severity the President declared Albuquerque and Bernalillo County a major disaster area. Subsequent applications approved for Federal aid totaled $75,000.

In Blackwell, Okla., a tornado occurred May 25, and applications for eligible relief projects were approved in the amount of $168,000.

At Waurika, and in Jefferson County, Okla., floods occurred for the period May 18–20, and the President once again determined the area was one of major disaster. Project applications totaling $19,800 were approved.

The total amount approved for Blackwell, Waurika, and Jefferson County, Okla., was $187,800.

Early in the year a natural disaster team was organized and staffed with specialists to evaluate damage and prepare project applications and documents for National Headquarters, under the direction of the regional engineer.

### Survival Planning

From region V, the cities of Houston, Tex., and New Orleans, La., were included in the original list of 16 cities invited to participate in the survival plan program. The Houston proposal was prepared immediately, and approved by FCDA in principle. Regional FCDA officials met with Texas State and Houston key officials, and an amended proposal was forwarded to FCDA for approval. The University of Houston expects to conduct the survey. The State of Texas estimated that $192,257 will be required to conduct the survey in

Houston and environs. The State expects to propose other areas for study later.

After several conferences with FCDA regional office officials, the State of Louisiana and the city of New Orleans prepared a project proposal, requesting $25,500 with which to make a detailed study. This study is to be completed within 90 days of the acceptance of the initial proposal, and the amount requested is expected to be less than 25 percent of the cost of the entire project. The State Department of Public Works will conduct the study. The proposal and contract agreement have been forwarded to FCDA for approval.

The State of Arkansas has submitted a project proposal to survey State resources as a support area adjacent to a critical target area as well as to take care of areas adjacent to bases of military retaliation.

### Communications

The extent of accomplishments in warning and communications programs during 1955, by States and cities, is as follows:

*Attack warning program—FCDA approved outdoor warning systems installed*

| State | City | Federal share program cost by State |
|---|---|---|
| Arkansas | Springdale | $247. 50 |
| Louisiana | Shreveport | 18, 888. 53 |
| Oklahoma | Skiatook | 4, 051. 50 |
| | Bixby | |
| | Kingfisher | |
| | Perry | |
| | Hennessey | |
| Texas | Corpus Christi | 24, 581. 64 |
| | Wichita Falls | |
| | Bellaire | |
| New Mexico | Did not participate | |

### Communications Equipment Program

*FCDA approved communications programs, by States*

| State | Federal share program cost | Total projects |
|---|---|---|
| Arkansas | $92, 012. 55 | 39 |
| Louisiana | 71, 801. 58 | 59 |
| Oklahoma | 56, 433. 60 | 86 |
| Texas | 300, 988. 03 | 267 |
| | 567, 757. 43 | 451 |

New Mexico did not participate.

*FCDA/FCC approved RACES plans*

State plans: New Mexico.

City/county plans: Roswell, N. Mex.; Corpus Christi, Tex.; Paris-Lamar County, Tex.; Albuquerque and Bernalillo County, N. Mex. (conditional).

*NACOM No. 1 (FCDA National Communications System)*

The following items of NACOM facilities were installed in the regional office during the year.

| | |
|---|---|
| 3 type 28 | Teletypewriters (send and receive). |
| 7 type 28 | Teletypewriters (receive only). |
| 9 type 14 | Reperforator tape units. |
| 3 | Multiple gate transmitter distributors. |
| 1 | System broadcast feature. |
| 4 | Telephone switching positions. |
| | Telephone company plant facilities. |

## Medical Services

During the year the medical services concentrated on the fallout problem. States in the region ordered 246 radiological monitoring instruments under the matching funds program. Oklahoma also purchased 36 units of first aid supplies with matching funds.

The largest medical test exercise ever held in region V, labeled Operation Mercy, took place at Beaumont, Tex., when medical teams from Houston hospitals, on an alert, transported personnel and equipment to Beaumont and set up a complete emergency hospital there for use during the exercise. More than 1,000 persons took part.

## Training

Within the year the following training programs have been conducted in the five States of region V.

| *School* | *Attendance* |
|---|---|
| Fire schools | 1,760 |
| Mass feeding | 312 |
| Light rescue | 406 |
| Heavy rescue | 162 |
| General orientation | 2,988 |
| Police auxiliaries | 929 |
| Fire auxiliaries | 1,222 |
| Regional office in-service training | (1) |

[1] All personnel plus family members.

Arrangements were concluded for an FCDA administration course and a 3-day conference for registered nurses for the State of Louisiana. Additional arrangements have been made for a Federal employees administration course and a school for clergy in Dallas, Tex.

A training program has been developed for use in the six medical schools in this region and is designed for postgraduate study in each college.

Training programs as a result of requests from several cities and organizations were developed. An outstanding example of this program is the one developed for the PTA Council of Dallas, Tex., attended by approximately 700 PTA members in October and November.

### Public Affairs

Four of the five States in region V now have public affairs officers. Louisiana, Oklahoma, and Arkansas now have full-time people in this service. Texas has a part-time person and New Mexico is still without a representative in the information field, these duties still being handled by the State director.

A sample of public affairs activities includes more than 1,000 news releases and pictures released by the Louisiana public affairs officer, along with a semimonthly 15-minute radio program on civil defense activity in that State. A committee has been appointed consisting of members of the Louisiana Press Association to develop a civil defense program for the Louisiana press.

Oklahoma averaged 425 press clippings a month as the result of weekly releases to 321 newspapers. More than 350,000 tornado pamphlets were distributed by the State civil defense office as well as each State civil defense publication. Radio stations in Oklahoma have programed approximately 85 percent of all radio transcriptions produced by FCDA. All television stations have programed all FCDA films released during the year.

