

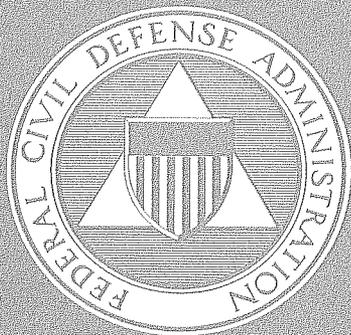
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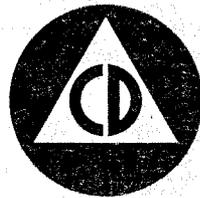
Annual Report



FEDERAL CIVIL DEFENSE ADMINISTRATION

1957

Annual Report for 1953



FEDERAL CIVIL DEFENSE ADMINISTRATION

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 Third Annual Report of the Federal Civil Defense Administration, together with pertinent recommendations for Civil Defense in our future national security structure. This report is submitted in conformity with Section 406, Public Law 920 of the Eighty-first Congress.

Respectfully,

VAL PETERSON,
Administrator.

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SOME HIGHLIGHTS OF CIVIL DEFENSE PROGRESS IN 1953

1. *Peacetime Values of Civil Defense.* Communities, cities and States throughout the Nation learned that an organized, trained Civil Defense was an important asset whenever and wherever natural disaster struck. In 1953 Civil Defense truly became a recognized community service—a new dimension of peacetime citizenship.

2. *Greater Official Knowledge.* As part of the informed leadership program of the Administration, the White House held two special defense conferences for the Nation's Governors and Mayors. An important element of these conferences was the frank discussion of the problems of home front defense so that State and local officials could give local guidance and leadership based on a full knowledge of the facts.

3. *"Project East River."* The final report of more than 100 leading scientists and experts, which included more than 200 recommendations for Civil Defense, was submitted to the FCDA, the Department of Defense, and the Office of Defense Mobilization in January of 1953. This impartial study has aided tremendously in expediting realistic Civil Defense planning and operation.

4. *"Operation Doorstep"*. National interest in the practicability of Civil Defense preparedness was greatly stimulated by the public atomic test on March 17, 1953. The dramatic story of typical American homes and cars subjected to an atomic blast was relayed to millions of Americans by newspapers, television, radio, newsreels, and magazines. "Operation Doorstep" demonstrated that proper preparation could save lives at home.

5. *Operational Readiness.* More cities and States than ever before held public and command post Civil Defense exercises in 1953. As a result, millions more Americans than before had some operational or training experience with Civil Defense in 1953.

6. *Attack Warning.* The ability of Civil Defense to give public warning of an attack through sirens and similar devices reached 45% in 1953. When other equipment purchased through 1953 is installed, coverage will be 53%.

7. *Public Emergency Radio Broadcasting.* The CONELRAD system became operative on May 15, 1953. A nationwide test in October demonstrated that it was generally practical.

8. *Public Knowledge.* In 1953 emphasis was placed on mental as

well as material preparedness against attack so as to forearm the American people against panic. Individual citizen participation was strengthened through intensified family home defense activities.

9. *Civil Defense Workers.* The number of Civil Defense workers actively enrolled increased by nearly 10% in 1953. States and cities now report more than four and one half million civil defense personnel enrolled and currently assigned to duty.

10. *Civil Defense Training and Education.* By the end of 1953 over 4,000 key personnel had completed one or more of the FCDA staff and instructor training courses. The number participating in special courses and conferences more than doubled that of the previous year.

11. *Functional Reorganization.* In less than one year a reevaluation of the organization of the Federal Civil Defense Administration was completed and the agency reorganized under more functional lines. In the process a personnel saving of more than 10% was accomplished.

12. *Contributions Growth.* In fiscal 1953 the FCDA contributed nearly 15 million dollars to match an equal sum from the States and cities, for Civil Defense organizational equipment and supplies. The Civil Defense materials purchased with these funds increase the ability of the States and cities to cope with any disaster, whether from nature or enemy attack.

13. *Emergency Supplies and Equipment Growth.* In 1953 an additional 19 million dollars worth of emergency medical supplies and equipment and one million dollars of engineering equipment were added to Federal reserve stocks which will be available to supplement local supplies in the event of attack. The total FCDA has invested in emergency supplies since 1951 is slightly over \$85,000,000.

14. *Greater Reality in Civil Defense Planning.* In recognition of the existence of larger weapons and of the probability of somewhat longer public warning time in the next several years, exploration of a new policy of population dispersal was encouraged in the latter half of 1953.

CIVIL DEFENSE IN ITS THIRD YEAR—A REVIEW BY THE ADMINISTRATOR

The progress of Civil Defense at Federal, State and local levels during 1953 should be assessed against the momentous events of the year.

When the new administration took office, it was an accepted fact that the United States had not had a monopoly on atomic weapons since 1949. However, there had been no recent confirmations of actual atomic tests by the Russians.

The British were known to be proceeding independently with the development of atomic weapons and the study of their effects. No other nation had engineered a successful atomic explosion.

There had been some rumored reports of successful American experiments with a hydrogen device in the Pacific. As the new year began, however, these had not been confirmed officially by either the Atomic Energy Commission or the Department of Defense. A statement released by the AEC on November 16, 1952, had said only, “. . . the test program included experiments contributing to thermonuclear weapons research.”

A series of atomic tests was being readied at Yucca Flats in Nevada. An important feature of these tests was to be the measurement of a number of damage effects important to Civil Defense.

Then, on March 17, 1953, the entire Nation witnessed—on live television and newsreel films—the detonation of an actual atomic bomb and its effects on sample American homes, cars, and house furnishings. Department store mannequins represented live men, women, and children in this graphic demonstration.

Thus, for the first time, Americans everywhere were able to see for themselves both the tremendous explosive power of such a bomb, and the actual tests of shelter precautions which could increase their personal chances for survival in an atomic attack.

In this same test series there occurred the first demonstration of the 280 millimeter atomic cannon. Its success proved the feasibility of developing a whole family of atomic weapons.

Our pioneering weapons accomplishments, unfortunately, gave public officials no great reason for complacency. On the basis of past experience we had to assume that Russia too would soon be able to construct similar weapons of various sizes.

Because of the rapid development of new atomic weapons and new

means of delivering them, the President called a special conference of the Governors of the States and Territories. At this conference, in May 1953, the 49 governors attending were given the sober facts about the growing threats to our home front security.

The long-hoped-for truce in Korea was brought about on July 25, 1953. To what extent this "cease-fire" had lulled the American people into the feeling that true world peace was near at hand, no man could then say with accuracy.

On August 8th, however, Premier Malenkov announced that Russian atomic scientists had not been idle. His message of that date to the Soviet Congress declared, "The Government of the Soviet Union must inform the Supreme Soviet that the United States no longer possesses a monopoly of the hydrogen bomb."

It then became increasingly clear that Civil Defense was no longer a problem for the United States alone, but an urgent demand upon the preparedness of the entire free world. In September, therefore, I traveled to Europe to consult with the Civil Defense leaders of various NATO countries.

I found those leaders alarmed by the atomic arms race, as we were; and making preparations for the defense of their civilian populations, as we were—and are. Atomic fears were real, and growing.

On December 8th, in an historic address to the United Nations Assembly, President Eisenhower laid before the peoples of the world and their responsible leadership the true nature of the atomic dilemma.

Speaking in the "new language of atomic warfare," the President said:

The atomic age has moved forward at such a pace that every citizen of the world should have some comprehension, at least in comparative terms, of the extent of this development, of the utmost significance to everyone of us.

Clearly, if the peoples of the world are to conduct an intelligent search for peace, they must be armed with the significant facts of today's existence.

* * * * *

Atomic bombs today are 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.

Today, the United States' stockpile of atomic weapons, which, of course, increases daily, exceeds by many times the total equivalent of the total of all bombs and all shells that came from every plane and every gun in every theatre of war in all of the years of World War II.

A single air group, whether afloat or land-based, can now deliver to any reachable target a destructive cargo exceeding in power all the bombs that fell on Britain in all of World War II.

* * * * *

Second, even a vast superiority in numbers of weapons, and a consequent capability of devastating retaliation, is no preventive, of itself, against the fearful material damage and toll of human lives that would be inflicted by surprise aggression.

The free world, at least dimly aware of these facts, has naturally embarked

on a large program of warning and defense systems. That program will be accelerated and expanded.

But let no one think that the expenditure of vast sums for weapons and systems of defense can guarantee absolute safety for the cities and citizens of any nation. The awful arithmetic of the atomic bomb does not permit of any such easy solution. Even against the most powerful defense, an aggressor in possession of the effective minimum number of atomic bombs for a surprise attack could probably place a sufficient number of his bombs on the chosen targets to cause hideous damage.

During the period when world leaders are attempting to work out agreements—based on the President's proposals—to harness the atom for peaceful purposes, prudence demands that our people accelerate their nonmilitant preparations for Civil Defense of our homes in any emergency.

This theme and message was repeated by many top government leaders on December 14 and 15, at a White House Conference of Mayors on national security that was unique in American history.

So much for the background that has brought home to Federal, State, and municipal leaders—and to more than four and a half million civil defense workers—the importance of an adequate Civil Defense program in what President Eisenhower has called this "Age of Peril" in which we live.

To me it became obvious, not long after I assumed the responsibilities of Federal Civil Defense Administrator, that the technological factors affecting our home front security had changed to such a degree that we had to seek new and better solutions to our problems.

Perhaps the most critical problem requiring new answers was one involving the three factors of (a) warning time, (b) dispersal or thin-out of congested populations, and (c) shelter. Let me state the facts as I know them.

The Project East River Report rightly called for "a more manageable" Civil Defense—a home front program well within our immediate physical and economic capabilities as a Nation.

The immediate prospect is that most American cities cannot count on more than 15 minutes warning of enemy attack. This compels people to "Duck and Cover" where they are—make prompt use of the best available shelter, either in existing buildings, or in such home-type shelters as were successfully tested in the public demonstrations at Yucca Flats.

The military is working to increase the probable amount of warning time. The chance of increased warning gives some hope that a properly instructed American public can save many lives by dispersing from the most probable aiming points before they "Duck and Cover" when the red warning is sounded.

Admittedly, such population movements would require a high degree of public education and training. There is, of course, a calculated risk

in any emergency action. However, the total casualties per bomb would be materially decreased if we had the time and training to thin out the congested areas in the hearts of our crowded target cities.

Warning time sufficient for a planned dispersal would not, however, eliminate the need for some shelter. There will always be people who must, for reasons of duty or inability to move, remain near the most likely aiming points. It should seem to be within our economic means to finance this necessary minimum of protection.

My staff has been working diligently to develop sound guidance on matters such as these. I have talked publicly about my own conclusions as to what we should be doing. And I do not believe for a moment that we must move in such hysteria and tense concern that we have no basis for intelligent action.

Much can be done, for example, in reorganizing the Federal Civil Defense Administration for greater efficiency and economy—a reorganization which in large part has been carried out.

Still more can be done by giving our States and cities a prompt peacetime return on the funds they have invested in Civil Defense through aid in natural disasters.

Our local Civil Defense organizations even now are gaining much needed experience—and paying their way—by serving in rescue and relief capacities in time of fire, flood, drought, or tornado damage. I count the dedication of the Federal Civil Defense Administration to these worthy emergency causes as one of the most practicable and forward-looking acts of the new administration.

But the fact remains that we must adapt ourselves, and soon, to the dangers we face in this "Age of Peril" if we are to continue to live in an atomic era. Otherwise, there is even greater peril that the freedoms we cherish may be lost through lack of knowledge, lack of foresight, and lack of preparation.

An informed people is a strong people. The Federal Civil Defense Administration will continue to bring Americans the facts about the ever-present threat to their homes and families, and practical instructions on how to meet that threat. Given the facts, no matter how harsh, I am confident that my fellow citizens—and their elected representatives in local, State and national positions of responsibility—will know how to act promptly and courageously for the greater security of all.

In the total strength of our people—in a material preparedness and moral courage so strong as to deter aggression itself, and with the high spiritual purpose to devote our skills and our resources to the benefit of all mankind—in these we shall find the real greatness of America. In these, we and men of good will everywhere will find the true hope of lasting peace.

THE THREAT OF ATOMIC WEAPONS

In 1953 it became increasingly clear that two factors are basic to realistic civil defense planning and operation :

1. The simple facts of the destructive power of existing weapons.
2. The ability of an enemy to deliver such weapons on targets.

From the information that was developed and publicly presented in 1953, it should be clear that no wishful thinking can turn back the atomic time clock and deny the existence of atomic weapons far larger and more destructive than any yet employed in modern war.

In President Eisenhower's speech to the United Nations General Assembly on the 8th of December 1953, he devoted much time to the "awful arithmetic of the atomic bomb." He made mention of the fact that, "atomic bombs today are 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." He said also that "the dread secret and the fearful engines of atomic might are not ours alone. * * * The secret is also known by the Soviet Union.

"Even a vast superiority in numbers of weapons, and a consequent capability of devastating retaliation is no preventive, of itself, against the fearful material damage and toll of human lives that would be inflicted by surprise aggression."

What does this mean to civil defense in the United States?

It is necessary to know the meaning of the figures on the power of atomic weapons which, as the President also said in his address of December 8, "have virtually achieved conventional status within our armed services."

An atomic bomb destroys by blast, fire, and radiation. The extent and amount of physical damage that can be expected from an atomic bomb is determined largely by the energy release of the bomb, and is reasonably predictable. Damage from fire is less predictable and may extend far beyond the limits of blast damage, if the spread of fire is not promptly controlled.

The degree of destruction resulting from an atomic bomb becomes progressively less the greater the distance from ground zero (the point on the ground directly below the explosion). If the area of damage is divided into four zones by means of concentric circles, the innermost zone (zone A) is that area in which the buildings would be almost completely destroyed by blast. The next zone (zone B) is that area in which most of the buildings would be damaged beyond repair. Zone C is the area in which moderately damaged buildings must be vacated

during repairs, and zone D is the area in which partially damaged buildings need not be vacated during repairs.

The following table shows the extent of blast damage by zones for various sizes of atomic bombs. The 1 (X) bomb is used as the standard of comparison. It is the size of bomb used at Hiroshima and Nagasaki. Radii of zones are measured from ground zero.

TABLE A.—DAMAGE ZONES FOR VARIOUS SIZES OF ATOMIC WEAPONS

Bomb size	TNT equivalent (tons)	Zone A—virtually complete destruction		Zone B—severe damage		Zone C—moderate damage		Zone D—partial damage	
		Radii miles	Area square miles	Radii miles	Area square miles	Radii miles	Area square miles	Radii miles	Area square miles
1(X).....	20,000	0.0-0.5	0.8	0.5-1.0	2.3	1.0-1.5	3.9	1.5-2.0	5.5
2½(X).....	50,000	0.0-0.7	1.5	0.7-1.4	4.2	1.4-2.0	7.1	2.0-2.7	10.1
5(X).....	100,000	0.0-0.9	2.3	0.9-1.7	6.9	1.7-2.6	11.5	2.6-3.4	16.1
10(X).....	200,000	0.0-1.1	3.5	1.1-2.1	10.6	2.1-3.2	17.8	3.2-4.3	25.0
25(X).....	500,000	0.0-1.5	6.7	1.5-2.9	20.4	2.9-4.4	34.0	4.4-5.9	47.7
50(X).....	1,000,000	0.0-1.8	11.0	1.8-3.7	32.0	3.7-5.5	53.0	5.5-7.4	74.0

As can be seen from this table the more powerful the bomb, the greater is the area of damage. However, an increase in the power of the bomb does not yield a proportional increase in the area of damage. For example, the 25 (X) bomb mentioned by President Eisenhower, although 25 times as powerful as those dropped in Japan, has a radius of destruction only 3 times as large and an area of destruction 9 times as large.

This table also furnishes the basic data from which may be calculated the total area that may be affected by atomic bombs of various sizes. For example, a 25 (X) bomb would be felt nearly six miles away from ground zero and would cause varying degrees of damage over nearly 120 square miles (the sum of the A, B, C, and D zones).

Fires, either primary or secondary, may originate in the area of blast damage. Primary fires are caused by thermal radiation; secondary fires by overturned space heaters, broken gaslines, short-circuited electrical equipment, etc. These fires, if not controlled, may result in fire storms and conflagrations. Such mass fires could be more destructive to life and property than blast would be.

The intensity and lethal range of nuclear radiation from an atomic explosion increases with size of the bomb but, as in the case of blast, *not in direct proportion* to the size of the bomb.

Some idea of the number of casualties which would result from an atomic bombing can be obtained from table B. The area of destruction is divided into the same zones as in the case of blast. The percentages for each zone are constant. The size of the zones increase as the

strength of the bomb is increased. For example, zone A has a radius of 0.5 miles for a 1 (X) bomb, while zone A for a 25 (X) bomb has a radius of 1.5 miles.

TABLE B.—AVERAGE DEATHS AND SURVIVING CASUALTIES PER HUNDRED PERSONS IN AREA

Zone	Deaths		Surviving casualties		Uninjured	
	Without warning	With warning	Without warning	With warning	Without warning	With warning
A-----	90	75	10	15	0	10
B-----	50	30	35	20	15	50
C-----	15	5	40	25	45	70
D-----	2	1	18	9	80	90

These two tables incorporate the simple basic facts of the destructive power of atomic weapons as they could be calculated in 1953. Upon such facts, civil defense has been building such concepts as insistence on longer periods of warning, planned tactical dispersal, and shelter requirements.

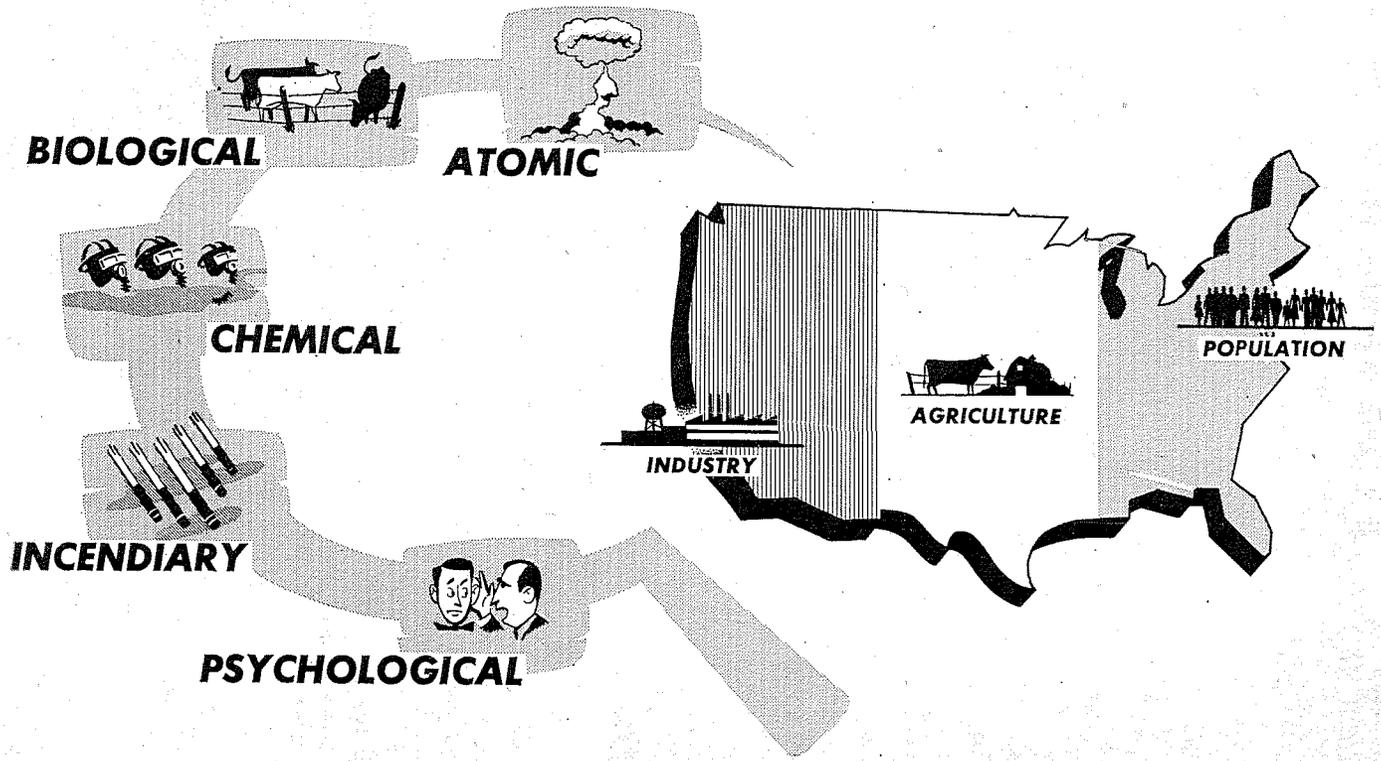
The second factor—the ability of an enemy to deliver such weapons on target—is less definite. This much can be reported as generally accepted in 1953.