### Ground Observer Corps

The ground observer corps was extended to region V in 1955. Throughout the year support was given the Air Defense Command in recruiting volunteers to man the posts and filter centers in the region.

### Women's Activities

Although region V has not had a full-time director of women's activities for the past year, much progress has been made by States in this field.

The State of Arkansas appointed a woman to handle public affairs and women's activities.

A statewide women's meeting was held in Little Rock, in June, with the National FCDA director of women's activities as guest of honor. All presidents of women's organizations in the State were invited.

The State of Texas continued its well-established women's program, with emphasis on the role of rural women in civil defense. Rural women's activities were fostered by groups such as the Home Demonstration Clubs, the Agricultural Extension Service, and the Future Homemakers of America. The annual statewide women's meeting was held at College Station in September, at which rescue, first aid, mass feeding, and emergency sanitation were demonstrated.

In Dallas a Home Emergency Corps was organized, which recruited women at block, zone, and district level, reporting to a woman coordinator on the city staff. The Corps has sponsored numerous neighborhood training courses, and participated in test exercises.

The National FCDA director of women's activities addressed a statewide school at Stillwater, Okla., in June. Tulsa and Oklahoma City, each with a full-time woman employee on the staff, held numerous meetings and training courses. The Tulsa Women's Division began its fall activities with a large meeting addressed by the acting regional administrator, region V, and featured a recently developed handbook for organizational chairmen.

The State of Louisiana continued to increase its unusually large organization of women, headed by a full-time State coordinator, with volunteers at district, parish, and city levels. Women made up a large part of the trainees at the State Civil Defense College in July. Among numerous organizational activities, a new feature was the regional Girl Scout meeting, at which a pattern for civil defense participation was set.

### Transportation

State SCAT plans for Texas and Louisiana are being written and plans for the Dallas-Fort Worth critical target areas are being developed and should be completed shortly after the first of the year. Plans for construction work in connection with the Regional Control Center were completed during the year. A transportation operational plan for region V was completed and submitted for approval on September 1.

### Supply

By December 31, it is estimated that $2,000,000 worth of supplies will be in the new FCDA warehouse at Camp Swift, Tex. Movement of stockpiles from Houston to Camp Swift is now under way. Approximately 72,000 square feet in this location can be used to store supplies amounting in value to 10 or 12 million dollars. By the end of the year it is also expected that stockpiles near New Orleans will be relocated in Hammond, La. Approximately $10,000,000 worth of stockpiles will be in storage in region V by 1956.

### Administration

During 1955, the region V office hired 10 additional staff members, bringing authorized personnel to 32. The regional office was reorganized in accordance with the new organizational structure established by National Headquarters.

At the beginning of fiscal 1955, region V was allocated $1,226,694, of which $199,394 was for attack warning. By June 30, attack warning applications totaling $41,173 had been approved, and the balance of funds for the warning program was taken from its allocation. In July, the region was allotted $117,984 for the attack warning program, making the regional total $1,145,284 and in September was advised

that the regional total might be distributed among all eligible programs in accordance with criteria set forth in the *Contributions Manual.* Adjustments in program distribution were made by the States within the region to use this money. Since January 1, 1955, the region received 721 project applications; 675 of these have been approved. Thirty-five were disapproved and the balance were awaiting additional information from the State or an opinion from National Headquarters. Applications for communications and training and education outnumber the other programs in this region. Since January 1, 1955, 59 percent have been for communications and 33 percent for training and education.

## REGION VI—REGIONAL OFFICE, DENVER, COLO.

States: Colorado, Wyoming, Nebraska, Kansas, and Missouri

Critical target areas are Denver, Kansas City, St. Louis, and Wichita. The population of the region is 9,262,000, according to July 1, 1954, estimates of the Bureau of the Census.

Two significant gains were underscored in development of the civil defense program in 1955:

1. Integration of all Federal agencies in the Federal Civil Defense Administration's program.
2. Integration of State, county, and city governmental agency facilities, resources, and personnel into the civil defense program.

Recruitment, training, and testing progressed steadily. A total of 228,887 persons in the Civil Defense Corps was enrolled on June 30, an increase of 12,640 in 6 months.

### State of Readiness

Among the 5 State directors, evaluations of their statewide civil defense readiness range from a high of 70 percent of total readiness to a low of 25 percent, with others estimated at 50 percent and 33⅓ percent.

Critical target area city directors range in their estimations from a high of 70 percent to a low of 25 percent. The target area city directors offer a far lower state of preparedness with a high of 60 percent and a low of 20 percent.

### Survival Planning

A regional natural disaster plan of operations was completed and issued throughout the region. This 250-page document informs all levels of operation of necessary actions in time of natural disaster and sets forth procedures for State and local reimbursement.

All critical target cities in region VI have evacuation plans, all have held tests of varying scope, and have provided instructional material for the general public. Not all area target cities are expecting a need for general evacuation, but all have given consideration to plans, and a large majority have determined evacuation routes.

Noteworthy is the general indication that all cities have gone far in surveys and estimates of the reception capabilities of their contiguous areas, and of the transportation problems inherent in moving vast sections of population.

### Civil Defense Appropriations

State, critical target area, and target area city organizations in region VI had roughly $529,204 available for civil defense expenditures, including salaries, in calendar 1955. Of this total, $179,500 was in State appropriations, $259,804 in critical target area cities, and $89,900 in target area cities.

By States and cities:

| | *Amounts available calendar 1955* | |
|---|---|---|
| **STATE** | | |
| Colorado | $40,000 | |
| Kansas | 27,000 | |
| Missouri | 75,000 | |
| Nebraska | 17,500 | |
| Wyoming | 20,000 | |
| Total | | $179,500 |
| **CRITICAL TARGET AREAS** | | |
| Denver, Colo | $70,000 | |
| Kansas City, Kans | 22,064 | |
| Kansas City, Mo | 26,000 | |
| St. Louis, Mo | 90,755 | |
| Wichita, Kans | 50,985 | |
| Total | | 259,804 |
| **TARGET AREAS** | | |
| Cheyenne, Wyo | $15,000 | |
| Jefferson City, Mo | none | |
| Lincoln, Nebr | 9,000 | |
| Topeka, Kans | 16,000 | |
| Omaha, Nebr | 39,000 | |
| Pueblo, Colo | 5,000 | |
| Springfield, Mo | 2,000 | |
| St. Joseph, Mo | 3,900 | |
| Total | | 89,900 |
| Grand total | | 529,204 |

### Fallout Education and Training

The Regional Tactical Office and the Administrator carried on a continuing series of meetings and conferences with State and city civil defense leaders to present a complete picture of the radioactive fallout problem. Technical guidance was provided, with both verbal presentations and documentary material.

Liaison has been established with the Weather Bureau on behalf of regional, State, and local civil defense personnel, to provide continuing reports on prevailing wind conditions, on a twice daily basis. From the Weather Bureau reports, State and city civil defense personnel have been able to devise continuing fallout probability charts on either a daily or periodic basis. The regional staff also makes fallout maps based on the coded data received from the Weather Bureau. Six members of the staff have been trained for this service.

Regional staff members have been trained in the care and use of stockpiled monitoring instruments.

### Test Exercises

Participation in Operation Alert 1955, June 15 and 16, was general throughout the region. The number of organizations and individuals taking part far exceeded the totals for previous exercises.

The five State control centers operated for the full 26 hours of the test; Denver, St. Louis, Wichita, Omaha, Topeka, and Weld County, Colo., centers operated for the full period, Omaha with a total complement of 125 men and women. In Kansas, 10 mutual aid areas carried out a continuous communication operation for the full period. Several outstate control centers in Nebraska joined in the exercise.

The small regular staff of region VI was augmented by approximately 200 personnel from other Federal agencies, many of whom worked more than one shift. Some additional personnel came from industries.

Federal agency centers in Denver, Kansas City, Missouri, and St. Louis set up and operated control centers for cooperation and liaison with the region VI control center, and with State and local civil defense agencies. Each of the Federal control centers operated throughout the FCDA exercise, and in special ODM problem exercises following.

A number of actual evacuation tests took place in conjunction with Operation Alert. In Denver, 3,500 persons were evacuated to lower levels of the Rocky Mountains. In the St. Louis area, the St. Louis County Hospital was evacuated; as were all personnel in 2 Federal buildings, totaling about 3,000 persons, as well as 1,000 parochial school pupils.

Kansas City, Mo., conducted an evacuation test on May 22, in advance of Operation Alert. The Kansas City civil defense agency estimates 10,000 persons in the civil defense organization and 25,000 unaffiliated citizens took part in the evacuation operation. The Federal building was evacuated.

Omaha evacuated an estimated 25,000 persons in conjunction with Operation Alert. With participants selected alphabetically, evacuees came from all sections of the city, instead of from a selected area, and were moved beyond the probable destruction range of an enemy bomb. In addition, Offutt Air Base (USAF-SAC Hq.) completely evacuated personnel and families.

Other evacuations and exercises took place in St. Joseph and Springfield, Mo.; Kansas City and Wichita, Kans.; Lincoln and McCook, Nebr.; and Pueblo and Holyoke, Colo.

### Natural Disasters

Two natural disasters in which the Federal Civil Defense Administration was called on to serve occurred in region VI during 1955.

On May 18 and 19, Trinidad, Colo., and downstream areas were flooded when the Purgatoire River left its banks after sudden, heavy rainfall. FCDA authorized Federal financial assistance for disaster relief projects as follows: $16,000 toward reconstruction of 3 bridges in Otero County; $14,860 toward reconstruction of 5 bridges in Las Animas County; $3,300 for repair of water lines for the community of Starkville; and $118,000 transferred to the Corps of Engineers for bank protective work in Trinidad along the banks of the Purgatoire.

On May 25, Udall, Kans., was almost completely destroyed by a tornado. Federal Civil Defense Administration approved three projects for Federal assistance under Public Law 875 as follows: $142,653 for clearing debris, replacement of a water tank, rehabilitation of water and sewer lines and sewage treatment plant, electrical distribution system, repairs to streets, replacing city building equipment and vehicles; $94,750 toward reconstruction of a high school in Udall; and $83,150 toward reconstruction of a Udall grade school.

The regional safety officer coordinated the activities of all Federal agencies and the American National Red Cross participated in the disaster operations in Udall and the regional engineer handled the Trinidad disaster.

### Women's Activities

Public education, evacuation, and home protection programs were stressed in women's activities throughout region VI. The need for general civil defense training was emphasized in work with the public.

Kansas women did outstanding work in Udall by organizing improvised hospitals, emergency kitchens, and emergency first aid teams;

Arkansas City women staffed first aid stations for 11 nights, and in the period immediately after the tornado also placed trained women's rescue groups in action.

Prominent among women's activities was promotion of the Grandma's Pantry program for emergency food storage. Many exhibits were prepared and used in furthering this project.

The 5 States in the region sent 26 women to the Operation Cue atomic test in Nevada, most of whom took part in field exercises.

Of the 46,000 persons in the region who completed first aid training, more than half are women, it is estimated, and 12,000 women have completed home nursing courses.

Wyoming women have taken a prominent part in a program by which groups of instructors are sent to each district to teach classes in registration and information, mass feeding, and rehabilitation. The State Nurses Association is making a statewide count and registration of all professional and nonprofessional personnel for civil defense service in emergency. Parent-teacher groups in most communities are active in civil defense projects.