Type of Attack

It is accepted that the Soviet Union is now capable of striking any target within the United States. It is assumed for planning purposes that such an attack, if it comes, will consist principally of nuclear weapons delivered by air, and detonated above the ground during normal working hours. It is further assumed that high explosive and incendiary bombs will also be used, that sabotage will be employed, and that biological and chemical weapons will be used. Psychological warfare techniques of all kinds also will be used to disrupt defense programs, impair production, create panic, and weaken our will to resist overt attacks.

If this country is attacked, the primary objectives will be to destroy our war production capacity and our will to resist. The most probable method of attaining this objective would be through attack on our centers of industry and population. Since nuclear weapons are the most effective method of sudden mass destruction presently known, it is probable that the enemy would rely mainly on them. At present, the most reliable means of delivery is the long-range bomber, and although nuclear weapons might be delivered by means other than aircraft, their effect is much the same whether they are launched from submarines or surface ships, brought into ports or other places clandestinely, or dropped from aircraft.

THE THREAT WE FACE



Special measures to meet large-scale biological and chemical attacks are a continuing necessity. In the field of psychological warfare, civil defense must be prepared to meet a flood of false rumors disseminated by word of mouth, leaflets, and clandestine radio operating under the name of known stations.

It is assumed that any type of attack will be accompanied by attempts at sabotage of industry and communications, but the effects of such covert activities will probably be minor as compared with those of overt attack.

Warning Time

It is assumed that civil defense officials will receive some warning of an impending air attack. Although complete surprise is possible, it is assumed that approximately 15 minutes warning can now be given to the public. More warning time will be given to the public, if it is available.

As the installation of radar nets and other detection measures progresses, the possibility of complete surprise will decrease. It will never disappear entirely, however, and no one can ever guarantee all parts of the United States against surprise attack. Surprise is most likely to be achieved in an attack by guided missiles launched from submarines.

Target Areas

It is assumed that large concentrations of industry and people will be major enemy targets for attack with nuclear weapons.

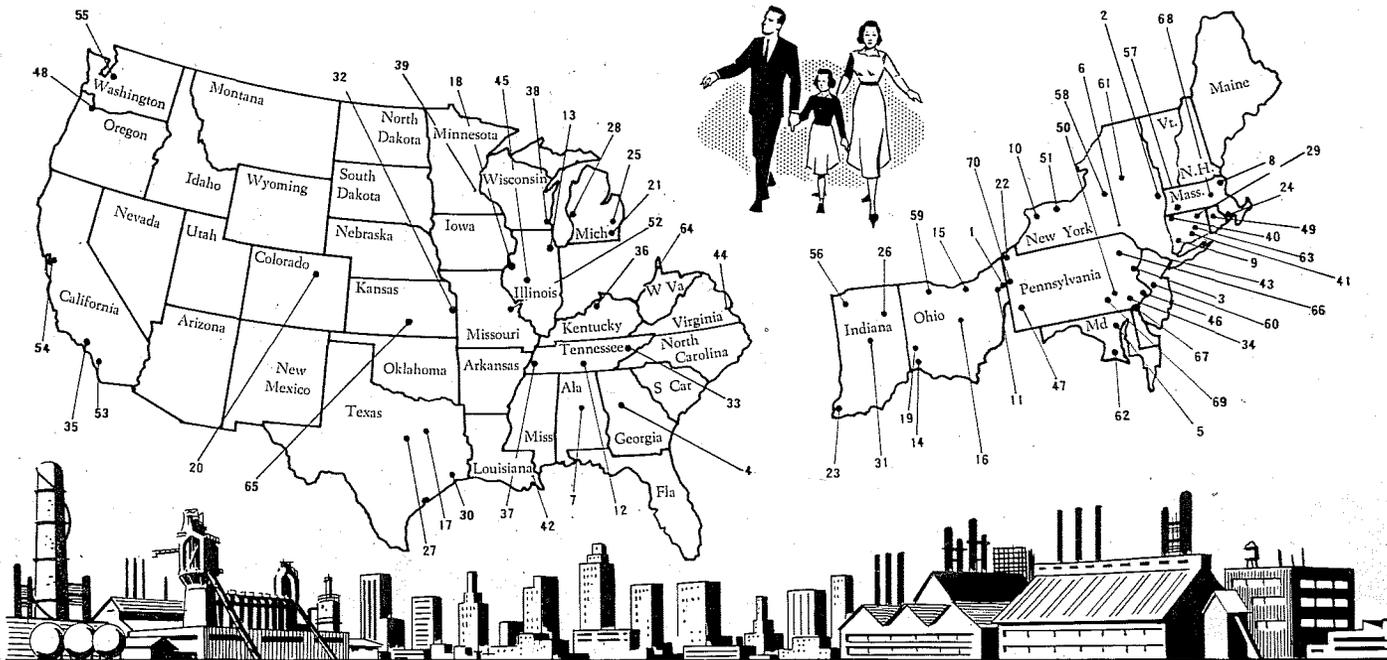
The atomic bomb and chemical warfare are weapons of mass destruction most efficiently used on large targets, such as our standard metropolitan areas, with their high concentrations of population and industry. Biological warfare can be efficiently used against both urban and rural areas and populations.

Based on Census Bureau and Department of Labor statistics, there has been drawn up a list of 193 potential atomic target areas in the continental United States, the Territories and possessions, including State and Territorial capitals which do not qualify as standard metropolitan areas.

Of the 193 areas, the 70 which contain the highest concentrations of both industry and population are designated "critical target areas," since they are assumed to be the most likely targets. This is an increase of 3 since 1952. The return per bomb in casualties and damage would be greatest there, and the shock effect on our industry and commerce in general would also be greater than in other target areas. Nearly half the population of the United States lives within these 70 areas, although they comprise less than 3 percent of the total

CRITICAL TARGET AREAS

for Civil Defense Purposes



Critical Target Area Total Population - 67,750,982

CRITICAL TARGET AREA & STATE	POPULATION	% TOTAL
1. Akron (Ohio)	410,032	.6052
2. Albany-Schenectady-Troy (N.Y.)	514,490	.7594
3. Allentown-Bethlehem-Easton (N. J.-Pa.)	437,824	.6462
4. Atlanta (Ga.)	671,797	.9916
5. Baltimore (Md.)	1,337,373	1.9739
6. Binghamton (N. Y.)	184,698	.2726
7. Birmingham (Ala.)	558,928	.8250
8. Boston (Mass.)	2,369,986	3.4981
9. Bridgeport (Conn.)	258,137	.3810
10. Buffalo (N. Y.)	1,089,230	1.6077
11. Canton (Ohio)	283,194	.4180
12. Chattanooga (Tenn.-Ga.)	246,453	.3638
13. Chicago (Ill.-Ind.)	5,495,364	8.1111
14. Cincinnati (Ohio-Ky.)	904,402	1.3349
15. Cleveland (Ohio)	1,465,511	2.1631
16. Columbus (Ohio)	503,410	.7430
17. Dallas (Tex.)	614,799	.9074
18. Davenport-Rock Island-Moline (Ill.-Iowa)	234,256	.3458
19. Dayton (Ohio)	457,333	.6750
20. Denver (Col.o)	563,832	.8322
21. Detroit (Mich.)	3,016,197	4.4519
22. Erie (Pa.)	219,388	.3238
23. Evansville (Ind.)	160,422	.2368
24. Fall River-New Bedford (Mass.-R. I.)	274,767	.4055
25. Flint (Mich.)	270,963	.3999
26. Fort Wayne (Ind.)	183,722	.2712
27. Fort Worth (Tex.)	361,253	.5332
28. Grand Rapids (Mich.)	288,292	.4255
29. Hartford (Conn.)	258,081	.3810
30. Houston (Tex.)	806,701	1.1907
31. Indianapolis (Ind.)	551,777	.8144
32. Kansas City (Kans.-Mo.)	814,357	1.2020
33. Knoxville (Tenn.)	337,105	.4976
34. Lancaster (Pa.)	234,717	.3464
35. Los Angeles (Calif.)	4,367,911	6.4470

CRITICAL TARGET AREA & STATE	POPULATION	% TOTAL
36. Louisville (Ky.-Ind.)	576,900	.8515
37. Memphis (Tenn.)	482,393	.7120
38. Milwaukee (Wis.)	871,047	1.2857
39. Minneapolis-St. Paul (Minn.)	1,116,509	1.6480
40. New Britain-Bristol (Conn.)	146,983	.2169
41. New Haven (Conn.)	264,622	.3906
42. New Orleans (La.)	685,405	1.0117
43. New York-N. E. New Jersey (N. Y.-N. J.)	12,911,994	19.0580
44. Norfolk-Portsmouth-Newport News (Va.)	589,427	.8700
45. Peoria (Ill.)	250,512	.3698
46. Philadelphia (Pa.-N. J.)	3,671,048	5.4184
47. Pittsburgh (Pa.)	2,213,236	3.2667
48. Portland (Oreg.-Wash.)	704,829	1.0403
49. Providence (R. I.-Mass.)	737,203	1.0881
50. Reading (Pa.)	255,740	.3775
51. Rochester (N. Y.)	487,632	.7197
52. St. Louis (Mo.-Ill.)	1,681,281	2.4816
53. San Diego (Calif.)	556,808	.8218
54. San Francisco-Oakland (Calif.)	2,240,767	3.3074
55. Seattle (Wash.)	732,992	1.0819
56. South Bend (Ind.)	205,058	.3027
57. Springfield-Holyoke (Conn.-Mass.)	407,255	.6011
58. Syracuse (N. Y.)	341,719	.5044
59. Toledo (Ohio)	395,551	.5838
60. Trenton (N. J.)	229,781	.3392
61. Utica-Rome (N. Y.)	284,262	.4196
62. Washington (D. C.-Md.-Va.)	1,464,089	2.1610
63. Waterbury (Conn.)	154,656	.2283
64. Wheeling-Steubenville (Ohio-W. Va.)	354,092	.5226
65. Wichita (Kans.)	222,290	.3281
66. Wilkes-Barre-Hazleton (Pa.)	392,241	.5789
67. Wilmington (Del.-N. J.)	268,387	.3961
68. Worcester (Mass.)	276,336	.4079
69. York (Pa.)	202,737	.2992
70. Youngstown (Ohio-Pa.)	528,498	.7801

area of the Nation. An even higher proportion of defense industry is located within their boundaries.

Within the critical target areas, there are 92 major cities which are regarded as probable aiming points. These cities are regarded as the focal points for the development of civil defense operational programs.

There are many areas containing facilities and installations which are attractive targets from a military standpoint, but which are not designated as civil defense target areas. The primary objective of civil defense is to minimize casualties and damage resulting from enemy attack. The areas of greatest danger are the large centers of population and industry. The problems raised by attacks on smaller centers may be serious, but are less staggering than those in the critical target areas, which must receive priority in civil defense planning.

Nontarget Area Support

It is assumed that any community or State attacked will require outside support to cope with an atomic attack. This is a major premise in the operation of civil defense. The capabilities of atomic and other weapons are so great that any attack, if successful, would result in damage and casualties far beyond the resources of any community.

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

CIVIL DEFENSE AS A PEACETIME DISASTER AGENCY

Dramatic examples of the value of civil defense in peacetime disasters continued to accumulate during 1953. As civil defense participation in recovery efforts after natural catastrophes increased, more and more people began to see that this new partner in national defense, essential as it would be in war, could also pay its way in peacetime.

At the Federal level, Executive Order 10427 issued on January 16, 1953, gave FCDA responsibility for providing assistance to localities stricken by major disasters. This responsibility involved investigating and evaluating natural disasters in the States and recommending to the President whether or not the disaster was of sufficient magnitude to warrant Federal aid. The order named FCDA the coordinating agency for all Federal assistance, when authorized, to stricken areas. (For text of order see appendix E.)

Tornadoes, floods, explosions, fires, and countless other emergency situations across the Nation became the proving grounds for civil defense preparedness. In every case where civil defense workers were at the scene, their contribution to alleviation of the situation, whether of minor or major nature, was indisputable.

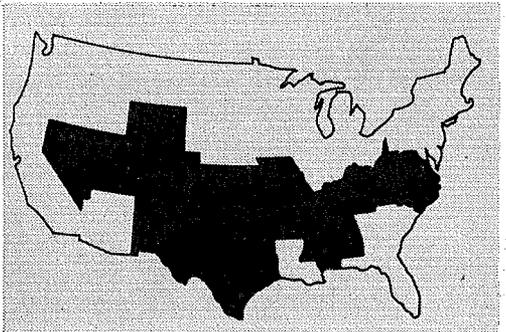
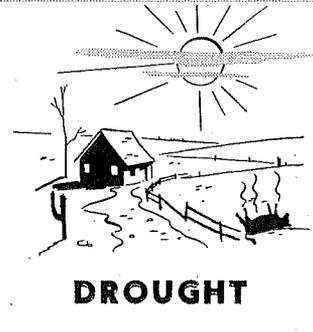
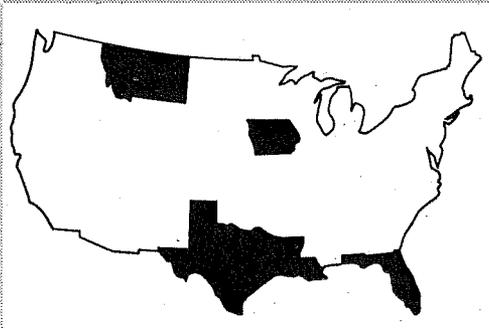
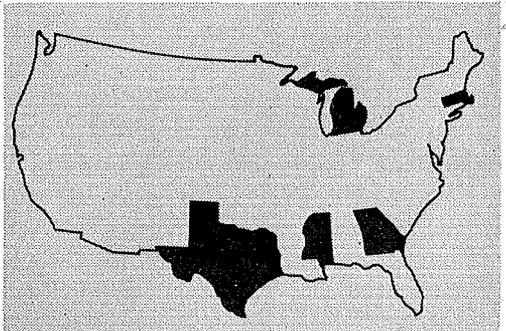
In many cases civil defense's organization and ability to act quickly and constructively provided the impetus needed to start remedial action in the local disaster involved.

From Maine to California, from Montana to Florida, organized civil defense was on the scene in 1953 to help when the people needed help. Such assistance varied from lending assistance in Marlboro, N. Y., to relieve a water shortage, to providing rescue and debris clearance crews in the disastrous Worcester, Mass., tornado area.

An object lesson in the value of having a prepared organization was provided by a comparison of the Waco and Worcester tornadoes. Waco was not prepared for operation at the time the tornado hit. As a result, confusion, wasted effort, traffic congestion, and delay in getting emergency operations under way occurred. If there had been trained rescue crews immediately available, many persons who died in the debris might have been saved.

In Massachusetts, on the other hand, well-organized civil defense was able to get under way soon after the tornado struck and initiate speedy, efficient, rescue efforts. The operation there was a model of effective civil defense disaster recovery action.

DISASTERS WHERE P. L. 875 WAS INVOKED



The disasters of 1953 demonstrated that, although in an emergency people are willing and anxious to offer their help, they must have leadership, training, and organization to be of benefit. Civil defense can provide that leadership, training, and organization. The catastrophes of 1953 clearly showed that the same men and women who are organized, equipped, and trained to counteract an atomic blast can be effective on the homefront in times of flood, earthquakes, tornadoes, and other natural disasters.

Local and State governments have carried the larger part of the burden in coping with the effects of disaster. They have had, depending on the circumstances, the support and assistance of various Federal agencies and the American National Red Cross. The American National Red Cross performed notable service in providing welfare assistance to disaster-affected persons and families by meeting the needs pertaining to food, shelter, clothing, medical and nursing aid, registration and information, and rehabilitation. This organization also assisted the governmental authorities in their problems.

Some of the Federal agencies and departments which have been active in the majority of the recent disaster situations are the Department of Defense through the Corps of Engineers, the Air Force, the various installations of the Army and Navy; the Department of Health, Education, and Welfare through the United States Public Health Service, the Food and Drug Administration, the Bureau of Public Assistance, the Children's Bureau, the Office of Vocational Rehabilitation, the Office of Education and the Social Security Administration; the Department of Agriculture through the Forest Service, Bureau of Agricultural Economics, Soil Conservation Service, the Commodity Credit Corporation, Federal Crop Insurance Corporation, Production and Marketing Administration, Farm Credit Administration, Farmers Home Administration, Agricultural Credit Services; the Department of Interior through the Bureau of Reclamation, and the Office of Territories; the Housing and Home Finance Agency through the Federal Housing Administration, the Federal Mortgage Insurance Corporation, and the Public Housing Administration; the General Services Administration through the Personal Property Utilization Division and the Public Buildings Service; the Veterans Administration; the Department of Labor through the Bureau of Employees Compensation, the Defense Manpower Administration, the Bureau of Employment Security and the Wage and Hour and Public Contracts Division; the Reconstruction Finance Corporation (presently the Small Business Administration); the Civil Service Commission; the Bureau of the Budget, Executive Office of the President; the Department of Commerce through the Public Roads Administration and the Civil Aeronautics Administration and the Bureau of

the Census. Many other agencies and departments have made valuable contributions to localities and States when disasters occurred.

The Federal Disaster Act of 1950 (Text in Appendix D)

Public Law 875, the Federal Disaster Act of 1950, gives the President broad authority to make use of Federal departments and agencies and their personnel and resources to assist State and local governments in disasters of major proportions. Assistance authorized under the law covers emergency repair or temporary replacement of public facilities. The disasters are specifically defined as fires, floods, droughts, hurricanes, earthquakes, and storms.

Executive Order 10427 delegates the responsibility for administering Federal disaster assistance, other than that for which statutory authority is given other agencies, to the Federal Civil Defense Administrator. The provisions of the Disaster Act can be invoked only when the President declares the occurrence a "major disaster." The Governor of the State involved must request assistance of the President and give assurance that the situation cannot be handled by the State or local government.

In passing this Act, Congress recognized that relief from disaster situations is the responsibility of the State and local governments but that in critical cases Federal assistance is needed.

Aid under Public Law 875 might consist of: surplus Federal equipment and supplies, either loaned or donated to State governments for redistribution; use of Federal equipment, facilities, supplies, and personnel; credit facilities of the Federal Government; and grant assistance.

In 1953, assistance was given under the Act in 24 States and the Territories of Alaska and Hawaii in 30 major disasters. In addition, many other disasters were determined after investigation and evaluation to be of insufficient proportion to merit Federal Assistance under Public Law 875. In all of these cases, FCDA administered the Act, evaluating and making its recommendations to the President, and, when declaration of a major disaster was made, coordinated the Federal assistance given to the State or locality involved. The administration of this program has provided a severe test for the effectiveness of FCDA techniques and the capabilities of the local, State, and Federal civil defense organizations, and has given civil defense valuable experience.

Integrating the disaster relief program into the FCDA structure is a forward step in streamlining operations of the Federal Government. Details of the first 12 months of operation of this program under FCDA will be issued in a report of the President to the Vice President and Speaker of the House of Representatives in accordance with section 8 of Public Law 875.

FCDA Regional Administrators have been delegated specific functions in the administration of the disaster relief program. All Federal agencies which provide disaster assistance have appointed liaison officers with the FCDA Regions to expedite provision of relief when authorized. Many State Governors have appointed Disaster Coordinators, in almost all cases the State Civil Defense Director. Some States not already having natural disaster legislation in 1953 passed or modified existing civil defense statutes to cover natural disaster operations. Many States made or strengthened interstate compacts to include natural disaster assistance.

In planning for disaster situations, municipal authorities can play a major role by their issuance of ordinances and regulations and administration of action in accordance with the anticipated need. State authorities have the important role of assistance to local communities in maintaining law and order by use of State Militia and National Guard. The State also plays an important part in the control of highway traffic and in the problems of health, safety, and welfare.