Representatives of 100 women's organizations are enrolled in a civil defense council at Omaha. Approximately 1,200 women participated in a Catholic church conference at West Point, Nebr., which included a special civil defense program. The Council of Catholic Women has an active member on all Nebraska State civil defense committees.

In Kansas City, Mo., women make up a large part of the uniformed and equipped 480-person auxiliary police force, which serves regularly on special assignment from the regular police.

Missouri has 10 active women's councils for civil defense, 7 of them recently organized. The St. Louis County Council presented a mass feeding course for 30 persons, who became instructors for similar courses. In St. Louis a joint civil defense and American National Red Cross survival course is attracting many enrollees.

St. Louis women's activities include: 66,116 units of blood donated; 18,372 first aid certificates issued; 1,499 first aid instructors authorized; 5,007 home nursing certificates issued.

### Training

Greatest progress in training was made in the welfare field in improved mass feeding and registration training. Demonstrations were held at Omaha and Grand Island, Nebr., where 500 firemen were fed, using improvised equipment; 5 towns in Wyoming; 3 each in Kansas and Colorado; and 4 in Missouri. Rescue classes got under way in St. Louis, Omaha, Denver, Wichita, and Winfield, Kans., the latter 2 cities also having women's teams, which served in the Udall, Kans., disaster.

Colorado's Women's Advisory Committee has embarked on a program of bringing civil defense information to all members of the State legislature prior to the January 1956 session. The Colorado Grange members and residents of Weld County developed extensive plans for receiving and caring for Denver evacuees in an emergency. Three school districts in the area developed a pilot training course for wardens, and pilot courses for home protection and self-survival are on the way.

Junior League members of Topeka, Kans., prepared civil defense radio features for statewide use and have presented more than a score of 15-minute television programs. In Wichita, women are serving actively as trained civil defense auxiliaries in rescue, fire, and police services. Morris County women developed extensive rural civil defense programs, and the outstate county has 18 first aid instructors, 317 trained in first aid, 15 home nursing instructors, and 161 women trained in that service.

In Lincoln, Nebr., women enlisted all grocers and wholesalers in a citywide Operation Can Opener, similar in nature to the Grandma's Pantry project. The *Home Protection Exercises* book was published serially in a daily paper. The deputy city director, a woman, recruited 8 men and women in 1 week for the Olney rescue course. Mrs. America of 1955, a Lincoln resident, is an active participant in civil defense.

Kansas City, Kans., was outstanding in organization and training of warden services. Nebraska continued its fine record of fire services cooperation and is preparing to open a State training center at Grand Island.

In St. Louis, the local civil defense office and American National Red Cross chapter collaborated on a 6-hour survival course.

Eight television scripts covering civil defense training techniques were written and presented over the University of Nebraska's educational TV station. These scripts have since been used as sources of material for other TV and radio shows and as skit material for group presentation.

Six 8-week adult civil defense courses were given at Denver's Opportunity School during the spring and these courses were rewritten and enlarged for the fall term. The increasing number of public schools offering evening adult courses is providing an excellent medium for civil defense education of the general public.

In grade and high schools some opposition has been met in adding specialized civil defense material to the curriculum. The textbooks, however, are including some civil defense material, notably in the civic and physical education fields.

The teen-age conference initiated last year at the University of Colorado was held again in 1955, sponsored by the State Board of Education. Representatives from most of the high schools over the State attended.

### Public Affairs

The year was marked by a continuing gain in news space and program time devoted by press, radio, and television to the promotion of the civil defense program. The total volume of media coverage on Operation Alert exercise details exceeded the coverage of any single civil defense event, with the possible exception of coverage of natural disasters.

Television stations were especially generous in their use of civil defense films, most of them making repeat showings of all films. Radio was cooperative in giving time to civil defense.

Within the year all States, CTA, and TA cities in the region, with the exception of the Kansas State Office, placed active information officers on their staffs.

Approximately 1,583,900 publications were distributed through the region VI office.

The regional office made 455 film loans (virtually all multiple showings) to States, cities, individuals, and organizations, with a viewer total of 199,178 reported in the first 10 months of 1955 (not including films provided for television stations and on which no viewer total is available).

Region VI office sponsored and directed production of two motion pictures for nationwide use: "Operation Welcome," the story of an actual evacuation of approximately 800 Denver residents to farms and ranches in Weld County, Colo., and a motion picture of the evacuation of the St. Louis County Hospital.

Eight 15-minute radio dramas for nationwide presentation over more than 500 stations of a national chain were sponsored and production directed by the region VI office. These 8 dramas were tied in with 5 previously produced, to make up a 13-week series. The same programs will be made into recordings later for more widespread distribution to radio stations. Each drama tells a real-life story of civil defense participation in disaster and war incidents.

One major television show was written and produced for the first showing of the "Operation Welcome" film and in which regional, national, Colorado State, county, and local civil defense persons appeared. The listener audience was estimated at well over 100,000.

### Supply

The stockpiling of medical supplies in this region continued with extensive improvement throughout the year. The capacity of the

Springfield facility was increased from 62,000 to 94,000 square feet by acquisition of additional buildings. More than 70,000 square feet of space are now used for medical supplies. The weight of the medical supplies is approximately 5,000 tons and the value $6 million. The stock of medical supplies is now better balanced. The planned movement of supplies from the Springfield facility has been coordinated with transportation planning.

An additional medical reserve supply warehouse is being acquired for the region. It will have approximately 50,000-square foot capacity and be situated near Denver.

The engineering stockpiles previously located in Kansas City and St. Louis have been relocated, one to Fort Leavenworth, Kans.; the other to Springfield, Mo. These stockpiles have been completely conditioned and operationally tested. Plans for personnel and equipment required to dispatch immediately any or all of the engineering supplies have been completed.