When a disaster strikes a community, the local governing authorities are expected to utilize all available resources to meet the situation. When necessary, the State provides assistance. When the situation is beyond the capabilities of the State, the Federal Government may provide aid. Many agencies of the Federal Government have statutory authority and appropriations which allow them to operate in disaster situations. When the problem is of greater magnitude than can be handled by existing authority and funds, the President will invoke the provisions of the Disaster Relief Act and provide additional Federal assistance to supplement State and local efforts and existing Federal authorities.

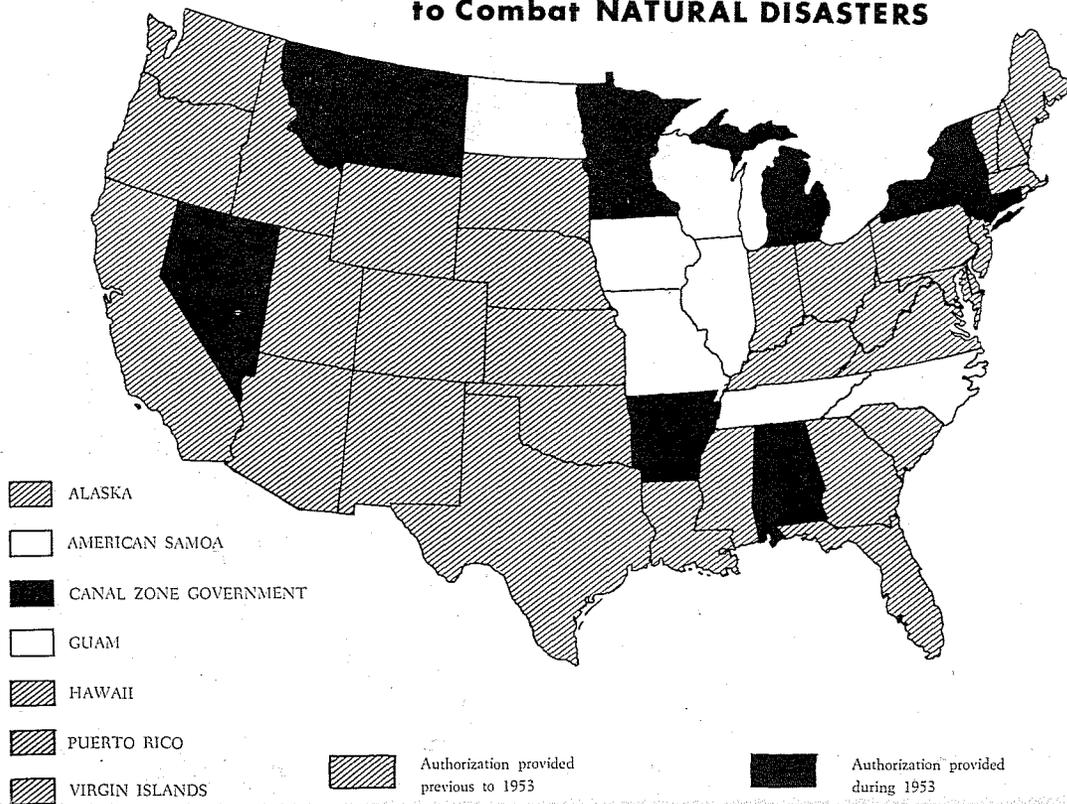
Upon the invocation of this law and declaration of a "major disaster" by the President, FCDA has the authority to call on the resources of all Federal departments and agencies. This assistance must be provided by the Federal agencies, with or without reimbursement, at the President's discretion.

The costs to the Federal Government in the operation of this program are minor in comparison to the dollar value of the damage incurred. The local public bodies normally bear a large part of the public cost while individuals and private interests must underwrite a major part of the recovery effort.

FCDA's aim in this program is to foster the development of State and local plans and so enable the State and local public bodies to equip themselves financially and otherwise to assume their responsibilities in such situations.

Progress has been made in this field but State and local governments are still far from being self-sufficient and still require Federal assistance even in areas where certain types of disaster tend to recur.

Civil Defense Forces Authorized by State Law to Combat NATURAL DISASTERS



A study of available State authorities and appropriations designed specifically for disaster relief is being made. It will be used to encourage State governments themselves to provide legislative authority to cope with disasters as much as possible without Federal assistance.

Predisaster Planning

To facilitate the provision of Federal assistance in a disaster, agreements in the form of memoranda have been made between FCDA and most of the major Government agencies. These memoranda state the responsibilities of the agencies involved and outline procedures for coordinating the provision of Federal assistance through FCDA.

An understanding has been reached between the American National Red Cross, long a leader in providing assistance to people in time of distress, and FCDA. This understanding, detailed in a basic memorandum and four supplemental agreements, describes the responsibilities of each agency, particularly in the field of welfare services. FCDA is promoting widespread dissemination of this understanding, as it is of importance to every local public body and Red Cross chapter in the country.

Encouraging State and Local Planning for Disasters

FCDA has encouraged State governments to provide authority and appropriations to assume responsibilities in disasters. In some States, civil defense and disaster assistance are still under separate authority.

FCDA proposes to request the Governors of every State, where adequate provisions have not been made, to present the disaster problem to the next assembly of their State Legislature.

Legislation of the Eighty-third Congress Which Affects the Disaster Relief Act

Surplus Property

The 83rd Congress, 1st session, enacted Public Law 134 which amends section 3 (c) of Public Law 875 by providing for the donation or loan of surplus Federal equipment and supplies to States for use or distribution by them under Public Law 875. Such property may be used to restore public facilities damaged or destroyed in major disaster and to rehabilitate persons in need as the result of such disaster. There is no financial outlay from Public Law 875 funds to provide such surplus. All costs must be borne by the State in this instance.

Drought Relief

The 83rd Congress, 1st session, also enacted Public Law 115 in order to provide assistance by the Department of Agriculture in agricultural areas affected by drought. This action amends Public Law 38, 81st Congress, and provides that Public Law 875 must be invoked prior to assistance being provided by the Department under sections 2 (b) and (d) of Public Law 38.

Section 2 (b) of Public Law 38, as amended by Public Law 115, provides loan assistance by the Department of Agriculture in areas declared "major disaster" by the President under authority of Public Law 875.

Section 2 (d) of Public Law 38, as amended by Public Law 115, provides Department of Agriculture assistance by the provision of feed for livestock or seeds for planting in areas declared "major disaster" by the President under authority of Public Law 875, and in accordance with terms and conditions determined by the Secretary of Agriculture.

The financial assistance required in the above situations is provided under authority of funds appropriated to the Department of Agriculture by Public Law 175, 83rd Congress, enacted to carry out the purposes of Public Law 115.

Conclusion

FCDA maintains constant liaison with the White House, the Bureau of the Budget, other Federal agencies, the American National Red Cross, and State and local officials in order to maintain a close, constant watch over potential disaster situations and step up activity when necessary. The pattern of organization and operation results in assistance when needed rather than when it is too late to be effective. The measure of Federal assistance consolidated by the disaster law into one authority has minimized duplication of efforts and resulted in advantageous savings to the Federal government.

CIVIL DEFENSE PROGRESS IN STATES AND CITIES

"* * * For the first time in history," President Eisenhower told the Nation's mayors recently, "cities have become principal targets for any enemy seeking to conquer our Nation. The city has moved from a position of support in the rear. It has moved out in a very distinct way into the front line * * * and so that creates problems. They can be solved only if we consult together and act intelligently."

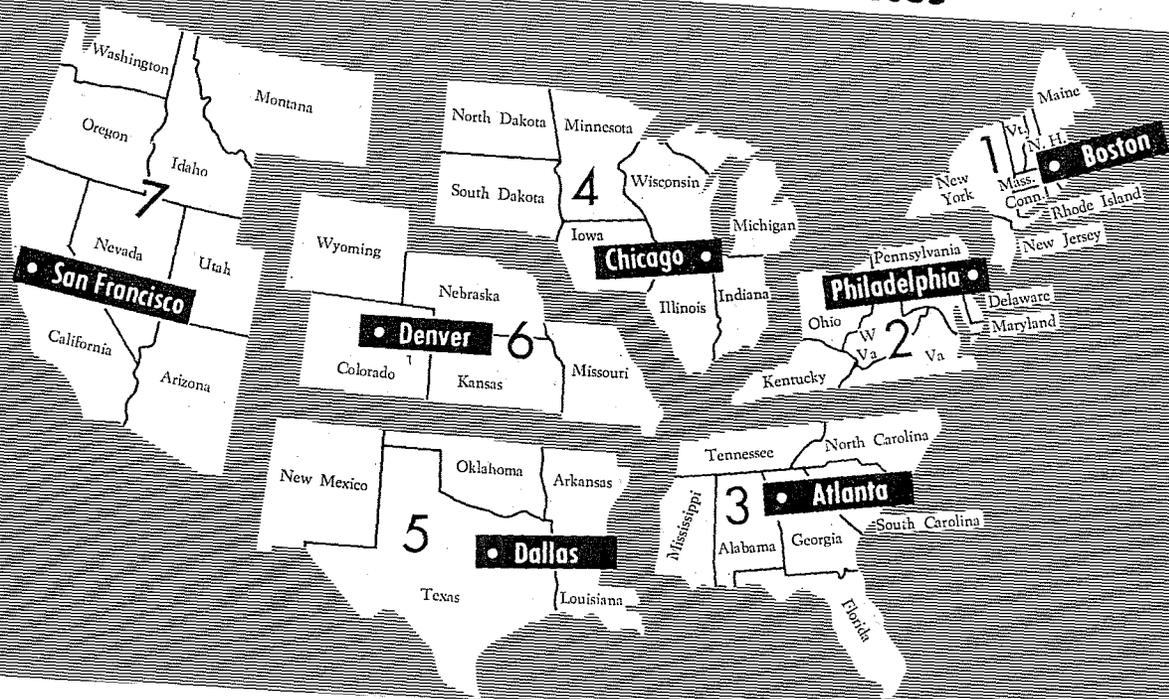
The President matched his words with positive action. In conjunction with executives of the key security agencies of government, he held two conferences during 1953 on problems involving continental defense, one for State Governors and one for Mayors, as initial steps in bringing about a closer partnership of those elected officials concerned with the national security of our country. The Administration feels strongly that a thorough understanding of these vital problems by officials at every level of government is second to none in importance.

To evaluate the progress made during the past year, it is essential to bear in mind that civil defense responsibility is shared at the Federal, State, and local levels. The Congress provided a civil defense structure at each of these three levels of government, giving it the collective name of "United States Civil Defense Corps." The Federal Civil Defense Act declares it to be "the intent of Congress that the responsibility for civil defense shall be vested primarily in the several States and their political subdivisions."

To carry out the further provisions of the Act that "The Federal Government shall provide necessary coordination and guidance," FCDA Regional Offices were organized to divide and expedite with the States Federal civil defense business initiated from Washington. In mid-1953, they were given authority to initiate programs with the States. With this decentralized responsibility, Regional Administrators directly assisted the States and cities to plan their diverse needs in organizing, training, and operating their own civil defense forces.

The authority of the Regional Administrators was increased by giving them final decision on civil defense equipment and supplies for which Federal funds would be given to the States and cities on a matching basis. The Congress provided \$15,000,000 for this purpose in 1953, making possible the purchase of attack-warning devices, medical and other equipment needed by the cities and States beyond their normal peacetime needs. Decisions of the Regional Administrators on matching funds were based on a Federal policy of putting first

FCDA Regions and Regional Offices



things first and keeping the programs of State and city civil defense in balance.

The regions also operated communications centers to coordinate the allocation of Federal assistance in a civil defense emergency, and to receive the attack warning from the Air Force.

By the close of 1953, test exercises held jointly with the Armed Forces and the States and cities established the value of FCDA Regional Offices as effective coordinators of State and city defense activities, as well as of the efforts of other Federal agencies, and resulted in closer teamwork with the military under disaster conditions.

In mid-1953, the boundaries of the nine Federal civil defense regions, in which the States were originally grouped, were rearranged to make seven regions, conforming more closely with the field organizational pattern of the Armed Forces.

Regional efforts for coordination made considerable progress during 1953, to the extent that existing civil defense organizations in the States and cities are better able to operate in conjunction with the National Civil Defense efforts. This was achieved through the matching funds program, through promotion and guidance of training schools, and principally through civil defense test exercises which the regional offices counseled in the States and cities or conducted themselves.

It was possible during 1953 for local, State, and regional civil defense staffs to coordinate their exercises so they resembled a command structure.

During the latter part of 1953, certain localities recognized they would need outside emergency help which might not be volunteered, and felt the Federal Government should exercise greater authority over civil defense nationally. The mayors of certain critical target cities and some State Civil Defense Directors suggested that the emergency powers of the Federal Civil Defense Administration be enlarged when they come up for renewal in June 1954. Some suggested that the civil defense forces could be built up to effectiveness only in the same pattern as the Armed Forces. The demonstrated importance of unified authority in natural disasters was cited.

The Council of State Governments and the Federal Civil Defense Administration, however, brought together the experience of the States under their existing civil defense acts, and agreed on a single uniform draft to be known as the model State civil defense act. In the model act, the civil defense autonomy of the local subdivisions of the State is preserved unchanged. The Federal Civil Defense Administration is to continue to coordinate, not to assume control over local operations or services during emergencies. By statute and by

prospective statute, the majority policy of the States continues to vest major responsibility for civil defense in the States and localities.

Civil defense advanced considerably during 1953 through publication of an urban analysis manual by FCDA. The publication shows a civil defense director how to calculate target zero in his own city, where a bomb would do the most damage, and how much. It shows him how to set up his problem quantitatively in terms of manpower, skills, equipment, and the supplies needed for an emergency.

When civil defense gets down to hard figures and realistic exercises, as it began to do during 1953, it becomes an overlapping problem. It takes in the countryside as well as the cities. It calls on rural sections to provide civil defense services for attacked areas in the form of mobile support teams. It requires organized road systems, and mass care for populations evacuated before or after the attack.

The following reports show how each region advanced in its own pattern of civil defense, and how each of its constituent States exercised its own preference in what to do first.

FCDA Region I

States: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey

In command post exercises which tested regional, State, and local plans during 1953, it was assumed that ten or more target cities in Region I would be atom-bombed simultaneously. Each city computed its resources, and found it could not cope with the attack by itself. Neither could its State. Manpower and supplies had to come from unattacked States and from Federal resources.

Cities and their States called on the regional office to coordinate the interstate movement of personnel and supplies from other States. When the need exhausted the region's resources, the regional office asked for assistance from other regions.

The administrator of Region I reports that the exercises gave rise to policy problems, which were solved; they tested the plans of the participating agencies, including the Department of Defense; and they brought the regional and State staffs into closer coordination.

Every State in the region conducted headquarters exercises in 1953 to train the staffs in operations. Within the States, all target areas participated in some type of exercise or test. The New Jersey exercises involved every community in the State. Connecticut instituted State-sponsored exercises for its political subdivisions. New Hampshire recognized its civil defense role in Region I through tests of mobile support.

New York State continued the systematic exercises which were instituted under the civil defense director in mid-1951. A compre-

hensive account of the methods and progress up to mid-1953, in organization, planning, and execution, has been made available to all other State directors of Region I by the regional administrator, as an "exemplar of orderly and steady progress." He said the New York report identifies and answers civil defense problems of common concern, by actual field tests.

New York has been applying the principles of organization, staff, and field training tested by the military for centuries and brought up to the current needs of an organized civilian force during the last war. In general, the training exercises for target areas in New York State have two parts: (1) a map problem; and (2) a physical demonstration of certain aspects of solving the map problem.

New York State training emphasizes the role of the support areas and is developing the concept of automatic aid, which moves into predetermined areas, on a prearranged plan, as soon as the location and size of the attack is verified.

New York State now has interstate compacts with 15 other States, plus a cordial working arrangement with Canadian civil defense authorities.

One important reason for having the civil defense force in readiness to deal with natural disasters, was demonstrated during the Worcester tornado which struck central Massachusetts on June 9 at 5 p. m. It killed 94, seriously injured 596, and left 10,000 homeless. By midnight, the surviving injured had been dug out of the wreckage and were all under medical care and the homeless had temporary shelter, blankets, and food.

Prompt control of the disaster resulted from advance planning by a civil defense organization in which local government officials served in positions of leadership. They showed that a disaster force must move intelligently and not emotionally; it must cope with frantic calls for everything and from everybody.

In all Region I States save one, the State civil defense organization is authorized to coordinate State resources in natural disasters.

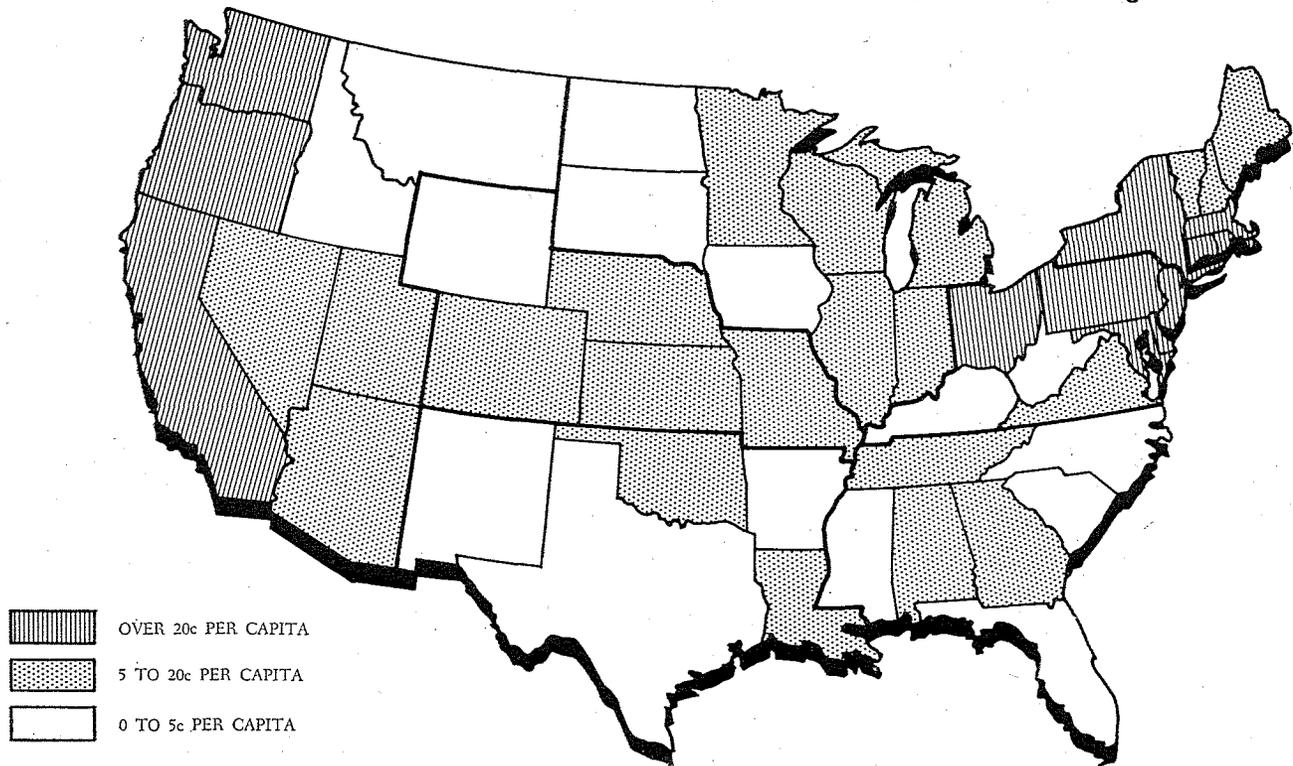
The Administrator of Region I reports a trend in 1953 to train civil defense leaders at all levels rather than the States and cities trying to recruit vast numbers of civil defense volunteers. There was an increasing integration of State and local government employees into civil defense. Such integration paid off in the Worcester tornado.

The principal 1953 development from the standpoint of public participation in civil defense was the home protection program.

Schools helped spread civil defense understanding as a result of increased interest by the State Commissioners of Education. They passed beyond the stage of civil defense drills in schools and "take shelter" exercises. More and more, civil defense is being introduced into curricula, especially in junior and senior high schools.

CIVIL DEFENSE CONTRIBUTIONS PER CAPITA MATCHED BY STATES

Federal share through June 1953



All States in Region I have an emergency supply and procurement organization. In New York State it is extensive. In Maine, which has no critical target areas, it is principally concerned with the support of other States.