### Transportation

The Regional Advisory Committee for Transportation has been completed with representation from the executive personnel of railroads, truck and bus lines, commercial air lines, Civil Aeronautics Commission, Interstate Commerce Commission, and the Defense Transportation Administration.

The regional representative and a team from the Office of Defense Mobilization conducted a survey of the five States in region VI. Evaluations by the survey team indicated that St. Louis, Kansas City, and Denver transportation planning is the most advanced in the region.

A plan for attaching stretcher and litter cradles to the seats of tramway units and buses, to convert the vehicles into emergency ambulances or mobile improvised hospitals in emergency, has been completed in Denver, and demonstrations and tests conducted in a field exercise.

### Warning and Communications

Good progress was made in 1955 in the fields of warning and communications. Approximately 85 percent of all Form 233 applications for Federal aid (contributions program) received in the region were for communications equipment and/or warning devices.

All target cities in region VI have completed warning surveys and all except Pueblo, Colo. had project applications approved for warning devices. During 1955 there were no new major public warning projects initiated in the region, because a fairly adequate warning system had been developed and installed in previous years. Most of the warning applications received and approved were for equipment to

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be installed in fringe areas of target cities and for towns and cities located in probable fallout areas.

Wyoming has recently converted from the telephone as the basic CADW alerting medium to the State highway patrol radio network, backed by telephone. The Nebraska statewide county sheriffs' radio network has been completed to the extent that CADW alerts may be disseminated throughout the State by one main route and one or more alternate routings.

Most State and target city communications plans have been expanded and improved. More amateur radio (RACES) networks were established, plans prepared and submitted through channels to FCC, and approved. New and better radio equipment is constantly being added.

Operations Alert 1955 demonstrated that civil defense communications in general were vastly improved over those in the 1954 exercise. Improvement of State civil defense communications during Operation Alert was shown in both Kansas and Nebraska.

ENGINEERING

Auxiliary engineers recruited from other agencies were trained in civil defense, and in addition to serving in Operation Alert 1955, qualified for duty in natural disaster work.

The region VI office prepared a manual, bringing together in two volumes all FCDA engineering documents, designed for use of State and local government engineers as an operations guide and reference. A regional natural disaster manual was prepared, with an engineering section included.

Requests for shelter information increased sharply in number and the engineering section provided technical information and guidance to individuals, contractors, and State civil defense directors.

The regional engineer participated in natural disaster operations in Southern Colorado and at Olathe, Kans., and served in a loan capacity in Connecticut disasters for several weeks.

Universities and colleges in Missouri are cooperating in radiological defense training programs; training projects are spotted over the State for efficiency. In St. Louis a radiological defense committee is developing a separate plan, to be coordinated with the statewide program. The Kansas radiological defense training program is centered at the University of Kansas and at Wichita. The University of Wyoming and the State Board of Health have developed a large and effective program for Wyoming. Colorado's project is being carried out by the State Board of Health, and integration with the Denver city project is underway.

Chemical and biological defense training programs generally lagged, except for a Denver city activity, where regular training courses are conducted.

Nebraska and Missouri sent nurses and dentists to the Federal Civil Defense Administration school in Battle Creek, and the Nebraska Nurses Association inaugurated a series of civil defense nursing institutes.

An outstanding and frequently tested emergency hospital program was developed through County General Hospital and civil defense leadership in Weld County, Colo. Not only are professional teams in the medical field included in the plan, but numerous lay organizations have also been formed and assigned functions in natural disaster and war emergencies.

### Health and Casualty Services

Denver and St. Louis civil defense organizations materially improved their emergency hospital plans in 1955. Kansas City, Mo., instituted revisions to meet conditions that would attend possible H-bomb attacks. Wichita and Kansas City, Kans., and Omaha, Nebr., have similar revisions in progress. A greater St. Louis hospital council was established to plan hospital evacuation operations that will be carried out jointly with hospitals outside the city. The Missouri State Board of Health is directing a statewide survey to determine total hospital and medical resources and requirements.

A campaign was conducted to inform State and local health departments on sanitation and sanitary engineering organizations' role in a national emergency.

The regional United States Public Health Service (Kansas City office) developed a project for creation of mutual sanitary engineering aid in event of disaster, and to devise means of developing mutual aid plans for civil defense in milk, food, and water supply.

On a per capita basis, Wyoming has developed the largest health supplies stockpile of any State in the region; the Kansas program is being improved, with two first aid stations on order.

Probably the largest field exercise in the region was conducted in the fall of 1955 under the leadership of Porter Sanitarium (Seventh Day Adventist sponsored) in Denver. Principal field operations were carried on by the hospital medical and nursing staff, and by the entire class of nurse graduates.

### Public Safety

A plant protection seminar was held in Omaha and 10 lesson plans were prepared for followup by city personnel with a special group interested in organizing mercantile establishments.

Rescue training facilities constructed with assistance of FCDA matching funds were completed at St. Louis and Wichita. Omaha has a rescue facility in process of erection also using FCDA matching funds.

Fire mobilization planning progressed materially in every State of the region. Nebraska and Kansas completed their plans.

The regional safety officer coordinated activities of other Federal agencies and the American National Red Cross in the Udall, Kans., disaster. He also served several weeks in the eastern part of the United States in relief activities.

WELFARE

Among the gains in 1955 was the establishment of a firm civil defense welfare program in Kansas, with State, area, and local groups taking part. A similarly firm program has been developed in Wyoming.

The regional staff has prepared a training course in registration and information. Six district orientation courses were presented in Wyoming, and a 2-day instructor's course established. Similar area presentations took place in Kansas.