A program of emergency mass care is being pushed in New Jersey, New York (which has conducted a 1953 series of test exercises), Connecticut, Massachusetts, and Maine. The emergency expansion program of existing hospitals is incomplete, but FCDA's design for a 200-bed improvised hospital unit has been adopted by Connecticut, Massachusetts, New Jersey, and Maine, and some 25 units are on order to start this program.

The eight States in Region I could supply at the end of 1953 a total of 2,700 first-aid stations. Blood serum or biological derivatives, stockpiled by FCDA in cold storage warehouses throughout Region I, while not sufficient for the load of probable casualties, assure a degree of initial availability.

To provide earliest official emergency information and attack warning, Region I is covered by the plan for CONTROL of ELECTRO-MAGNETIC RADIATION (CONELRAD) the specially organized system which will utilize broadcasting voluntarily in the public interest as soon as the approach of an enemy is detected.

The emergency communication system is backstopped with a highly organized network of "radio hams" called Radio Amateur Civil Emergency Service (RACES). The Federal Communications Commission has approved the RACES plans of four States, organized from the State to county or community level.

The New York State Defense Council and the State Civil Defense Commission have nearly completed a shelter survey in all congested urban areas of New York State.

Region I is coordinating comprehensive transportation plans for the restoration of the Port of New York and the Port of Boston after an atomic bombing.

Connecticut voted aid for the construction of civil defense shelters in public schools and the State Governor asked the legislature to authorize bomb-resistant construction in Connecticut schools.

Official backing of civil defense in Region I during 1953 was evident. State civil defense laws which expired in 1953 were renewed.

The willingness of State and local legislative bodies in Region I to appropriate funds to match Federal contributions for organizational equipment and supplies continued in 1953. In 1952 they appropriated a total of \$7,971,871 to match Federal funds; in 1953 they appropriated \$4,475,276.

FCDA Region II

States: Pennsylvania, Delaware, Maryland, District of Columbia, Virginia, West Virginia, Ohio, Kentucky.

The first regionwide command post exercise in Region II was conducted on November 5. All seven States and the District of Columbia participated, together with many critical target areas.

The purpose was to determine:

- (1) The effectiveness of communications.
- (2) Knowledge of available resources.
- (3) Operational capability of the regional and the various State headquarters.

In Pennsylvania the statewide alert on April 21 involved a public estimated at 8,000,000, together with about 100,000 civil defense volunteers; and the statewide alert on October 6 involved a public estimated at 9,000,000 persons, together with about 165,000 civil defense volunteers.

In Maryland, the statewide alert of September 22 was its first. The public involved was estimated at 1,500,000, together with 6,000 civil defense personnel.

Region II is pushing ahead with its training schools. Pennsylvania presented an active and complete program for instructors in all phases of civil defense training at its Civil Defense Training Center at Ogontz, north of Philadelphia, on a fulltime basis throughout 1953. The Ogontz Training Center was taken over from FCDA in 1952. In Maryland four civil defense fire and rescue schools were constructed during 1953, at Baltimore City, Baltimore County, Cumberland, and the University of Maryland. In Ohio as the year ended, Toledo had adopted tentative plans to convert an abandoned building into a training school.

Approximately 200 mobile support units were organized and launched in Region II during 1953, with greatest activity in Ohio, Virginia, and Kentucky. This brings the regional total to 300 mobile support units, ranging from 50 to 300 persons each.

Rules for vehicular movement in the region have been prepared by a subcommittee of State Transportation Chiefs for submission to the full committee early in 1954.

The Administrator of Region II initiated an intensive campaign in 1953 to encourage urban analysis. Pennsylvania, Maryland, Delaware, Ohio, and Virginia have indicated a desire for assistance in such analysis early in 1954.

Accomplishments during 1953, in Region II varied with local leadership, facilities, and enthusiasm. For instance, by States and cities: PENNSYLVANIA showed great progress in training auxiliary police, particularly in Western Pennsylvania. It also developed

a cooperative plan with the food industry, with plans for distributing food at State and local levels. Mass feeding groups were trained and demonstrated at county fairs.

MARYLAND was outstanding in mobile fire support. Numerous exercises were conducted under the general title "Operation Fireball" throughout the year. Each exercise involved mobile fire support from one to eight counties.

VIRGINIA made much progress in its rescue services.

KENTUCKY began the organization of mobile support units and bringing them to full strength through recruiting and training.

OHIO provided basic training materials for mobile support, including a fire training truck, a rescue truck, water tank, and portable generator, organized as a demonstration unit.

WEST VIRGINIA's facilities self-protection program moved forward, due to the efforts of the executives of two key corporations in the industrial Kanawha Valley. They also made marked progress organizing evacuation reception centers.

DELAWARE gave particular attention to training in the reconnaissance of unexploded enemy ordnance. Trained instructors were provided by Du Pont, Hercules, Atlas and other manufacturers of explosives in the State.

DISTRICT OF COLUMBIA made an excellent showing when the Federal Building Services reached 100 percent in warden appointments, 99 percent in shelter identification, 95 percent in warning facilities and 90 percent in total personnel assignments.

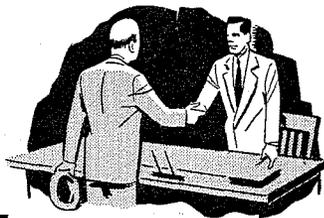
READING, Pa. Particular emphasis has been placed on the medical organization, headed by two private practitioners. Almost every physician in the county is enrolled in civil defense. At the close of the year the Volunteer Medical Corps had 5 complete units of 32 persons each and 10 more units in process of organizations. Ultimate goal is 20 units.

BETHLEHEM, Pa. The city, working closely with Bethlehem Steel Corp. which has its own civil defense organization, made excellent progress.

BALTIMORE, Md. The training program averaged twenty sessions each week through 1953. The city has an Industrial Advisory Committee which developed a pennant and citation for plants passing civil defense tests. An emergency control center was dedicated on November 12.

TOLEDO, Ohio. A strong civil defense organization gave an excellent demonstration of civil defense training, with its "Target Toledo," staged two nights in July at the University of Toledo Stadium. The aggregate audiences were more than 7,000.

WILMINGTON, Del. The city appropriated funds for civil defense early in 1953 after overlooking it the previous year. The



INTERSTATE CIVIL DEFENSE COMPACTS

AS OF NOVEMBER 15, 1953

LEGEND

23 STATES HAVE THE MODEL INTERSTATE CIVIL DEFENSE AND DISASTER COMPACT IN EFFECT.

16 States have indicated they are willing to enter into such compacts by sending copies to all other States and so notifying Congress.

7 States have not sent copies to all other States.

9 STATES HAVE COMPACTS IN EFFECT WHICH HAVE ONE OR MORE MAJOR VARIATIONS FROM THE MODEL COMPACT.

6 STATES HAVE FILED COMPACTS WITH CONGRESS WHICH ARE AWAITING CONSENT.*

8 STATES HAVE AUTHORITY TO MAKE COMPACTS BUT HAVE NOT FILED WITH CONGRESS.

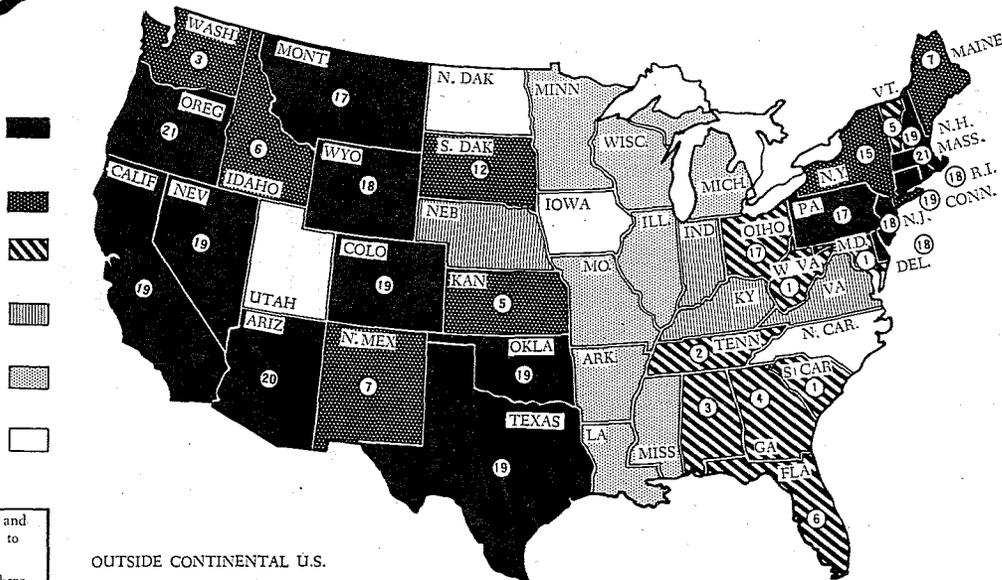
5 INCLUDING THE DISTRICT OF COLUMBIA HAVE NO STATUTORY AUTHORITY TO COMPACT.

*Including Puerto Rico and the Virgin Islands.

Alabama and Indiana have filed Model Civil Defense and Disaster Compacts with Congress and have sent copies to all other States.

Idaho has filed with Congress Model Compacts with three additional States; Alabama, Colorado, and Indiana.

Puerto Rico has filed with Congress a Model Compact with the Virgin Islands.



OUTSIDE CONTINENTAL U.S.

Puerto Rico



Virgin Islands



① Number indicates the number of states with which compacts are in effect.

civil defense force which had been organized and activated by the Du Pont Company was integrated into the city organization. WASHINGTON, D. C. Detailed plans are being worked out with the northern Virginia civil defense area for the reception of evacuees from Washington.

FCDA Region III

States: Georgia, Florida, Alabama, Mississippi, Tennessee, North Carolina, South Carolina.

All five critical target areas (Atlanta, Birmingham, Memphis, Chattanooga, and Knoxville) organized the mutual aid of surrounding counties, each to aid the other if hit. Their States organized mobile support groups to supplement county aid, if needed.

Birmingham now has mutual aid agreements with ten surrounding counties; Knoxville, with seven; Memphis and Chattanooga had agreements in process as the year ended. All five critical target areas of Region III are completing organization as city-county civil defense entities.

Six mobile support groups in Georgia will be organized and trained when rescue trucks and other equipment now on order arrive. In Tennessee the Governor directed the Department of Safety, assisted by the State Director of Civil Defense, to establish five mobile support units promptly. Alabama organized five mobile support groups; and, in addition, mutual aid groups from Birmingham and three other cities may be used as part of the statewide mobile support forces.

Mississippi has a mobile support program comprising 52 trained first-aid teams, 12 medical teams, and 1 rescue team; Florida is organizing mobile support groups.

Siren installation in the five critical target areas by the end of 1953 represented an investment of \$243,000 of State funds plus \$243,000 of Federal funds, contributed on a matching basis. The siren coverage was estimated at:

	<i>Percent</i>
Atlanta.....	80
Birmingham.....	35
Memphis.....	90
Chattanooga.....	90
Knoxville.....	100

Initial shelter surveys of existing buildings in critical target cities were launched by the engineer officer of Region III and were 80 percent completed in Atlanta and 50 percent completed in Chattanooga. A survey has been organized in Knoxville but not yet started.

The effort to make each family self-sustaining in an emergency was undertaken in Region III by at least 25 major women's organizations. The United Daughters of the Confederacy in Tennessee adopted civil

defense as a project and a local group in each of its 60 chapters took home protection training.

Practically every organized group of women in the region carried on an active civil defense program for its members, such as training in first aid, home nursing, ground observer posts, the operation of blood banks, and mass care of evacuees. As part of a sustained campaign of public education, the Federation of Women's Clubs promoted a "Civil Defense Corner" in each library, supplied with civil defense literature.

Probably as a result of this activity, the nineteen training schools in Region III had more volunteers than they could handle. At the end of 1953, they had trained 228 auxiliary firemen while an estimated 300 awaited training; 2,250 auxiliary policemen were trained or in training, while 4,000 recruits awaited training.

The regional pattern calls for a Women's Advisory Committee in each State, composed for the most part of heads of major statewide women's organizations. In Alabama it was supplemented during 1953 by a Negro's Women's Advisory Committee. A program for Negro women leaders was held in Montgomery, Ala., December 5, with an attendance of 150.

In Region III the Department of Public Welfare of most States accepted responsibility and assumed active leadership during 1953 for the civil defense emergency welfare services. Georgia half completed its emergency welfare operating plan. Most States completed operational plans for first aid and hospitals.

Urban analysis was started in Atlanta and committees were formed to organize the work in Chattanooga and Knoxville.

Attack warning from the Air Force to key points during 1953 would have been disseminated to the local communities by the State Highway Patrol Radio System, in all States but South Carolina. In South Carolina the plan was to disseminate any warning via normal telephone and telegraph facilities. Matching funds plans were submitted to FCDA during 1953 from all States to provide radio communications, to disseminate attack warnings, to receive disaster reports, and to direct emergency operations. All seven States are now organized under the CONELRAD system. Fifty-five AM radio stations are organized into 20 clusters, including those serving the 5 critical target areas of the region. Fifty-eight other stations are now ready to operate under the "on-off" method of transmission.

Most States of Region III have interstate civil defense compacts with their neighbors. Florida has notified all 48 States that she is willing to give aid and receive evacuees from attack.

Natural disasters in which the civil defense organization of the region was involved comprise: three tornadoes (Columbus and Warner Robins, Ga.; Auburn, Ala.); two hurricanes ("Barbara" and "Hazel"); and two floods (Mississippi and Florida).

FCDA Region IV

States: Illinois, Indiana, Michigan, Wisconsin, Iowa, Minnesota, North Dakota, South Dakota.

The critical target areas and metropolitan target areas of the region were assisted in starting urban analysis during 1953. A basic urban analysis was completed in Milwaukee.

Organized civil defense was strengthened in Minneapolis when the city engineer was made Chief of the Civil Defense Engineering Services and all employees in the Department of Public Works signed up for civil defense.

Somewhat similarly the civil defense engineering services recruited public works personnel in Rock Island, Ill., and Rockford, Ill.

Due to such activity by engineers in the region, the shelter program went ahead steadily in 1953. In the downtown Loop of Chicago, 54 public and office buildings were marked for public air raid shelters and identified by outdoor signs. The Milwaukee civil defense office completed its shelter program in the commercial area and began to extend it to the fringe areas and into isolated shopping centers.

In the heavily populated concentrations of industry which provide so many critical targets in the Chicago area, emergency mass care received special attention during 1953. The increasing destructive power of the enemy bomb led to consideration of the related problems of evacuation, both before and after attack. The emergency welfare program developed by FCDA was explained to the States and localities by Region III Headquarters. In consequence the welfare program was given an exceptional part in emergency planning.

As the year ended, the emergency welfare services in Region IV were making steady progress. A regionwide program of training exercises and demonstrations was held in cooperation with the Departments of Public Welfare, which have been given official responsibility for emergencies within most States. Indiana, for instance, did considerable work on a food program and published a comprehensive list of food resources.

Training in all civil defense services was pushed throughout the year in the target cities and support areas of the region. Rescue training in Detroit and Minneapolis was conducted on realistic ruins which copied what the atomic bomb did to some of the sturdier structures in Hiroshima. During 1953, Detroit graduated 325, Minneapolis 76 rescue instructors.

There were civil defense training courses also in fire, police, rescue, and warden services in Illinois at Lincoln, Springfield, Joliet, and East Peoria; in Iowa at Sioux City; and in Indiana at Fort Wayne. Training classes were also set up in Chicago, Milwaukee, Indianapolis, South Bend, and Evansville, Ind.

During 1953, the training and education officer of Region IV visited all State headquarters and all critical target areas to introduce the warden training kit and home protection kit.

Impetus continued on the warden service which not only supervises home training but also organizes the families of the neighborhood into teams for elementary fire fighting, rescue, and first aid.

The program of test exercises for the public and for the control center staffs continued during 1953 and included a demonstration of civil defense services May 17, conducted by the Burton Township on the edge of Flint, Mich. Approximately 250 trained volunteers demonstrated police, fire, rescue, engineering, communications, welfare, and first-aid services.

Three weeks later, a tornado turned Flint into a major disaster area.

The Associated Press next day devoted a special dispatch to the effectiveness of the civil defense contribution at Flint which newspapers printed nationwide. It said, in part:

About 250 civil defense workers struggled in the shambles of an 8-mile strip in Flint. They had a new \$16,000 rescue truck. Detroit civil defense moved quickly to the scene with three more of the trucks. Flint provided practical test of the Michigan civil defense organization. City Manager Young had high praise for the civil defense workers. He said they did their jobs tremendously well and that he could have used more of them.

FCDA Region V

States: Texas, Louisiana, Arkansas, Oklahoma, New Mexico.

The tornado which struck Waco on May 11 brought understanding of civil defense not only to Texas but to the entire region.

The lessons of this disaster were carried regionwide by the civil defense services during the remainder of 1953. The Regional Public Safety Officer devoted most of his time thereafter to arranging conferences on traffic control, self-protection in buildings, and rescue. The Regional Administrator brought 150 leaders from the five States to Waco on August 13-14 for a conference on the planning of disaster relief. They reviewed the disaster where it happened.

Region V is now pushing for operational organization complete with control centers. A new State control center for Texas was completed in 1953, as well as mobile State control centers for Oklahoma and Louisiana. At the end of the year, city control centers were nearing completion in the critical target cities of Houston and Fort Worth.

The critical target cities of Region V are going all out for urban analysis. Houston and New Orleans completed theirs during 1953. At Fort Worth an urban analysis is under way. Waco with a population of 130,000 is completing an urban analysis in view of its recent experience.

Installation of warning devices was completed in El Paso and was under way in Houston and Baton Rouge as the year ended. In Fort Worth and Tulsa, warning devices were on order.

Shelter surveys were completed in Houston and under way in New Orleans, Fort Worth, and Dallas.

Instructor courses in mass feeding were established in Oklahoma, Texas, and Louisiana during 1953, with emphasis on reception areas for evacuees. The Home Protection Program was popularized among the women of rural areas as Home Self-sufficiency in an Emergency.

FCDA Region VI

States: Colorado, Wyoming, Nebraska, Kansas, Missouri.

Civil defense staffs at all levels throughout Region VI gave evidence during 1953 of buckling down to a fairly good job of coordinating the services and the facilities which they had already established.

Test exercises were fewer than during the previous year but they put greater emphasis on operations. In the entire region during 1953 there were 8 major exercises involving a public participation of 164,000 and a civil defense staff of 2,873. Command post and control center exercises numbered 37 and involved a staff total of 2,174.

The regional administrator made a quick survey at the end of 1953 to learn the opinion of the civil defense directors of their own operational readiness in the five component States and in the critical target cities. He found their opinions "highly optimistic."

At the end of 1953, Colorado, Missouri, and Nebraska had State control centers either partly or wholly equipped with communication facilities. Kansas and Wyoming, in an emergency, would have had to operate from their existing administration offices.

All the critical target areas in the region had public warning systems, either installed or in process, at the end of 1953, to assure 100% sound coverage of the areas within the principal city limits.