The mass feeding training program for instructors has been expanded; 2 States have had statewide courses with other States attending and more are scheduled. With regional office assistance, Denver has established a continuing welfare training course, including a feeding division.

Missouri, with regional office aid, has mapped and developed a statewide welfare program and preparation of statewide training courses in registration and information and mass feeding is now under way. At St. Louis 12 periphery counties conducted planning conferences in welfare service and progressed in recruiting a working force.

Four of the five State welfare services in the region participated actively in Operation Alert control center operations.

Under guidance from the region VI staff, statewide lodging surveys were launched in Kansas and Wyoming to determine resources in case of emergency.

## REGION VII

## REGIONAL OFFICE, SANTA ROSA, CALIF.

States: Arizona, California, Idaho, Montana, Nevada, Oregon, Utah, Washington, and the Territories of American Samoa, Guam, and Hawaii.

Critical target areas are Los Angeles, Portland, San Diego, San Francisco-Oakland, and Seattle. The population of the region, based on the Bureau of the Census estimates of July 1, 1954, is 20,388,000.

The operational effectiveness of the regional office was substantially

improved during 1955. A well-equipped control room was completed during the year and a number of improvements in the regional office effected.

The tie-in of the regional office with the National Office, air divisions, and other regional offices through the new National Warning and Control System has greatly improved its operational capability. In addition, the NAWAC will be supplemented by a recently installed VHF radio link with the 28th Air Division at Hamilton Field.

### Survival Planning

Evacuation studies started in the San Francisco-East Bay area and Los Angeles Basin area, and San Diego will continue during 1956 under FCDA sponsored survival studies with Stanford Research Institute as prime contractor. Data assembled under the sponsorship of the Los Angeles County and Cities Civil Defense Planning Board during a 2-year $87,000 evacuation study will be used.

In the Pacific Northwest, survival study proposals are being prepared for presentation to FCDA for the cities of Seattle and Portland.

### Test Exercises

A major evacuation exercise, Operation Green Light, was conducted in Portland, Oreg., on September 27. Approximately 90,000 persons in the metropolitan section moved out of the evacuation area of 970 blocks in an estimated 29,423 vehicles—while additional thousands walked out of the central district.

Other drills of limited scope were conducted in the region, notably evacuation tests in Seattle and Olympia.

Operation Alert 1955 revealed a number of deficiencies in emergency operations, but for the most part was an excellent demonstration of the growing strength of civil defense. Regional services operated with a staff of over 200 Federal employees from other activities in the central California area supported by an additional 100 volunteers from nearby communities. Eighty Federal field offices in region VII joined in the test.

All States and the Territory of Hawaii participated in the test. Military and civil amateur radio units supported the communications service and the newly installed National Communications System was subjected to its first full-scale test of emergency traffic.

A second major test of Federal agency civil defense operational capabilities occurred in December.

### Natural Disasters

In the first half of the year, assistance under Public Law 875 was given to disaster areas in Hawaii and Nevada. Disaster funds in the

amount of $100,000 were recommended as a result of a series of volcanic eruptions in March on the Island of Hawaii. Claims are being processed against an initial allocation of $200,000 for disaster repairs necessitated by flash floods in the Clark County-Las Vegas-Henderson area of Nevada in June. A flash flood which later struck north Las Vegas is being processed under the initial declaration allocation.

Western States floods beginning in late December gave civil defense agencies an opportunity to put theory into practice in relieving suffering and helping to coordinate the work of a score of organizations.

From the geographical standpoint it was the most widespread flood occurring in the West this century.

From Christmas Eve until the end of the immediate emergency period, which extended into January of 1956, FCDA region 7 staff operated on a 24-hour basis. The regional office set up 5 Federal agency disaster centers in California, 1 in Nevada, and 1 in Oregon, and was in constant communication with State civil defense directors and National Headquarters to provide physical assistance, technical aid, and financial help.

Because of hardship and property damage, which were beyond the resources of local governments, the President declared that major disaster areas existed in the three States. To supplement the limited staff, engineers from the National Office were flown directly to affected areas. Another 4-man team of public affairs workers was flown to the regional office to gather documentary material and to help take care of the immediate demands in getting emergency information to the public.

FCDA, with the responsibility of coordinating activity of all Federal agencies in natural disaster, worked with representatives of the American National Red Cross, military elements, and 26 other Federal agencies in region 7 to plan methods of rapid assistance to stricken communities.

A conservative estimate on total damage to public property was $90 million, and to private property, $165 million. A total of 29,709 families was affected. Seventy-six persons were killed, 3,796 injured, and 291 hospitalized. One thousand four hundred and seven houses were destroyed; 2,725 received major damage, and 11,829 minor damage; 1,110 small businesses were affected. The total amount the President made available as of March 12, 1956, for repairing essential public facilities, under Public Law 875, was $7,500,000 to California, $250,000 to Nevada and $1,350,000 to Oregon. The number of applications administered by the regional office exceeded 400. Individual applications ranged from $96 to a request for $790,000.

### Warning and Communications

Steady improvement in the warning and communications program was continued during 1955, with most advances being made in the coastal States of Washington, Oregon, and California. Certain operational gains were made in the interior States and the Territory of Hawaii, particularly through the acquisition of radio equipment through the contributions program.

Public warning systems were expended with the addition of an audible warning system in Butte, Mont., and 2 radio broadcasting stations in the CONELRAD system—1 at Reno, Nev., and the other in Spokane, Wash. At the request of State directors, the regional office conducted siren surveys in Salt Lake City and Ogden, Utah, and in Tucson, Ariz. Salt Lake City has requested FCDA contributions to complete a siren installation, and requests are anticipated from the other two cities. Siren system modifications have been made in a number of other cities in the region, with contributions assistance. The critical target areas of Seattle, San Francisco, and Los Angeles have resurveyed their coverage and corrected deficiencies.