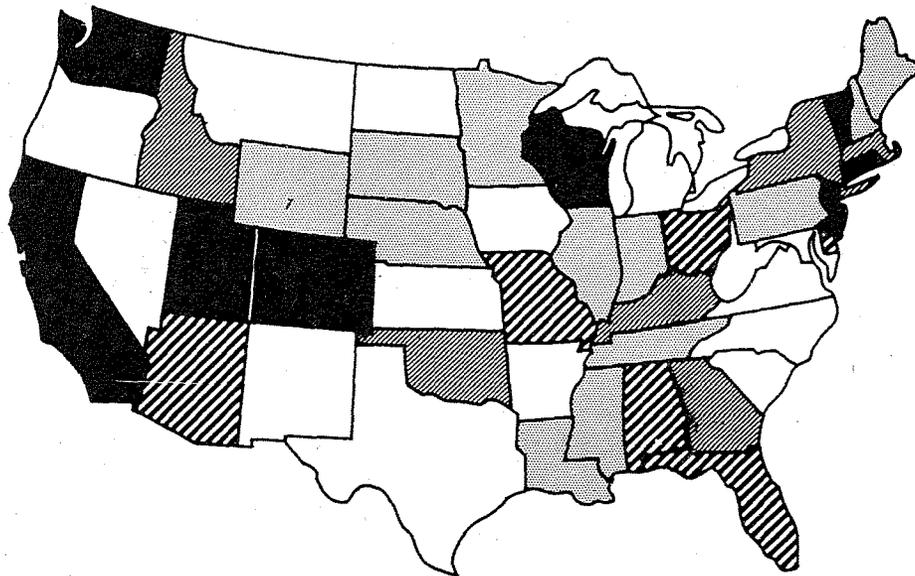
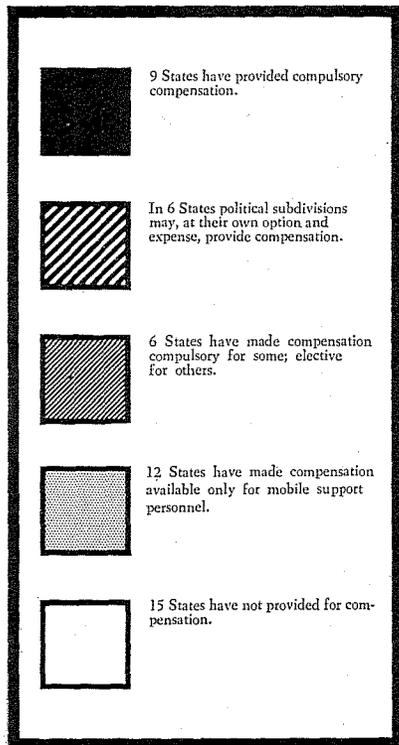
By the end of 1953, St. Louis had completed an urban analysis and Denver and Kansas City each were nearly completed.

Training programs were considerably extended with heaviest emphasis on training classes in the fire, police, communications, welfare, and warden services. The totals trained in Region VI during 1953, by States, were:

Missouri	12, 935
Colorado	6, 418
Kansas	10, 150
Nebraska	3, 480
Wyoming	1, 950

WORKMEN'S COMPENSATION FOR CD PERSONNEL

AS OF MAY 15, 1953



Washington, D.C. has provided compulsory compensation for C.D. Personnel.

FCDA Region VII

States: California, Oregon, Washington, Montana, Idaho, Nevada, Arizona, Utah

This region used test exercises during 1953 not only to train staff members but also to evaluate its civil defense force for the public.

The tests extended down through States and cities to the local public schools. They crossed boundaries to other regions. They took in Alaska and two adjacent provinces of Canada. And, on October 6, they even used the word "earthquake" in San Francisco, in a natural disaster exercise that assumed such a thing could happen there.

In these tests the regional headquarters was represented at the critiques on effectiveness. The Regional Administrator reports for 1953: "These tests were a clear demonstration of the need for better organization, more adequate communications, better siren coverage, and more widespread and thorough training and recruitment of volunteers."

The regional office directed actual relief of a major disaster when a large part of Montana was flooded in June.

The geography of Region VII is ideal for mobile support. The three coastal States, which have all five critical target areas of the region, should be able to count on the emergency support of the five mountain States which back them up geographically.

The coastal States have control centers from which civil defense is operated in an emergency. There are control centers in all the five target cities along the coast, Seattle, Portland, San Francisco, Los Angeles, and San Diego. In the mountain States, there are metropolitan target cities, but none had control centers as the year ended. Reno, Nev., and Phoenix, Ariz., had started control centers. Ogden and Salt Lake City, Utah, had plans.

The San Francisco regional office reported having an "inadequate" regional control center as the year ended. Plans are under way to relocate it for a closer tie-up with the States and cities.

The program of urban analysis which was strongly urged on all States and cities during 1953, made progress. Among the five critical target cities, the San Francisco analysis was completed some time ago; Los Angeles, Seattle, and Portland started theirs during 1953.

In preparation for mobile support, which will have to be interstate, for the critical target areas, the regional transportation officer during 1953 undertook to determine the capacity, vulnerability, and recovery ability of highway, rail, water, and air routes. A traffic plan was initiated, jointly coordinated with the military forces, particularly the Sixth Army, for the utilization of routes and transportation equipment in an emergency.

The warning network from the Air Force to civil defense key points

was completed during 1953. Dissemination from the key points to the various State and local civil defense officials responsible for alerting the public was vastly improved. In critical target areas, participation of radio stations in the "CONELRAD" system reached 80% as the year ended.

Some progress was made in establishing rescue services. The States in this region have purchased 80 rescue trucks.

The three coastal States have appointed supply officers to their civil defense staffs. In the other States, funds are insufficient to pay a staff member for this duty.

In Region VII, the concept of recruiting large numbers of volunteers who cannot at this stage be trained in the States or kept interested, was gradually superseded during 1953 by the concept of recruiting and training (1) leaders and instructors, (2) critical and essential staff, and (3) auxiliary personnel for already existing groups—all to provide for rapid expansion and quick training of an emergency force.

As the year closed, three rescue schools were being constructed in the region. San Diego, Calif., and Salt Lake City, Utah, are reproducing the noted "Disaster Street" originally constructed at the National Civil Defense Training Center, Olney, Md. The other school will be at Glendale in the Los Angeles area.

Existing civil defense schools graduated 5,000 in California during 1953; 2,000 in Washington, 3,000 in Utah, and 500 in Arizona. There were special training classes in States which had no civil defense schools. Oregon graduated 100; Idaho, 50; Montana, 50; and Nevada, 170.

When the Federal Civil Defense Administration closed its Western Training Center at St. Mary's College, California, in September 1953, the Far Western Association of Civil Defense Directors requested Region VII to organize a mobile training team to supply the needed instruction. Two expert instructors were retained from the training staff at St. Mary's, and were equipped to carry the training to the States throughout the region.

The team of instructors used community facilities, usually a church, for a week's classes; then traveled on. As the year ended the mobile instruction team had many more calls than it could handle.

Based on what Region VII would consider 100 percent communications capability in an emergency, the States had the following communications capability at the end of 1953: Washington, 25 percent; Oregon, 15 percent; California, 75 percent; all the mountain States, 3 percent each.

Funds for civil defense in Region VII during 1953 from State and city or county appropriating bodies, are shown below:

	1953 appropriation	
	By State legislature	By county or city government
Washington-----	\$237, 000	\$300, 000
Oregon-----	279, 000	390, 000
California-----	1, 792, 000	1, 000, 000
Montana-----	10, 500	50, 000
Utah-----	130, 000	65, 000
Nevada-----	12, 000	13, 000
Arizona-----	12, 000	120, 000
Idaho-----	5, 000	-----

Because of limited State budgets, it is a major purpose of the regional office to urge the States and local communities to make the maximum use of existing departments of government for civil defense purposes.

For instance, the State departments of public welfare have been assigned responsibility for the emergency welfare program in Washington, Montana, Arizona, and Nevada. The welfare services remain the responsibility of the State civil defense organization only in California, Oregon, and Utah.

Territories and Possessions of the United States

Civil defense in Hawaii is propelled by the memory of the attack on Pearl Harbor. Alaska is extremely conscious that the next potential attacker is not more than fifteen minutes away as a bomber flies.

At the end of 1953, both of these Territories had a civil defense limited in capacity by appropriations, as elsewhere, but otherwise well organized and accustomed to joint exercises with the military forces. The exercises not only simulated air attack but also enemy landing by sea.

The civil defense directors of Hawaii and Alaska witnessed the atomic explosion in Nevada on March 17. So did the civil defense directors of the Canal Zone and of Puerto Rico, where civil defense organizations only began to get under way in 1953.

In Alaska, 1953 was the second year of an active civil defense program. As the year ended, all significant cities and towns had civil defense directors and thorough siren coverage. With Federal matching funds, Alaska had acquired 30 fire trucks, mostly light jeep models suitable to the terrain and the narrow streets of the cities. There is a fairly large stockpile of medical supplies in Anchorage.

In Hawaii, civil defense was in its second year of joint exercises with the military, entitled "Eversharp." Operations were conducted by the civil defense director for Hawaii, who is also the Adjutant General commanding the National Guard.

In the Canal Zone, no funds were made available for civil defense during the previous year, but toward the middle of 1953 Congress provided \$30,000 and a full-time director who immediately attended the FCDA staff college at Olney, Md.

There were no joint exercises with the military during 1953 because civil defense was not considered sufficiently organized. The principal problem was the coordination of the separate interests of three groups in civil defense: (1) the Armed Forces, which have an officer assigned to the civil defense of the troops, their families, and the civilian employees; (2) the Governor of the Canal Zone, appointed by the Secretary of the Army, together with his administrative staff; and (3) the Panamanian population. The civil defense director of the Canal Zone is a member of the Governor's staff.

The civil defense director of Guam is 8,600 miles from the Staff College at Olney. He was able to get as far as Honolulu for indoctrination. Under the matching funds program, Guam has received mostly mobile and communications equipment. The civilian population relies on the stocks of the Armed Services for medical supplies.

Civil defense developed rapidly in Puerto Rico during 1953, stimulated by a joint military-civil exercise on Sunday, May 30.

The exercise simulated an islandwide attack on 79 communities, conducted by the Air Force, the National Guard, and the Civil Aviation Patrol. All traffic stopped. Streets were cleared. Special demonstrations were held in most cities in first aid, casualty handling, and fire fighting. The island control center, about 25 miles from San Juan was used for the first time. It was fully staffed and operational throughout the exercise.

More than 100,000 of the population of Puerto Rico registered their willingness to participate in civil defense. The majority of these were in training as the year ended in biweekly classes that were well-attended. Puerto Ricans remember that, during World War II, the blockade of Puerto Rico by submarines was so effective that the shortage of food and medical supplies became a very serious problem.

The population of the Virgin Islands is only 35,000 and funds available have been limited; consequently little progress was made by the end of 1953. A civil defense exercise was staged for the Virgin Islanders by the director of civil defense of Puerto Rico, accompanied by his fire chief and several army officers from Puerto Rico. In a simulated attack by air, a bomb was exploded on the water front at St. Thomas, with much noise, smoke, and excitement. The students of a nearby school were evacuated. Civil defense was considered to be realistically under way.

Chronology of Highlights

in Civil Defense Exercises and in Natural Disasters During 1953

The following is a selection of major exercises, in which elements of the United States Civil Defense Corps tested the capability of their staffs and demonstrated emergency action to the public during 1953, together with major natural disasters in which the emergency action actually alleviated human suffering and helped restore community life to normal conditions.

The chronology indicates the increased training operations which State and local civil defense organizations undertook during 1953.

In these exercises, members of the civil defense corps went to their assigned tasks and performed duties with the civil defense services or at control or command centers. They originated or received communications giving the location and scope of supposed damage; they decided what to do about casualties, rescue, fire, evacuation of survivors, and in what sequence; and they ordered the necessary operations.

Test exercises for civil defense forces were about five times as numerous as for the general public. During 1953 the public was urged to give its major attention to civil defense preparedness for the individual and to a program of protection for each home.

Training highlights were:

January

Connecticut and Massachusetts.—Statewide command post exercises were instituted and conducted through 1953, one each month in both of these States.

Wisconsin.—A series of biweekly map exercises was inaugurated for the 30-member Civil Defense Committee of Milwaukee. They were conducted on a map of the city 10 feet square which set out the civil defense zones and the emergency street system.

February

California.—A 4-hour command post exercise in the bay area involved 72 central California cities and 9 counties, testing the staff work of 2,000 civil defense volunteers.

Utah.—Atomic air-raid drill in Salt Lake City involved 40,000 school children and their teachers.

Rhode Island.—A statewide field exercise with public participation was directed from Providence.

March

California, Oregon, Washington, Idaho, Montana, Utah, Arizona, and Nevada.—The office of Region VII joined in a 36-hour command

post exercise conducted by the U. S. Sixth Army in all the States of the region, plus Alaska. Canadian military forces also participated.

Missouri.—The communications net, headquartered in Jefferson City, was tested statewide.

New Jersey.—In addition to statewide command post exercises, New Jersey had about 400 local field exercises with public participation.

Hawaii.—Joint exercise "Eversharp," civil defense and military simulated air bombing and invasion.

April

Washington.—A statewide communications test of the warning relay net involved 200 civil defense officials.

Illinois, Minnesota, North Dakota, South Dakota, Wisconsin, Michigan, Wyoming, Colorado, Nebraska, Kansas, and Missouri.—Armed Forces and the Civil Defense forces in 11 States, conducted a joint command post exercise "Operation Wake-up." It involved the headquarters of Civil Defense Regions IV and VI, as well as the headquarters of the U. S. Fifth Army, the Ninth Naval District, the Tenth Air Force, and the 45th Antiaircraft Artillery Brigade.

Nebraska.—During the month, 10 statewide exercises tested the radio communications net.

Georgia.—A tornado struck Columbus and brought the local civil defense into action. The regional disaster team at Atlanta was alerted.

May

Minnesota.—In connection with the observance of Armed Forces Day, Minneapolis conducted a 12-hour test of the efficiency of civil defense communications, attack warning network, and the State control center.

Louisiana.—Floods brought civil defense into disaster relief.

Texas.—Tornado struck San Angelo and Waco and brought civil defense into disaster relief.

Puerto Rico.—Joint exercises, civil defense and military simulated air bombing, islandwide, involving 79 communities and about 1,000,000 persons.

June

Montana.—A sizable portion of the State was flooded sufficiently to warrant the President's declaring a major disaster. At the request of the Governor of Montana, the San Francisco regional office of FCDA directed flood relief operations, evaluated damages, and organized restoration work for which the President allocated \$315,000.

California, Oregon, Washington, Idaho, Montana, Utah, Nevada,

and Arizona, together with Alaska and the Canadian Provinces of British Columbia and Alberta.—A full scale regional command post exercise, "Operation Beware," involved approximately 5,000 civil defense volunteers and a selected public participation of approximately 500,000. Liaison was effected with units of the Sixth Army, as well as State and local governments. The "ham" radio operators of the region cooperated fully.

Kansas.—Wichita exercised its civil defense force.

Michigan.—Tornado strikes Port Huron.

Massachusetts.—Worcester tornado brought civil defense into disaster relief.

New Hampshire.—A statewide exercise was used to mobilize the mobile reserve battalion of New Hampshire.

July

Nevada, Colorado, New Mexico, Kansas, Oklahoma, Texas, Missouri, Arkansas, Kentucky, Tennessee, Mississippi, Virginia, and North Carolina.—Countrywide drought was declared a major disaster by the President. The FCDA, through the Department of Agriculture, provided livestock food and seed and loans to farmers and cattlemen of thirteen States.

New Hampshire.—Forest fires brought civil defense into disaster relief.

August

Washington, D. C.—FCDA tested the two emergency operating centers which it has installed to head the overall civil defense of the Nation. Ground zeroes were selected in twenty target cities, distributed among all seven Federal regions. Casualty and damage figures were worked out and transmitted by the regional offices to Washington headquarters in a series of messages simulating the development of such a broadside attack. The test evaluated the staff operating capability of all civil defense services.

Michigan.—Thousands of residents of Bay City crowded the downtown area to watch civil defense volunteers in action after a simulated enemy air attack. Auxiliary policemen, fire fighters, "ham" radio operators, ambulance drivers, etc., were on duty within minutes.

Texas.—Critique of the rescue operations at Waco in May was conducted in Waco for the medical services of Region V.

September

Nationwide Test of the "CONELRAD" system showed how selected AM radio stations will take over public broadcasting before and during air attack.

California.—The Castro Valley exercise involved 200 trained volunteers in all civil defense services, in a realistic field exercise witnessed by 1,500 persons.

Maryland.—The State's first statewide alert involved participation of about 1,500,000 persons of the general public together with 6,000 trained civil defense volunteers.

October

California.—A command post exercise dealt with disaster problem which would arise from an earthquake in San Francisco.

Minnesota.—The mutual aid arrangements of Minneapolis were tested and publicly demonstrated by 1,000 volunteers representing the fire and rescue services of fourteen surrounding communities.

Oklahoma.—A public civil defense exercise covered Oklahoma City.

Pennsylvania.—A statewide alert with full public participation involved an estimated total of 9,000,000 of the general public and 165,000 trained civil defense volunteers.

November

Pennsylvania, Maryland, Delaware, Virginia, West Virginia, Ohio, Kentucky, and the District of Columbia.—A regionwide command post exercise tested the operational capability of the control center which tie together the regional office and the various State headquarters for the purpose of dealing with a concerted attack.

Missouri.—A major civil defense exercise covered Kansas City.

Louisiana and Texas.—Public civil defense exercises covered Dallas, Texas, and Welsh, Louisiana.

December

Nebraska.—Civil defense exercises were held in Omaha and Lincoln.

Mississippi.—Tornado struck Vicksburg.

Ohio.—The State's first statewide alert emphasized mobile support with excellent cooperation from convoys of volunteers manning all types of civil defense equipment.

New York.—Concluded 11 field exercises spread successively over areas that covered the State, during the year.

CIVIL DEFENSE FUNDS AND OPERATIONS

How FCDA Funds Were Spent During Fiscal Year 1953

Funds appropriated by Congress for the Federal Civil Defense Administration were used for: (a) contributions on a matching basis to the States, (b) development of Federal reserves of emergency supplies and equipment, and (c) operations of the FCDA and its regional offices.

In 1953, emphasis continued to be placed on balancing the relationship between the Federal reserves of emergency supplies and equipment and the development of local reserves through the contributions program. States and cities were encouraged to give priority of investment to immediate local needs while the FCDA gave priority to those items which would be needed to replenish local stocks in the immediate postattack period.

As declared by Congress in the Federal Civil Defense Act of 1950, responsibility for civil defense shall be vested primarily in the several States and their political subdivisions. Accordingly, funds for civil defense have come for the larger part from the States and municipalities, partly through specific appropriations for civil defense and partly through investment in such regular community services as fire, police, and health.

The States and their political subdivisions appropriated funds for the purchase of necessary civil defense equipment and supplies. This money was used to match funds made available under the Federal contributions program. When sufficient Federal funds were not available, the full excess cost was met where possible by the State or political subdivision.

The Federal Appropriation

During the fiscal year 1953 (July 1, 1952 through June 30, 1953), \$43,000,000 was appropriated by Congress and made available for expenditure for civil defense purposes. Of this amount, \$8,000,000 was for operations; \$15,000,000 for Federal contributions to the States; and \$20,000,000 for stockpiling of emergency supplies and equipment.

State Funds Available

The State and local governments had \$40,000,000 available of which \$25,000,000 was specifically earmarked for shelter for matching Federal contributions in fiscal year 1953.

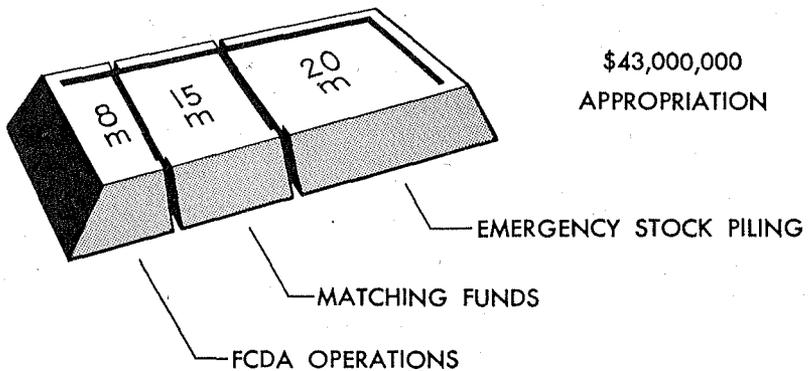
State and local funds for civil defense administrative and operating purposes amounted to \$15,000,000.

Over \$99,000,000 was available in emergency and contingency funds. Portions of these funds can be expended only in case of actual attack or other national emergency.

Federal Contributions to States

Under this program the Federal government shares with the States and Territories the cost of procuring certain civil defense supplies and equipment. Federal contributions for such equipment may not exceed 50 percent of the total acquisition cost, except for Alaska. The appropriated contributions funds are allocated among the States

APPORTIONMENT OF FEDERAL FUNDS-1953



and Territories in the proportion which the population of each bears to the total population.

Programs and projects for which the States request matching funds must be approved by FCDA before Federal contributions funds can be obligated. If a State decides not to use all or any part of its share of the contributions funds, the unobligated funds may be reallocated. States having additional funds available for use on a matching basis are then eligible for more money.