Requests for communications centers, mobile communications centers, and RACES were received, and construction begun on two elaborate control centers in Portland, Oreg., and Phoenix, Ariz. RACES plans were approved for Idaho and the Territory of Hawaii. Arizona and Montana are developing State RACES plans, and a communications plan, including RACES, was approved for Nevada.

### Supply

Major advances were noted in the supply program during 1955, including acquisition of additional medical warehouses at Yakima, Wash., and San Jose, Calif. A site was selected for a new warehouse for storage of medical supplies at Oxnard, Calif. The blood sera stockpile assigned to Los Angeles was relocated in a safer facility at Van Nuys.

All engineering stockpiles were relocated outside areas of possible blast damage and at sites considered safest from radiological fallout. In this connection, engineering equipment formerly held at San Bruno, Calif., near San Francisco, was brought to a warehouse located several hundred yards from the regional office.

Emergency operations plans for each warehouse were revised, and the operating ability of warehouse facilities was increased by installation of emergency power facilities.

Training courses were conducted at Seattle and Bremerton, Wash., Portland, Oreg., and San Francisco, Calif., with FCDA engineering equipment loaned from stockpiles near those centers.

TRANSPORTATION

Formation of a Regional Emergency Operating and Advisory Committee was completed in 1955 in line with the principal objectives of the regional transportation program. Forty-two executives from rail, air, highway, and commercial water transportation companies, augmented by key Federal transportation regulatory officials and military transportation officers, constitute the committee which has served during national and regional control point exercises.

In the absence of a detailed national wartime transportation plan, a regional operating plan is being developed by committee members and, with the exception of the highway operating plan, all branch committees (rail, air, and water) are well-advanced in the development of their sections.

The first joint transportation conference to be held in the region was conducted in San Francisco, June 2–3, and a second regional conference is scheduled for February 1956, in Olympia, Wash.

Chiefs of transportation service are active in all States, and State transportation operating and advisory committees have been named. California and Washington are well advanced in organization and training. In collaboration with the Sixth Army transportation officer, liaison officers from each State military district have been appointed to State civil defense transportation committees.

Transportation planning showed progress in Arizona, Montana, and Utah, while Washington, Oregon, and California have achieved considerable operational implementation. A significant step toward decentralization of authority was noted when the United States Maritime Administration delegated authority to the Pacific coast director, who serves as regional water committee chairman, to provide coastal and offshore shipping to Hawaii and Alaska during an emergency.

SAFETY

In line with the problems created by thermonuclear weapons, the program in the public safety services during 1955 was marked by reorientation of all programs. Assistance was given State and local organizations in revision of emergency operational plans. Increased activity in training of police and fire personnel in radiological monitoring techniques was encouraged, and these services were strengthened by volunteers. Training activities were stepped up and the year witnessed increased interest in fire-fighting research and the release of information about more efficient methods of fire fighting. New techniques in rescue and law enforcement were also emphasized, and additional training activities were developed in a number of target areas in the region.

Emergency agreements were reached with the United States Forest Service in event of either natural or war caused disasters, and liaison

was established with Federal agencies having public safety or industry responsibilities. The regional staff was organized in depth and received training in two regional CPX's.

### Engineering

Continued progress has been shown in the engineering services, marked by further development of urban analyses and traffic engineering studies in all critical target areas. Traffic engineering studies also have been undertaken in Salt Lake City, Great Falls, Salem, and Sacramento. Oregon, Washington, California, and Utah are conducting surveys of reception areas to determine shelter resources, emergency utility requirements, and material needs to provide temporary quarters for evacuees. Highway departments in these States, in cooperation with the Bureau of Public Roads and State civil defense officials, also are developing evacuation routes.

Interest in shelter from radioactive fallout has also been experienced and stress is being placed on home shelter design, as well as public shelter possibilities in fringe areas and outlying reception centers. Equipment inventories of Federal agency engineering resources have been completed, but similar inventories in the States continue to lag, although Washington, Oregon, and California have completed plans for emergency repair and operation of utilities.

In the field of natural disaster, claims resulting from the Los Angeles fire and flood disaster of 1954 were reviewed and submitted for payment, and final claims on the North Central Montana flood disaster were completed. In addition, the Fallon, Nev., earthquake disaster claims were reviewed.

### Health

Activities in health and special weapons defense were restricted during much of 1955, due to inability to recruit a medical officer. In July, the office obtained the services of a United States Public Health Service medical officer, who has endeavored to reestablish a strong program.

The regional medical officer engaged in an aerial radiological monitoring exercise at the Nevada Test Site in conjunction with the Atomic Energy Commission, and also participated in the annual convention of the Military Surgeons Association and fifth western regional FCDA medical meeting held in connection with the Western Branch of the American Public Health Association convention. In addition, he attended a regional medical officers' meeting at National Headquarters, and assisted with the presentation of courses in radiological, chemical, and biological defense in cooperation with Department of Health, Education, and Welfare training teams from the Public Health Service and Food and Drug Administration.

### Welfare

The first Regional Defense Welfare Services Conference, developed in cooperation with the Department of Health, Education, and Welfare, was held in San Francisco late in May. Welfare personnel from all eight States in region VII and the Territory of Hawaii attended the conference, designed to clarify delegations of responsibility and explore proposed emergency welfare planning policy. Following the DHE&W conference, National Office and regional office representatives attended the National Conference of Social Work, where an exhibit on emergency feeding facilities was erected. Conference delegates consulted with civil defense personnel on civil defense matters and were briefed on mass feeding techniques.

Progress was made in more closely integrating the resources of the American National Red Cross chapters into the civil defense program, and in August an American Red Cross welfare officer was assigned to duty in the regional office to assist with survival studies.