All State and local administrative costs, such as salaries of regular civil defense workers, rents, utilities, and travel, must be paid by the State or municipality. Matching funds cannot be used to pay such bills.

Early in the 1953 fiscal year, the Administrator allocated the \$15,000,000 contribution appropriation among the States and Territories. Of this sum, \$14,550,321 was obligated, matching an equal obligation by the States. Therefore, this amount represents a total of well over \$29,000,000 which was invested in civil defense supplies

and equipment or otherwise used in accordance with the standards governing contributions.

Up to June 30, 1953, about \$72,000,000 had been invested under the contributions program—half Federal and half State. For the 1954 fiscal year, \$10,500,000 has been allocated to the States for matching purposes.

Data on Federal contributions fund by program area appears in table C and by States and Territories in table D. In each case comparable data for the previous fiscal year is presented.

TABLE C.—FEDERAL CONTRIBUTIONS TO STATES

[Fiscal years 1952 and 1953]

Program area	1952	1953
Attack-warning system.....	\$2, 604, 152	\$983, 679
Communications system.....	1, 819, 240	2, 600, 036
Fire-fighting services.....	2, 722, 587	6, 970, 554
Rescue service.....	441, 933	708, 627
Medical supplies and equipment.....	9, 338, 889	2, 256, 108
Training and education.....	4, 315, 196	809, 006
Other.....		222, 311
Total obligations.....	21, 241, 997	14, 550, 321
Unobligated balance (estimated savings).....	1, 108, 003	449, 679
Appropriation.....	22, 350, 000	15, 000, 000

During fiscal year 1953 over 3,600 individual projects were approved by FCDA for Federal contributions. Of this number approximately 1,500 were for fire equipment, about 1,100 were for warning devices or portions of communications systems, and nearly 500 individual projects were for training and education. All States and cities were advised early in the fiscal year of the standards, regulations, and criteria which would be used in determining the eligibility of programs and projects for Federal matching funds. These instructions appeared in FCDA Manual M25-1 *Federal Contributions*. Broad programs were submitted to Washington along with Regional office recommendations for approval. If approved after an examination relative to their soundness and interprogram balance, the States submitted individual project applications. For the fiscal year 1954 Regional Administrators will approve both programs and projects. Governing standards appear in a revision of the Contributions Manual.

TABLE D.—FEDERAL CONTRIBUTIONS BY STATE

	1952	1953	Total	1954 ¹
Alabama.....	\$89, 673	\$174, 645	\$264, 318	\$209, 170
Arizona.....	30, 465	21, 789	52, 254	51, 208
Arkansas.....	807	15, 137	15, 944	130, 452
California.....	3, 865, 396	2, 162, 016	6, 027, 412	723, 219
Colorado.....	90, 097	24, 249	114, 346	90, 531
Connecticut.....	336, 757	377, 546	714, 303	137, 130
Delaware.....	129, 357	310, 716	440, 073	21, 735
District of Columbia.....	110, 511	60, 000	170, 511	54, 799
Florida.....	60, 420	39, 314	99, 734	189, 325
Georgia.....	27, 825	331, 966	359, 791	235, 326
Idaho.....				40, 215
Illinois.....	440, 784	731, 578	1, 172, 362	595, 192
Indiana.....	120, 209	223, 902	344, 111	268, 779
Iowa.....	20, 270	44, 586	64, 856	179, 067
Kansas.....	174, 569	100, 820	275, 389	130, 168
Kentucky.....	70, 265	62, 259	132, 524	201, 180
Louisiana.....	134, 176	180, 834	315, 010	183, 330
Maine.....	32, 229	52, 625	84, 854	62, 422
Maryland.....	533, 404	400, 796	934, 200	160, 072
Massachusetts.....	1, 200, 710	439, 214	1, 639, 924	320, 449
Michigan.....	797, 534	197, 420	994, 954	435, 298
Minnesota.....	174, 779	216, 585	391, 364	203, 752
Mississippi.....	232	29, 700	29, 932	148, 858
Missouri.....	244, 071	181, 868	425, 939	270, 175
Montana.....	765	16, 170	16, 935	40, 373
Nebraska.....	37, 551	54, 748	92, 299	90, 552
Nevada.....	18, 438	236	18, 674	10, 941
New Hampshire.....	20, 117	20, 854	40, 971	36, 435
New Jersey.....	628, 645	603, 327	1, 231, 972	330, 340
New Mexico.....				46, 536
New York.....	5, 642, 177	2, 865, 362	8, 507, 539	1, 013, 155
North Carolina.....	34, 200	23, 784	57, 984	277, 504
North Dakota.....	22, 497		22, 497	42, 336
Ohio.....	1, 528, 191	776, 357	2, 304, 548	542, 892
Oklahoma.....	14, 338	223, 738	238, 076	152, 575
Oregon.....	211, 771	140, 062	351, 833	103, 929
Pennsylvania.....	2, 418, 617	1, 632, 461	4, 051, 078	717, 192
Rhode Island.....	100, 570	84, 510	185, 080	54, 096
South Carolina.....	9, 557	88	9, 645	144, 627
South Dakota.....		787	787	44, 593
Tennessee.....	246, 015	320, 197	566, 212	224, 878
Texas.....	65, 442	271, 708	337, 150	526, 816
Utah.....	27, 599	30, 520	58, 119	47, 061
Vermont.....	10, 666	31, 838	42, 504	25, 809
Virginia.....	163, 028	285, 883	448, 911	226, 726
Washington.....	447, 362	325, 168	772, 530	162, 529
West Virginia.....	11, 634	8, 651	20, 285	137, 014
Wisconsin.....	258, 560	78, 684	337, 244	234, 643
Wyoming.....	3, 567	9, 019	12, 586	19, 845
Canal Zone.....		4, 733	4, 733	3, 612
Guam.....	11, 702	10, 419	22, 121	4, 064
Hawaii.....	196, 492	69, 631	266, 123	34, 146
Puerto Rico.....	90, 665	206, 835	297, 500	151, 032
Alaska.....	336, 677	74, 986	411, 663	8, 788
American Samoa.....				1, 292
Virgin Islands.....	614		614	1, 817
Total obligations.....	21, 241, 997	14, 550, 321	35, 792, 318	10, 500, 000

¹ Allocated among the States in the ratio which the total population of each State (1950 census) bears to the total population of all of the States.

Emergency Supplies and Equipment

During the fiscal year FCDA stockpiled \$19,000,000 worth of medical supplies and \$1,000,000 worth of engineering equipment. This sum of \$20,000,000 augments \$66,000,000 worth of equipment contracted for in the 1952 fiscal year, giving a grand total for emergency supplies and equipment of \$86,000,000. (See table E.)

TABLE E.—FUNDS FOR STOCKPILING OF EMERGENCY SUPPLIES AND EQUIPMENT

[Fiscal years 1952 and 1953]

Emergency supplies and equipment	1952	1953
Medical supplies and equipment.....	\$60, 295, 150	\$18, 989, 826
Engineering service.....	5, 741, 454	1, 006, 246
Total obligations.....	66, 036, 604	19, 996, 072
Unobligated balance (estimated savings).....	363, 396	3, 928
Appropriation.....	66, 400, 000	20, 000, 000

Operations

FCDA operations funds were obligated in the amount of \$7,756,907 during the period July 1, 1952, through June 30, 1953. The amount authorized for obligation for the fiscal year 1954 is \$8,525,000. Table F shows the distribution of the operations appropriation by program; table G by object class.

This Agency also received during the fiscal year 1953 a transfer of \$600,000 from the U. S. Air Force for the purpose of operating the Civil Air Defense Warning System. The funds for the operation of the system in fiscal year 1954 were included in the operations appropriation.

TABLE F.—OBLIGATION OF OPERATIONS APPROPRIATION BY PROGRAMS

[Fiscal year 1953—July 1, 1952 through June 30, 1953]

Program	Amount
Executive direction.....	\$125, 786
Public information.....	716, 207
Technical guidance to State and municipalities.....	2, 127, 449
Attack warning.....	347, 388
Communications system.....	1, 043, 862
Emergency operations.....	205, 188
Supply service.....	725, 353
Health and special weapons.....	429, 095
Training and education.....	832, 786
General administration.....	1, 803, 793
Total operations obligations.....	8, 356, 907
Appropriation.....	8, 000, 000
Transfer from Air Force.....	600, 000
Reimbursements.....	12, 208
Unobligated operations appropriation.....	8, 612, 208
	—255, 301
	8, 356, 907

TABLE G.—OBLIGATION OF OPERATIONS APPROPRIATION BY OBJECT CLASS

[Fiscal year 1953—July 1, 1952 through June 30, 1953]

Code	Title	Amount
01	Personal services.....	\$5, 545, 614
02	Travel.....	301, 941
03	Transportation of things.....	48, 995
04	Communication services.....	703, 577
05	Rents and utility services.....	5, 222
06	Printing and reproduction.....	179, 584
07	Other contractual services.....	1, 333, 986
08	Supplies and materials.....	114, 448
09	Equipment.....	104, 879
13	Refunds, awards and indemnities.....	367
15	Taxes and assessments.....	14, 367
	Other.....	3, 927
	Total.....	8, 356, 907

Disaster Relief Fund

During the fiscal year 1953, the President transferred to the Federal Civil Defense Administration the responsibility for controlling the Disaster Relief Funds of the Executive Office of the President, and for administering the bulk of the Federal funds available for disaster relief. The functions are exercised in accordance with Public Law 875, 81st Congress, as amended, and Executive Order 10427 dated January 16, 1953. FCDA financing becomes available after the Presi-

dent has declared the existence of a major disaster in any State or area and the requirements of the law are complied with. During the period May 15, 1953 (date of the first allocation received by FCDA) and June 30, 1953, funds in the amount of \$1,614,500 were made available for seven disasters. Table H indicates the distribution of the funds.

TABLE H.—ALLOCATION OF DISASTER RELIEF FUNDS OF THE EXECUTIVE OFFICE OF THE PRESIDENT THROUGH JUNE 30, 1953

Area	Type of disaster	Amount
Waco, Tex.....	Tornado.....	\$365, 000
Port Huron, Mich.....	do.....	40, 000
Flint, Mich.....	do.....	127, 500
Louisiana.....	Flood.....	220, 000
Great Falls, Mont.....	do.....	250, 000
Worcester, Mass.....	Tornado.....	510, 000
Sioux City, Iowa.....	Flood.....	102, 000
Total.....		1, 614, 500

Reorganization of the Federal Civil Defense Administration

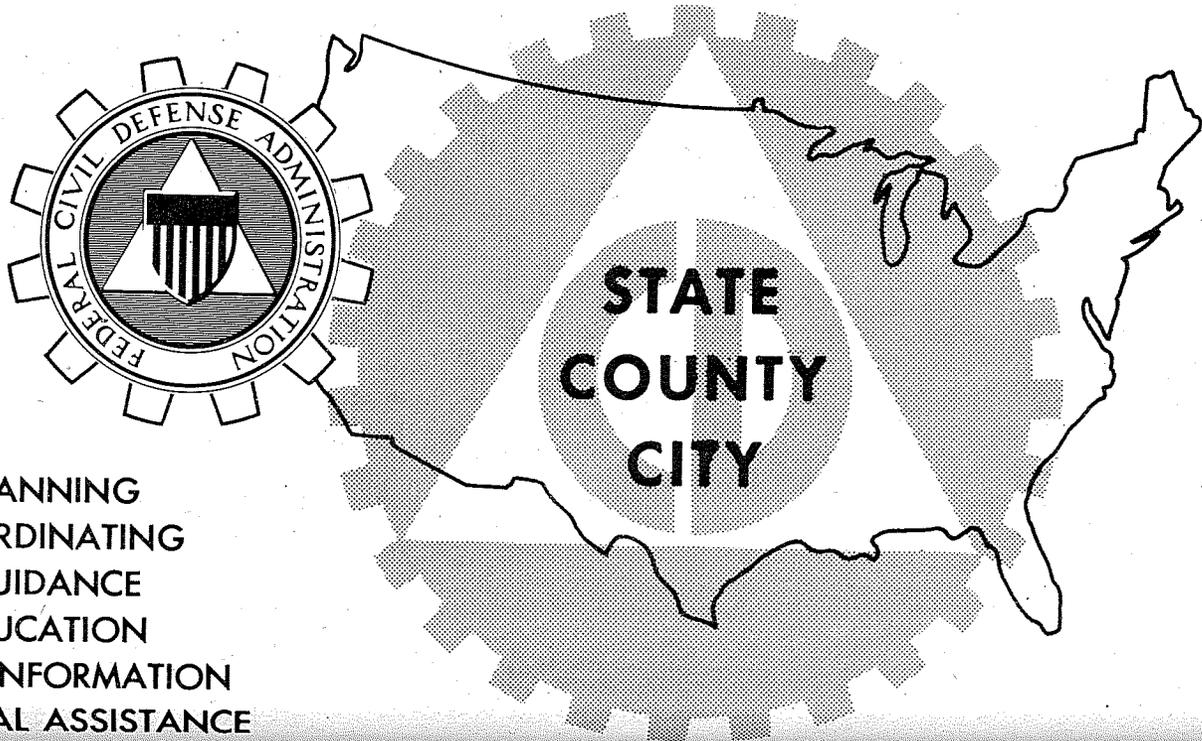
One of the FCDA's major accomplishments in 1953 was a quiet but complete internal reorganization. The prime objective of this realignment of functions was to provide a more effective means of carrying out the basic provisions of the Federal Civil Defense Act of 1950 (Public Law 920 of the 81st Congress) together with the new responsibilities for Federal coordination of action in major disaster as assigned in Executive Order 10427 of January 16, 1953.

In 1951, facing a problem totally new, the new agency had to organize on a theoretical basis—there were no tested guidelines. From time to time, as problems arose, slight organizational adjustments were made, new offices and functions were added, but the basic pattern remained generally unchanged.

Shortly after the new Administrator was appointed in 1953, it became clear that the organization which had evolved over the previous 2 years was not making as efficient use as possible of the men, money, and materials available to the agency. Enough time had elapsed so that the existing organization could be evaluated on the basis of actual experience. Accordingly, FCDA made a careful and intensive study of its organization to decide how best to carry out its obligations.

As defined by congressional act, the responsibility for civil defense is shared by the Federal Government with the several States and their political subdivisions. The primary preattack function of FCDA is that of helping the States and local communities in making preparations to protect life and property in case of enemy attack or other civil defense emergency.

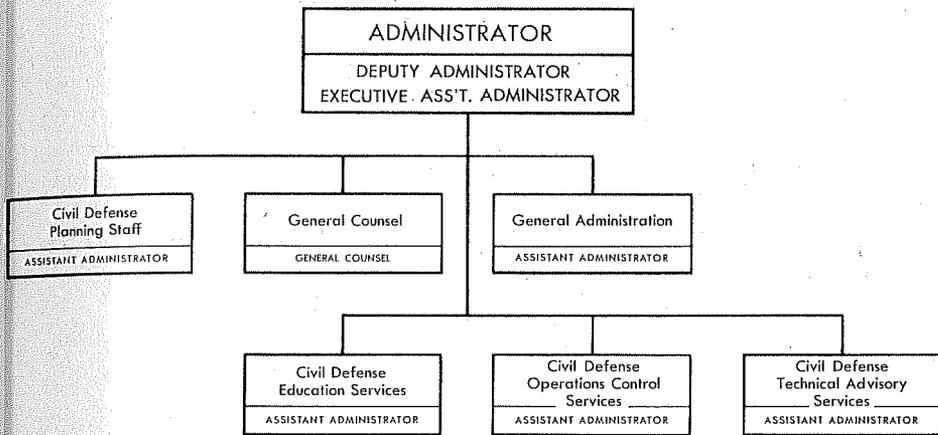
RESPONSIBILITIES OF F. C. D. A.



PLANNING
COORDINATING
GUIDANCE
EDUCATION
PUBLIC INFORMATION
FINANCIAL ASSISTANCE

From the study, it was determined that services to the States, communities, and other Federal agencies could best be provided if FCDA was organized functionally. The study also indicated a need for further decentralization to give the regional offices more responsibility and authority.

The Administrator approved on May 22, 1953 a new organization plan for FCDA which was designed to meet the requirements of authorizing legislation and any necessary shifts of emphasis within the present frame of reference, both in peace and in war. It is based on a recognition of the division of responsibility between Federal, State, and local governments. Under this division, FCDA's responsibility is to be one of leadership, technical guidance, and material support.



The new organization provides that only six operational assistants report directly to the Administrator. These assistants provide the essential executive tools of planning, execution, and administrative control.

Civil Defense Planning Staff is charged with responsibility for developing a national civil defense plan based on intelligence from all sources, the provision of basic assumptions and objectives, the application of research results to civil defense problems, representation of FCDA on the National Security Council Planning Board and other security planning groups, coordination of FCDA activities with NATO committees and other international groups and advice to the Administrator on major civil defense problems and policies."

Civil Defense Education Services is charged with responsibility for alerting the public to its peril, informing it of action required, stimulating participation, developing a national leadership training program, and preventing panic.

Civil Defense Operations Control Services is charged with the dual responsibility of establishing Federal control facilities and

cedures as well as providing systems advice for the development of State and local command control centers, and warning, communications, transportation, supply, urban analysis, mobile support, manpower control, and overall tactical planning.

Civil Defense Technical Advisory Services is charged with responsibility for providing guidance in the development of State and local technical plans, designs, training manuals, manpower, and material requirements for the specialties in the medical, reserve, fire, police, warden, welfare, engineering, and facility self-protection fields.

General Administration Staff is charged with responsibility for advising the Administrator on matters involving administrative rules and regulations, organizational determinations, progress control reports, budgetary and financial statements, personnel service, administrative facilities, security controls, and internal audit.

General Counsel advises the staff concerning current legal problems of administration and determines what happens when peacetime laws, rules and regulations will be suspended during an emergency.

During the process of this reorganization, the number of regions has been reduced from 9 to 7. With the exception of the Chicago and Denver regions they conform to the Army areas.

All permanent Federal civil defense schools have been closed, with the exception of the National Staff College and National Rescue Instructor Training Center located near Olney, Md.

The regional offices have been given more responsibility and more authority to work directly with the States and their cities in developing a state of readiness.

While the full benefits to civil defense of this reorganization will be enjoyed in succeeding years, these results are already apparent from the reorganization:

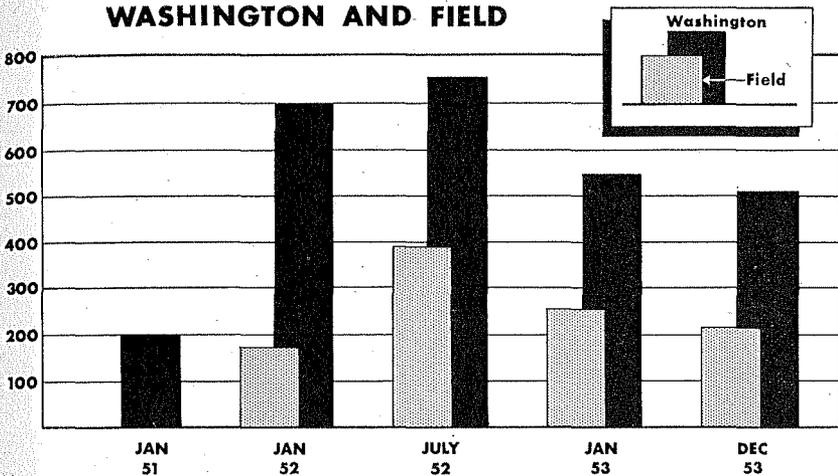
1. Duplicating or overlapping assignments have been eliminated.
2. The number of staff assistants reporting directly to the Administrator or to any individual supervisor has been reduced usually to less than six.
3. Master planning and policy determination have been separated from operational planning.
4. Time and money in day-to-day operations of civil defense are being saved.
5. Administrative control has been strengthened by separation from actual operations.
6. Fuller utilization is being made of available men, money, and materials.

One important result of the reorganization has been a still further decrease in the total number of employees while the regional offices have been strengthened.

Personnel

During the calendar year of 1953, the number of employees was reduced from a high of 816 to 720, approximately 12 percent. Two regional offices and one technical training school were closed. As of December 31, 1953, there were 720 employees on duty, 507 of these are at headquarters, FCDA, 213 in the field. The accompanying chart indicates graphically the number of employees in the Agency from its activation to December 31, 1953.