California, Oregon, and Washington proceeded with surveys of resources in reception areas for the care of evacuees. Assistance was given to several of the States through the FCDA contributions program for procurement of emergency welfare equipment, as well as forms which could be used by the registration and information services.

### Women's Activities

The women's activities program was sparked by a good beginning in January when 200 women throughout the West attended a 2-day conference in Salt Lake City. The program continued at a high level of activity throughout the year, which included appearances of the regional director of women's activities and the director of women's activities from the National Office before major women's meetings in Oregon, Utah, Montana, and Washington.

Some highlights of women's activities in the States have been a revitalized program in Idaho, organization of the women's program in many communities throughout Nevada, and an active women's advisory committee to the Governor in Oregon. The Montana program has been strengthened during the year by marked interest in the community of Great Falls. Utah continues to carry on a remarkably active women's activities program. During 1955, Utah women exhibited leadership in the conduct of the Regional Conference for Women held in Salt Lake City in January, and later were instrumental in including a series of classes and lectures on the curriculum of leadership week conducted by the Church of Latter Day Saints at Brigham Young University, Provo. Two lectures a day were given on the subject, "Civil Defense in Everyday Living," and plans are being developed to present a new series, "Stepping Stones to Survival."

### Training and Education

Among the activity highlights of the past year were assistance to military and other Federal activities in the region toward development of cooperative programs in the atomic, biological, and chemical warfare schools, and the development of a chemical, biological, and radiological training team which could conduct courses for civil defense personnel in the California military district. In this connection, preliminary meetings were held toward development of an interim operational plan on radiological defense with the Sixth Army. A committee has been established to rewrite the Sixth Army radiological defense plan to include the cooperative contributions of all military services and FCDA.

A special training and promotional program has been developed for the Nevada State director, looking forward to the training and orientation of all State employees and many city and county employees. The program will probably commence in early 1956 at 3 or 4 central locations in the State.

Another program in the training field has been development of a pilot program in lateral evacuation to meet the threat of fallout in areas several hundred miles distant from thermonuclear detonations.

Monitoring training is in progress, and as soon as standards and procedures are established, the program will be carried to other areas. Further progress has been made in fallout research, with establishment of a joint military-civilian committee working toward standardization of detection and reporting procedures and uniform training standards. Regional employees have been instructed in monitoring, and construction of fallout plots and forecasts are plotted daily on specially prepared charts and tables.

A program is being developed with the cooperation of the Weather Bureau to inform civil defense personnel at the State and local level of the seasonal fallout pattern and the effect seasonal projections may have on tactical planning.

### Federal Agency Coordination

Some 80 Federal agencies tested their civil defense operational ability during 2 important exercises: Operation Alert 1955 and Operation Uncle—I. The latter exercise was the first exclusive Federal agency exercise in region VII and tested alerting procedures, agency relocation plans, communications procedures, and the civil defense operational capability of participating agencies.

The Federal agency liaison officer assisted in the recruitment of 210 Federal employees to serve as supporting staff to the regional office service specialists. Additional memorandums of understanding on natural disaster functions were developed with Federal agencies.

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### Contributions Program—Administration

The total dollar value of Federal contributions administered through the regional office during fiscal 1955 and the first half of fiscal 1956 amounts to $1,166,278. Attack warning contributions account for $111,327, while all other programs total $1,054,951—most of these funds being obligated toward reasonably uniform and balanced program areas in all States.

Other administrative functions of the office were carried forward, including the processing of new personnel to assist with the increased workload resulting from the national survival study program. Alterations were made to the building in which the regional office is located, in order to increase operational efficiency on a day-to-day basis, as well as under emergency operating conditions.

### Public Affairs

The public affairs program was advanced by two major emergency information projects during the year. A civil defense course for newsmen was conducted in San Francisco in January under the auspices of the San Francisco Newspaper Publishers Association. The course, developed by the California office of civil defense, was similar to an earlier newsmen's orientation course held in Los Angeles in 1954. Problems of publication and distribution of civil defense information in a disaster situation were studied during the course, which drew top editorial and management personnel from 30 central California newspapers.

A second conference for local civil defense directors, public information officers, and advertising executives was held in Spokane in early November. The 2-day meeting of the Washington State Association of Civil Defense Directors was devoted to the 2-sided problem of keeping public interest and knowledge about civil defense at a high level in periods of peace while perfecting emergency information planning for periods of disaster. The FCDA Director of Public Affairs—along with regional, State, and local PIO's—participated in the program.

Other public affairs activities included assistance to the State of Oregon and city of Portland in connection with promotion activities on Operation Green Light, the major public participation drill held in the region during the year. This limited evacuation drill involved over 100,000 persons in the metropolitan district and was distinguished by a unique traffic control scheme developed by civil defense and traffic engineering planners to alleviate the problem of manual control during an evacuation. Portland's drill moved over 29,423 vehicles out of a 4-square-mile evacuation area in 37 minutes.

FCDA exhibits were erected at a score of major national conventions and State fairs; the FCDA film program was given new impetus through release of a series of new films which were scheduled on television outlets throughout the West; promotion activities were continued to schedule FCDA transcriptions and spot announcements over radio stations; and special promotion activities were undertaken in connection with the visits of national civil defense leaders.

### Territories

Two major command post exercises strengthened the wartime disaster preparedness of Hawaii in 1955. The islands participated in Operation Alert, 1955, and communications between the territorial civil defense control center and the regional control center at Santa Rosa were achieved through amateur and MARS radio support. On October 21 and 22 the territory again participated with the Armed Forces in the annual insular Exercise Eversharp. Main emphasis was on the Oahu dispersal plan and activation of civil defense forces and control centers throughout the islands.

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