**FCDA EMPLOYEES ON DUTY
WASHINGTON AND FIELD**



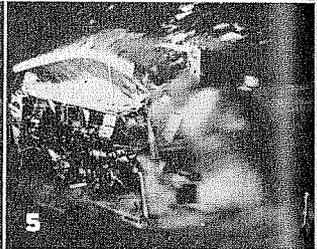
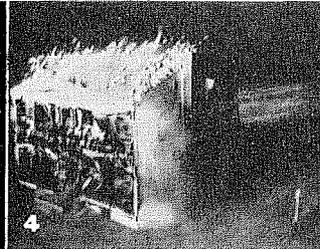
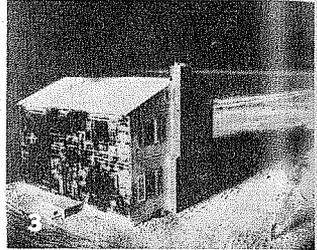
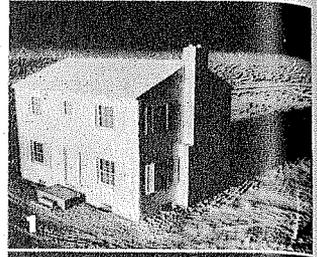
Security

The security provisions contained in section 403 (a) of Public Law 920 have at all times been complied with by this Agency. Appropriate regulations and adequate facilities have been provided to assure the proper safeguarding of classified security information and the proper administration of the personnel security program. The security program was modified on June 12, 1953, to include the changes required by the issuance of Executive Order 10450.

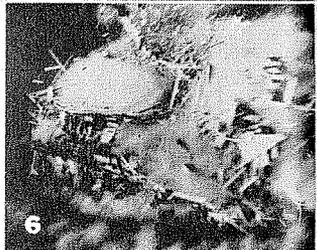
OPERATION DOORSTEP



3,500 feet from ground zero. The house overhead is totally destroyed as shown in the six pictures to the right from a high speed motion picture. Some of the house has fallen into the basement, but the mannequin in the lean-to shelter is undisturbed. Operation Doorstep demonstrated that such simple precautions greatly increase the chances of surviving atomic attack.



The house 3,500 feet from ground zero. (1) The blinding flash at the instant of explosion. (2) Smoke curls upward from the charred wood. There is no flame. (3) The char is almost gone before the blast wave hits. (4) The blast wave hits. (5) The front begins to disintegrate. (6) Down the house goes * * * in 2 2/3 seconds. Yet the mannequin in the lean-to shelter (above) is undisturbed.



MILLIONS OF AMERICANS LEARNED FROM THESE PICTURES

CIVIL DEFENSE PLANNING AND RESEARCH

During 1953 research required by FCDA for planning purposes was conducted in various ways. Some was performed under contract with individual universities or private research institutions. Other studies were performed under actual conditions of an atomic bombing at the Nevada Proving Grounds. For these studies, FCDA engineers and scientists worked with the Atomic Energy Commission and the Department of Defense. Other work of importance has been conducted by such Federal agencies as the Departments of Defense, Agriculture, and Health, Education, and Welfare.

Atomic Test Program

During the spring of 1953 atomic test series at the Atomic Energy Commission's Nevada Proving Grounds, a limited program was carried out to determine the effects of atomic explosions on such structures and objects as frame houses, indoor basement shelters, outdoor underground shelters, and automobiles. For assistance in conducting these tests, FCDA was fortunate in securing the cooperation of private industry as well as of the Atomic Energy Commission and the Department of Defense. The participation of industry set a significant precedent.

The most important technical test involving participation by private industry dealt with the effect of atomic explosions on automotive vehicles and their occupants. Without cost to the Government, cars were provided by automobile dealers through the National Automobile Dealers Association and by manufacturers through the Automobile Manufacturers Association. Technical assistance was furnished by the Society of Automotive Engineers, which set up a special committee to assist FCDA in conducting the vehicles program. Store mannequins were provided by the L. A. Darling Company of Bronson, Mich.

Other Federal agencies also participated in and contributed to the FCDA test program. AEC provided some vehicles for the automobile test and bore a substantial part of support costs for the remainder of the FCDA program. AEC also conducted certain biomedical and shelter tests jointly with FCDA which were primarily for civil defense purposes. The Post Office Department furnished three standard type mail trucks for testing and the Food and Drug Administration joined with FCDA in conducting research on exposure of various drugs to ionizing radiation.

Two 2-story frame residences, typical of American construction, were furnished and lifelike mannequins were installed to simulate people. They were located so that one building was much closer to the point of explosion than the other. Two types of basement shelters were installed and tested in each of these houses. Several varieties of backyard home shelters also were tested in a joint program with the Atomic Energy Commission. A complex series of building component tests was begun with the exposure to atomic blast of a variety of typical curtain walls and partitions.

These tests indicated among many other things that the shelter designs recommended by FCDA were satisfactory. Lessons learned from these tests have been incorporated into civil defense planning and operations.

Representatives of State and local governments and State and local civil defense organizations and members of the Nation's mass communications media were invited to witness the March 17 detonation as official observers. The event was given wide coverage by press, radio, magazines, motion pictures, and television, and it was the opinion of a number of State and local civil defense officers that OPERATION DOORSTEP, as the March 17 test was called, did more to stimulate interest in and promote knowledge of self-protection and civil defense than any other single event during the past year.

Project East River

At the beginning of 1953 the Federal Civil Defense Administration received the final reports of Project East River, a very broad study of the measures necessary to an effective civil defense of the United States against all forms of attack. This study, supported jointly by the Federal Civil Defense Administration, National Security Resources Board, and the Department of Defense, was conducted by Associated Universities, Inc. under a contract administered by the Office of the Chief Signal Officer, Department of the Army. In addition to outlining the military measures precedent to a manageable civil defense and the measures essential to carrying out reduction of urban vulnerability, Project East River analyzed the overall civil defense problem, organization, and projected program. The resulting reports contained more than 200 specific recommendations, which have proved invaluable guidance in developing civil defense plans and operational programs.

Project East River recommended that the following principles and concepts be accepted as the essential framework upon which an adequate civil defense system can be built:

"1. Civil defense must be a permanent partner in national defense."

Protecting our civilian population and our production facilities as well as the emergency restoration of production after attack

is the primary function of civil defense. It is equal in importance to the role of the Armed Forces in the total defense plan.

"2. The civil defense program must emphasize, as a positive goal of first priority, those activities that will improve the individual citizen's chance of survival and minimize his property damage in the case of enemy attack."

The first element of a successful civil defense program is the education of the individual in how to help himself and his family in case of enemy attack. No matter how destructive the weapons, his chances of survival are greatly improved if he takes even elementary precautions.

"3. A civilian civil defense must be developed to the maximum degree possible."

The functions of leadership, planning, and operation of civil defense programs are closely intermixed with the normal workings of civil government. Therefore, for efficiency civil defense should be a civilian responsibility. Using the Armed Forces to duplicate the operation of civil agencies in coping with disaster would be wasteful and ineffective and would result in larger troop requirements.

"4. Civil defense must be organized and operated on the principle that existing agencies and facilities should be used to the greatest extent possible."

An organization that carries on in peacetime an activity that will be essential on an expanded basis in wartime must be assigned responsibility for that particular civil defense function. Such a policy eliminates the danger of personnel losing their skills through inactivity and increases the public acceptance and confidence in the civil defense program. This principle of organization applies on the State and Federal level as well as on the local level.

"5. Civil defense must be accomplished, in the main, as an extension of the normal duties of various officials at all levels of government, assisted by volunteers and volunteer organizations."

This statement is a reiteration of the preceding principle. Individuals and organizations doing comparable work must be used as the backbone of the civil defense effort. A duplicate, standby organization to be used only in an emergency is not only wasteful but actually impossible of achievement because of manpower limitations and the dictates of economy. Volunteers and volunteer organizations can be used most effectively as auxiliaries to strengthen going concerns.

"6. The civil defense task must be delimited."

The more we can restrict the task of civil defense the more

manageable it becomes. Limits can be placed on the task if (a) the Department of Defense can assure a high standard of performance in defending the United States, (b) the Federal Government provides leadership in a long-range program to reduce urban vulnerability, and (c) all civil defense organizations avoid unessential collateral duties.

"7. The civil defense job must be accurately dimensioned as a prerequisite to dividing it into its component parts."

After the magnitude of the civil defense task has been reduced as much as possible, it must be accurately dimensioned, that is measured, described, and specified. If the task is not precisely dimensioned, it cannot be divided into fixed manageable parts. There can be no allocation of jobs nor assignment of specific responsibilities.

"8. Civil defense functions must be clearly defined and responsibility for each function precisely assigned."

Effective performance and coordination can be achieved in an emergency only if the civil defense operation is subdivided into manageable and precisely described tasks. Also, specific responsibility for a stipulated standard of performance must be assigned to particular persons and agencies.

"9. Civil defense must conform to traditional and accepted methods, means, and organizations in carrying out its program."

Civil defense will be more successful if it adjusts to existing ways rather than attempts to force drastic changes even though these might easily be justified on the grounds of greater efficiency in emergency operations.

"10. Dual use of equipment and facilities for civil defense should be encouraged to the maximum practical degree."

A civilian civil defense can best be carried out on a continuing, permanent basis if fullest use is made of every opportunity to obtain dual use of equipment, facilities, and public improvements. The peacetime use of equipment and facilities must not jeopardize their availability for disaster purposes.

"11. All areas of the United States are not of equal vulnerability to the several elements of the threat and civil defense programs must be adjusted to the requirements of the individual area."

Metropolitan areas and other areas containing critical industrial or military installations are particularly susceptible to atomic attack. The problems of such areas are different from those of rural areas which would be more concerned with biological warfare against crops and animals.

"12. Civil defense must be effectively organized with priorities for the most critical target and immediate support areas and then extended to other areas."

This does not mean that individuals or communities should be discouraged from taking the initiative in improving the chances of survival, reducing possible damage, and increasing the ability to repair damage. Programs inappropriate to a locality must be avoided, otherwise a few absurd incidents will be magnified and used as an indictment of the entire program.

"13. Reduction of target vulnerability is an essential function of civil defense."

Making urban targets less vulnerable is as important a part of the civil defense program as is disaster control: a policy of dispersion or spacing of new developments in line with standards of relative security from weapons effects is required. Redevelopment of the more vulnerable parts of urban areas is also essential.

"14. Because of its complexity and magnitude, the civil defense task must be a continuing operation, carefully programmed."

Civil defense priorities should include development of the program, recruitment of a hard core of trained workers, dissemination of information to the public, and expansion of the volunteer program.

"15. The civil defense program must place first reliance on the efforts of the individual and of the community to increase chances of survival, to minimize damage, and to recover as quickly as possible in the eventuality of an enemy attack."

Civil defense rests first on the individual citizen. The community is expected to use its own resources to exhaustion before State help is called. The State is expected to do all it can before requesting help from the Federal Government.

The Federal Civil Defense Administration has accepted these recommendations and used them extensively in all its planning and operations.

Impact of Air Attack in World War II

A prime objective of the FCDA research program is to insure that full advantage be taken of all previous experience. To this end, a systematic review, analysis, and presentation of all available data has been carried out. Stanford Research Institute, under contract with the Federal Civil Defense Administration, conducted a study under the title "Impact of Air Attack in World War II." The results of this study are presented in nine volumes organized in the following major divisions:

DIVISION I—Physical Damage (Including Fire Damage) to Structures, Facilities, and Persons.....	4 volumes
DIVISION II—Effects on the General Economy.....	2 volumes
DIVISION III—Social Organization, Behavior, and Morale Under Stress of Bombing.....	2 volumes
FINAL REPORT—Evaluation of Source Materials.	

While some parts of this report are classified, it will be possible to place most of these reference volumes in the hands of civil defense officials throughout the country. The reports were completed in July 1953 and initial distribution of the limited number of copies received under the contract has been made. Arrangements are underway to have the reports reprinted.

Committee on Disaster Studies

During 1953 the Federal Civil Defense Administration intensified its work with the Committee on Disaster Studies of the National Research Council. This Committee was established in 1951 at the request of the Department of Defense and the Federal Civil Defense Administration to sponsor, coordinate, and conduct studies of natural disasters, and to give expert scientific counsel in various aspects of disaster planning and handling. Twelve of the country's leading scientists serve on the committee without pay. Field studies were made of the flood disasters in Holland and England in February and of four of the major tornado disasters that occurred in the United States. A study was made also of the explosion of a fireworks warehouse in Houston, Tex.

Under sponsorship of this committee, the Sociology Department of Columbia University is conducting a study of evacuation after large disasters in cities and is attempting to draw up a model evacuation plan. Two instances of evacuation in response to hurricane threats in this country were studied in August and September. In addition to conducting field studies, this committee functions as a clearinghouse for research information and data concerning disasters and has prepared a bibliography covering disaster information. Experts in problems of human reaction and behavior are available to FCDA for consultation and advice through this committee.

Cost Assessment of Physical Damage

At the year's end, a study to develop methods and techniques for estimating the cost of physical damage from atomic attack was completed by Stanford Research Institute under contract with FCDA. These techniques are yardsticks for estimating the cost of housing, industrial installations, utilities, and community facilities destroyed or damaged, in terms of the replacement cost of equivalent facilities. They should prove invaluable in planning emergency repair and installation and postattack rehabilitation programs.

Protective Construction Design

Under a contract administered for FCDA by the Office of the Chief of Engineers, Department of the Army, Lehigh Institute of Research

is conducting comparative studies of the blast resistance of various types of buildings. These studies are expected to develop design and cost criteria for the guidance of architects and engineers in planning protective construction.

Other Research Progress

Certain work of great interest and importance to FCDA has been carried out by other Federal agencies. In each instance staff members of FCDA worked closely with the technical offices of other agencies so that the results were immediately applicable and useful to civil defense. Perhaps the outstanding example has been the work on thermal effects of atomic bombs sponsored by the Armed Forces Special Weapons Project of the Department of Defense and conducted by the U. S. Forest Service of the Department of Agriculture. As a result of this work it is now possible to evaluate the potential fire threat that would result in American cities from ignition of combustible materials outside and around buildings by exposure to direct thermal radiation of atomic explosions. It is now clear that potential exterior fire sources could be greatly reduced by clean-up programs to eliminate unnecessary combustible materials in our cities.

The Department of Health, Education, and Welfare and the Department of Agriculture have provided invaluable scientific consultation leading toward development of biological warfare defense measures. Similarly the Chemical Corps of the Department of the Army has brought nearly to completion the development of a civilian-type gas mask that shows promise of being suitable for manufacture, distribution, and sale at a very low cost to the general public. The Chemical Corps is also developing other chemical warfare defense measures that may be easily adapted to civil defense.

Dispersal Planning

The outstanding planning development during 1953 involved a reconsideration of the basic FCDA policy on the subject of dispersal. Since its inception the Federal Civil Defense Administration has urged that the American people remain in their homes and at their places of work should there be a warning of probable or imminent enemy attack. FCDA has consistently spoken out against an attitude of "take to the hills." It has been basic civil defense doctrine to urge people to take cover at the sound of warning of attack.

When these doctrines were developed and issued, much of civil defense planning was based upon the use by an enemy of atomic weapons the size of those used at Hiroshima and Nagasaki. Such doctrines were also predicated upon the development of a substantial program for the provision of adequate shelter through the use of existing or

modified structures or through new construction where necessary. An important related fact was that little or no warning of attack could be expected. The year 1953 brought several new developments. Foremost among these were the increasing size of enemy weapons and the growing capability of the enemy to deliver them. On the defensive side there was the possibility of earlier warning.

In view of these factors the Federal Civil Defense Administration conducted an extensive analysis of its policy of recommending against any preattack evacuation. This study showed that if one hour or more of warning time were available, dispersal of people from the congested sections of cities offered a real potential for the saving of lives. It was clear, however, that the value of such a tactic and the manner of its implementation would differ materially from city to city and would perhaps not be applicable at all in some few metropolitan areas. The application of this plan in a given city requires extensive analysis of such matters as traffic control, topography, and reception of evacuees.

This change in thinking has been discussed with the Executive Committee of the National Association of State Civil Defense Directors and, individually, by letter and in person with Governors, Mayors, and State and local civil defense directors. Many counties and cities have already included dispersal planning in their overall operational plans; others have made no moves in this direction. FCDA is preparing to recommend to the States and the cities certain preparatory planning steps related to dispersal. The actual adoption of dispersal practices will not be recommended by FCDA until sufficient warning of enemy attack can reasonably be anticipated.

PUBLIC CIVIL DEFENSE EDUCATION

The task of educating 160 million people in civil defense, the most extensive program of its kind ever undertaken by this government in peacetime, entered a new phase in 1953.

The increasing recognition of civil defense as a permanent, integral part of the total defense of the Nation has changed the emphasis and to some extent the techniques of civil defense public education. The appeal has been strong and continuing, but deliberately less dramatic, in keeping with the President's warning that we live in an "Age of Peril" and his admonition to avoid emotional peaks and valleys in our thinking on national defense.

The demonstrated usefulness of civil defense in natural disasters has helped convince many skeptics that trained, self-reliant citizens and communities organized for both self-help and mutual assistance, are good things to have—just in case. So civil defense public education has been aimed more and more at family participation—at not only convincing the public but stimulating constructive action.

The value of this increasingly marked trend in FCDA public education policy can hardly be overestimated—for a good but hitherto little understood reason. A crucial byproduct of any enemy attack on our homeland might be panic.

Panic *could* be the decisive weapon.

The surest antidotes to panic are knowledge, training, and leadership. Knowledge of what the danger is. Knowledge of what to do about it—to the point where the proper reaction is instinctive. Knowledge that something *is* being done about it, by people who know their business. Knowledge of what is happening, and why—right after it happens. Knowledge that the Nation's leaders are on the job—by seeing and hearing them on television and radio.

This attack on potential panic was perhaps the most important single mission of FCDA's public education program in 1953. It embraced both individual and family preattack indoctrination and training, and blueprints for specific measures in the attack and postattack phases designed to allay fear, combat rumor, and restore confidence and the will to win.

It is encouraging to find measurable progress in educating the public in at least two aspects of civil defense:

1. Personal survival against the principal weapons of modern warfare.

2. The need for participation by all able Americans in the United States Civil Defense Corps at the State and city levels.

Newspapers and Magazines

The interest and cooperation in civil defense by newspapers and magazines reached a new high during the year. More editorials, editorial cartoons, letters to the editor, weekly news reviews, feature articles, news stories, and advertisements were devoted to civil defense than ever before. Roughly 1,000,000 items on this subject were published in 1953.

Major news stories contributing to increased public interest in civil defense included:

1. Executive Order 10427 designating FCDA as coordinator of Federal participation in natural disasters (January).

2. Release of Project East River recommendations. These became a valuable reference for evaluating civil defense accomplishments and objectives (January).

3. A series of natural disasters (tornadoes, floods, droughts), highlighting the peacetime need and value of civil defense.

4. The Operation Doorstep test blast involving two typical American houses at the Atomic Energy Commission Proving Ground, Yucca Flat, Nev. (March).

5. A nationwide series of well-reported metropolitan, county, State, and regional civil defense drills, by both specific services and entire organizations.

6. The first nationwide public test of CONELRAD facilities in conjunction with FCC and USAF (September).

7. First official announcement of target cities and critical target areas (September).

8. Russian announcement that the Soviet has not only A-bombs, but the H-bomb.

Supplementing these major stories was news coverage of such FCDA releases to the public as a method of urban analysis to determine vulnerability, the value of windowless structures against blast, rescue techniques, the Home Defense Action Program, a series of articles on emergency sanitation, and the inauguration of training courses in emergency mass feeding in cooperation with the U. S. Army Quartermaster Corps.

A continuing public information program through demonstrations at the National Civil Defense Training Center, Olney, Md., not only resulted in sustained national news coverage but attracted the attention of trade, professional, municipal, and technical journals.

More than 600 general and special releases were issued by FCDA during the year, and assistance was given to media representatives

and individuals on 2,500 occasions. About 60 information bulletins, totaling nearly 210,000 copies, were processed and distributed.

A disaster news coverage plan at local, regional, State, and national levels was developed following visits by agency representatives to natural disaster areas. A cooperative understanding was reached by FCDA and the American National Red Cross on the release of disaster information from stricken areas.

Speeches continued to be one of the most effective means of disseminating agency policy and general information to nation-wide audiences. More than 50 major addresses were delivered by the Administrator, Deputy Administrator, Executive Assistant Administrator, and other FCDA officials before conventions of national organizations.

Articles on FCDA policy and progress were prepared and supplied to the Americana, Britannica, American People's, World Scope, and Collier's National encyclopedias, and to the New International Year-book. Numerous messages from the Administrator to meetings of national organizations, and to publications, also were released.

By December 31, the FCDA and the Superintendent of Documents had jointly distributed or sold a total of 70,860,826 copies of public booklets, leaflets, and posters. It is estimated that owing to the agency's policy of encouraging private reproduction of such material without cost to the Government, the total number of such publications in circulation is now approximately 100,000,000 copies.

More than 250 civil defense articles, editorials, and editorial paragraphs appeared in national magazines, and in scientific, business, trade, fraternal, juvenile, and other special interest publications.

Distribution continued to be made of the FCDA Magazine Kit, "The Ever-Present Danger," for the information and assistance of magazine editors.

National magazines which devoted one or more articles to civil defense included: Collier's, Pathfinder, Newsweek, U. S. News and World Report, Life, Time, Business Week, Popular Science, Fortune, Saturday Evening Post, Mechanix Illustrated, This Week, The American Weekly, and Parade.

The National Magazine Advisory Committee met in New York early in the year. A general briefing based on the East River Report was held, and distribution and use of a magazine kit was discussed.

Requests by magazine editors and free-lance writers for special briefings were filled, and approximately 60 writers were provided material for use in preparing manuscripts.

Magazine coverage was given to such FCDA projects as "Operation Doorstep"; the dairy industry's stake in civil defense; the emergency

mass feeding pilot course; the home shelters manuals; agricultural releases; the emergency home sanitation booklet; engineering equipment stockpile specifications; and the National Women's Advisory Committee Conference.

Special copy on the National Blood Program was distributed to 1,200 general magazines. Material for publication went to 34 radio, TV, and marketing magazines; full-page ads to 700 business and trade publications; specially prepared ads to 3,800 house magazines; fillers and boxes to 1,400 special interest magazines; and full-page ads to Bell Publishing Co. for use in each of its magazines.

Requests for 723 advertisements were received from business, trade, and general interest magazines.

Television

Television became an increasingly valuable medium for disseminating public information on civil defense throughout the year. Stations on the air in this country almost tripled during 1953, making TV accessible to more than 120 million people.

As each new station came on the air, FCDA supplied it—at the station's own request—with kits of civil defense television films. These included spot announcements, the "Take Cover" series, "U. S. Civil Defense in Action," "Operation Doorstep," CONELRAD television material, "The House in the Middle," "This is Civil Defense," "Disaster on Main Street," and "Emergency Action to Save Lives."

These films were exhibited on all networks and most local stations, and have reached an audience of many millions of people. Public service time contributed free to civil defense by the Nation's TV stations valued at many hundreds of thousands of dollars, were it billed at regular commercial rates.

Television and newsreel coverage of the test houses blasted by an A-bomb at Yucca Flat in March, both before and after the explosion, brought home to millions of Americans not only the tremendous destructive force of an atomic blast, but also visual proof that a family can survive by taking simple shelter precautions. The television film "Operation Doorstep," containing stop-motion sequences of the blast hitting house No. 1, is still being widely shown on stations across the Nation.

More than 24 special network television programs were devoted to civil defense subjects during the year. Many more civil defense programs were arranged for by regional or local stations. Most of these programs required special materials in the form of scripts, slides, artwork, exhibits, and props prepared and supplied by FCDA as part of its television production service to the stations.

Radio

During 1953, the Nation's radio stations and networks intensified their impressive public service contributions to mass civil defense education.

Five dramatic transcribed radio programs and two transcriptions of recorded spot announcements were prepared by FCDA and distributed to the Nation's four major radio networks, and to 3,000 local stations. Through the cooperation of local civil defense directors, working with their own stations, this material was widely used throughout the year.

On July 11, the entire ABC radio network started a series of weekly 10-minute radio shows produced and directed by FCDA, covering all phases of the national civil defense program.

FCDA officials and technical specialists appeared on 62 nationwide programs over national and regional networks during the year. These programs were chiefly major evening productions with audiences numbering in the millions. They included such shows as "Meet the Press," "Arthur Godfrey," "Reporters Round-up," "Crossfire," "American Forum of the Air," "Youth Wants to Know," and "Capital Cloakroom."

A number of special public service programs were arranged. For example, with FCDA cooperation the CBS network produced an hour-long dramatic documentary entitled, "Bomb Target USA." The program was featured three times on the full Columbia network.

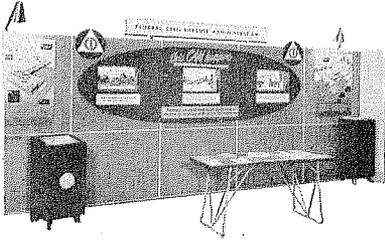
An outstanding professional group, the American Women in Radio and Television, adopted civil defense in 1953 as a basic and continuing organizational project. Special kits have been provided to all members, utilizing a variety of radio presentation methods on such subjects as Home Protection, First Aid in the Home, and Fire Fighting.

"Civil Defense News for Women," a monthly script written especially for radio-TV women broadcasters, is now being distributed by request to 300 members.

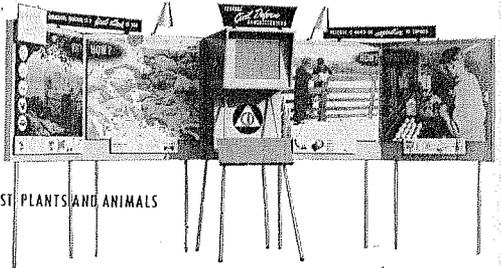
During "Operation Doorstep," over 60 national, regional, and local radio programs were presented. Four dramatic shows aimed at the nonurban population were produced and distributed to 1,600 stations in such areas at their request.

FCDA also cooperated with the Advertising Council and the American National Red Cross during 1953 in supplying all radio stations with educational material for use in the joint National Blood Program educational campaign.

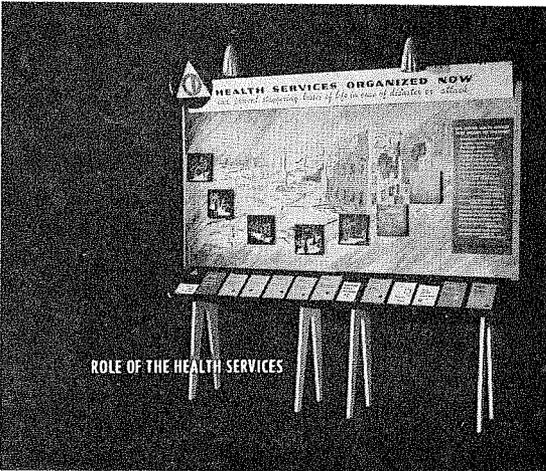
FCDA has continued to guide State and local civil defense directors in the development of emergency broadcasting plans for programming and operations in their areas. During 1953, the CONELRAD plan was tested on a limited basis and on September 15 on a nationwide scale with a 3-hour test utilizing simulated attack aircraft and thou-



INDUSTRIAL PLANT PROTECTION



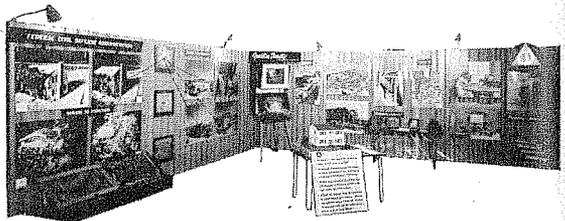
BIOLOGICAL WARFARE AGAINST PLANTS AND ANIMALS



ROLE OF THE HEALTH SERVICES

Exhibits

TYPICAL
OF
THOSE
SEEN BY MILLIONS
IN 1953



ATOMIC TEST RESULTS

sands of ground observers. These tests have shown that CONELRAD is feasible and effective. Improvements in the system are being made continually.

Since May 15, FCDA has been conducting an extensive educational campaign to inform the public of the details of this new system of public emergency broadcasting. In addition, CONELRAD fact sheets and letters were sent to 500 radio-TV editors and 1,500 newspaper editors, asking their cooperation, with excellent results.

A resolution was approved by the National Association of Radio-Television Broadcasters in its annual convention, pledging full support of the CONELRAD plan by the broadcasters of the Nation.

Motion Pictures

"Disaster on Main Street," eighth in the first series of official FCDA public education films, was released during 1953. These motion pictures, with a nationwide audience of 15 million yearly, exclusive of TV, are being financed and produced by private film companies with FCDA technical assistance and policy guidance but without production cost to the agency. At least \$100,000 has been spent by film companies in the production of this series. The monetary value of prints now in distribution, at no cost to the Government, is in excess of \$120,000.

Other 1953 FCDA motion picture projects included "Trapped," an English adaptation of a Swedish film on rescue operations; "First Aid," a series of six short film spots adapted by FCDA for presentation; and a series of 10 TV recruiting film spots based on FCDA posters.

"Operation Doorstep," the television film based on the atomic tests at Yucca Flat, was produced by a private film company with FCDA supervision. The monetary value of this production and 289 prints purchased by individuals and organizations—at no cost to FCDA—was nearly \$15,000.

During the year, FCDA established the additional policy of cooperating with private industry, foundations, and trade associations in the production of sponsored public service films on civil defense subjects. In line with this policy a revised and more complete version of the TV film "The House in the Middle," is being produced in color by a national association without cost to FCDA. Other public service films are in process.

Exhibits

To meet the increasing demand for more civil defense exhibit material at conventions, fairs, and other places where large numbers of people assemble, the number of FCDA exhibits was increased from

7 to 25 units during 1953. Such display exhibits range from 8 to 40 feet in length and continue to utilize the principle of interchangeable parts in their construction.

Exhibits currently on display cover health, fire, police, and welfare services; plant protection of machinery and workers; biological warfare against animals and plants; civil defense grade school education; civil defense for target areas, small cities and towns, and rural areas; the two 1953 tests at Yucca Flat (blast and thermal); home shelter construction; and women in civil defense.

In 1953 FCDA exhibits were shown to more than 8½ million people at 135 conventions, professional meetings, and State fairs throughout the Nation. The cost to this agency has been less than one-tenth of a cent per person reached, and this figure will drop even lower as the exhibits remain on display. Exhibit space valued at more than \$90,000 was donated for FCDA use. The cost of building and maintaining FCDA exhibits during 1953 was \$14,540.

More than 1 million interviews with visitors were conducted by FCDA personnel staffing the exhibits, and 1,632,000 pieces of literature were distributed to interested persons.

Eighteen units of the Alert America Convoys were reconditioned as individual exhibits. During the coming year, it is estimated that these refurbished units will reach an additional 4 million people at very little cost.

One FCDA exhibit was awarded first prize at the American Dental Association convention at Cleveland. Four of FCDA's color posters were submitted in competition during the year, and three were accepted and placed on exhibition.

Cooperative Promotion

Because of limited funds, FCDA has been working with private organizations to obtain free wherever possible a more widespread dissemination of civil defense educational material produced by the Agency.

Private groups have made substantial investment of their own funds, and of the time and talents of their own personnel in carrying out civil defense public education objectives as a worthwhile contribution to national security.

Noteworthy examples of this kind of cooperative promotion in 1953 were:

(a) Contribution of 50 mannequins, plus clothing, for use in the atomic test operations at the two houses in Yucca Flat, Nevada. These mannequins have since been made available for civil defense exhibits throughout the country.

(b) Many thousands of copies of the report "Operation Doorstep" and excerpts from the FCDA home shelter manuals were reprinted

and distributed to contractors and home builders by their trade associations without cost to FCDA.

(c) A reprint of the FCDA alert card has been inserted free in thousands of wallets and billfolds produced in 1953.

(d) Valuable original cartoons by nationally known artists have been donated for reproduction and use as mats in local recruiting programs.

(e) Various organizations of actors and artists have made substantial contributions of time and talent to the National Blood Program and other civil defense activities through tape recordings, transcribed spot announcements, and personal appearances throughout the country.

(f) Intensive training programs in civil defense preparedness have been conducted free as a public service by 600 hotels for over 75,000 hotel employees.

(g) Lobby displays, screen slides, and other visual materials have been shown in 10,000 local theaters.

(h) A civil defense education program for children involving the printing and distribution of over 10,000,000 full-color lithograph "picture story" cards has been undertaken by one company at its own expense.

Arrangements were made with radio manufacturers' associations to mark new AM radio receiving sets with "CD" at 640 and 1240 kc. In addition, tens of thousands of leaflets and dial stickers have been sent to radio wholesalers, dealers, and other interested groups for public dissemination.

The time, talent, and money contributed by all participants in FCDA's cooperative promotion program in 1953 is estimated to be worth more than \$500,000.

The Convoy in Canada

A motorcade carrying the exhibit material of one of FCDA's Alert America Convoys began in August a tour of key Canadian cities under the slogan "On Guard, Canada." This exhibit, one of three identical truck-trailer displays seen by more than 1,000,000 persons in the United States during 1952, was loaned by FCDA to Canadian Civil Defence. The exhibit covered a route of more than 10,000 miles during the year, most of it along the Trans-Canada Highway.

Emergency Information Operations

Facilities are now in place in FCDA emergency headquarters to make it possible, with the cooperation of the radio networks, to broadcast quickly to the entire Nation in an emergency. In many areas throughout the country radio broadcasters are cooperating with civil

defense authorities not only in planning but also in the conduct of emergency exercises.

FCDA continued in 1953 to encourage preparations for the publishing of test emergency newspaper editions. Where news printing plants are located within critical target areas, State civil defense authorities have, in many cases, been able to arrange with newspaper officials for emergency publication using facilities outside the target areas.

Twenty-two emergency practice editions already have been published in New York State and other editions are scheduled for future defense exercises in or near the State's nine target cities. The first bilingual emergency edition was issued by the Buffalo Polish-language newspaper, *Everybody's Daily*, October 17, 1953.

The international civil defense press and radio agreement for emergency operation, which went into effect in August 1952 in the Niagara Falls area, has been tested through civil defense exercises. In one such exercise the newspaper for Niagara Falls was printed in St. Catherine's, Ontario, 40 miles distant, and distributed in the assumed attack area within 3 hours.

Steps have been taken to alert State and local civil defense authorities to the need for combatting possible enemy psychological warfare through the use of broadcasts of unquestionable authority.

Family-Action Program

The Family Action Program was developed by FCDA during 1953 to carry the civil defense story to the homes of the Nation. It is a program of home protection exercises giving each citizen the opportunity to participate directly in civil defense, and encourages every citizen to cooperate with the neighborhood civil defense groups.

As part of this individual- and family-action plan, a package of informational and educational materials has been prepared for club and organization use. It includes a kit containing sample press releases, radio-TV spot announcements and scripts, speeches, and ideas for promoting community activities that tie in with the program. In addition there are twelve lesson plans and film strips for wardens.

A booklet of self-protection home exercises was developed and placed in the kit to help Americans meet the common problems arising from disaster. These seven family-action exercises are: (1) Preparing Your Shelter, (2) What To Do When the Alert Sounds, (3) Home Fire Protection, (4) Home Fire Fighting, (5) Emergency Action to Save Lives, (6) What To Do If Someone Is Trapped, and (7) Safe Food and Water in Emergencies.

National Fire Prevention Week

To assist civil defense organizations in the conduct of public civil defense education programs in connection with National Fire Preven-

tion Week, October 4-11, FCDA distributed to States and cities during September 5,000 information kits entitled, *Atomic Blast Creates Fire*.

FCDA also distributed to television stations, for use during national Fire Prevention Week, the film, "The House in the Middle." Based on motion pictures taken during a thermal effects test at Yucca Flat in the Spring of 1953, the film gives dramatic proof of the value of fire-safe housekeeping as a part of civil defense preparedness against atomic warfare.

National Organization Support

In 1953, national organizations played an important part in carrying the civil defense message to the public and in providing volunteers for the civil defense services. A new policy was recommended by FCDA to State and local civil defense directors to facilitate enrollment of members of organizations. A number of organizations expressed the desire to contribute complete teams or squads to a service, and in some instances to train and equip them. Acceptance is subject to approval of local civil defense directors concerned.

Well over one hundred national organizations had civil defense exhibits at their national conventions. All of these showings were in complimentary space, representing a substantial saving to the taxpayer. Civil defense literature was handed out at all exhibits. Organizations featured civil defense speakers, films, or both at their national conventions, and many adopted resolutions urging increased attention to civil defense.

The largest group to which an FCDA exhibit was shown during the year was the Union Industries Show of the AFL Union Label and Service Trades Department. Held in April in Minneapolis, this show drew 750,000 visitors.

FCDA's national Labor Advisory Committee met three times during the year; an additional meeting was held by a subcommittee of the group. The committee is composed of 5 members each of the American Federation of Labor and the Congress of Industrial Organizations, and 2 each from the Railway Brotherhoods and Railway Labor Executive Associations. At year's end, the FCDA Labor Advisory Committee had submitted a comprehensive program for labor participation in civil defense which committee members felt would do more for homefront preparedness than any previous activity in this area.

Because large industrial concentrations are expected to be primary targets of enemy attack, both major labor organizations, on their own initiative, urged the Congress to give full consideration to America's civil defense needs.

The Community Services Committee of the Congress of Industrial Organizations gave civil defense a high priority on its program for

the year. One of the chief objectives of this committee and its counterpart in the American Federation of Labor has been to spur plant locals to greater participation in the facilities self-protection program.

During 1953 six State Federations of Labor heard reports, saw films and exhibits, and passed resolutions on civil defense. It is anticipated that the other 42 State organizations will follow suit.

Veterans' organizations, all of which are represented on FCDA's Veterans Advisory Committee, were active during 1953 in helping to work out the new policy on group enlistment. Members of this committee represent: the American Legion, Air Force Association, Veterans of Foreign Wars, Blinded Veterans Association, Jewish War Veterans, WAC Veterans, Catholic War Veterans, Disabled American Veterans, American Veterans of World War II, and American Veterans Committee of the Greater Washington Area Council.

The Boy Scouts of America played an active role in the new policy on group enrollment and continued to participate in the overall civil defense program. They contributed teams of Scouts, under adult volunteer supervision, for work in Ground Observer Corps filter centers. Other youth groups were also active in this and other fields of civil defense. The National Catholic Youth Council gave space for a civil defense exhibit and was advised by a consultant on civil defense throughout its 3-day national convention.

Many national organizations carried information from various FCDA public booklets and other civil defense articles in their house magazines. The National Association of Insurance Agents, for example, published an illustrated summary of "Operation Doorstep" in *The American Agency Bulletin*; the International Association of Fire Fighters published an eyewitness account of the March 17 atomic test at Yucca Flat, by George Richardson, IAFF Secretary-Treasurer, in *The Fire Fighter*; the AFL *American Federationist* carried an article by the FCDA Administrator.

Women's Participation

Throughout 1953 FCDA continued to establish contacts and working programs with 99 national women's organizations representing a total membership of many millions.

Eighteen organizations presented a speaker from FCDA at their 1953 conventions. Others heard regional or State civil defense representatives.

Twenty-four cooperating organizations distributed 78,350 pieces of civil defense material related especially to women's activities. In addition, similar materials were distributed from regional, State, and local civil defense offices.

Many national women's organizations adopted resolutions on civil defense for their member groups. These groups used their national

publications and special bulletins to publicize specific study and action programs.

Representatives of national women's groups met with FCDA during 1953. Chief among these was a 3-day conference in March of 40 top women officials from civil defense State and regional offices and leaders from 29 national organizations.

In June, women leaders in government, radio, press, and of 55 national organizations attended a night training demonstration in civil defense rescue techniques at the Rescue School, National Civil Defense Training Center.

In October the FCDA National Women's Advisory Committee held a two-day conference at FCDA headquarters and the National Civil Defense Training Center, at Olney, Md. Forty-six leaders of women's organizations, with memberships totaling some 25,000,000, and other nationally known women leaders met for reorientation, discussion of objectives, and presentation of definite recommendations for future civil defense activities.

Women officials in regional and State civil defense offices sponsored hundreds of State or regional conferences during 1953.

During the week-long Third Western Women's Training Conference held at Western Technical Training School, Saint Mary's College, California, 80 women organization leaders representing more than a million members from 8 Western States studied civil defense and participated in exercises and demonstrations designed to help promote civil defense participation in their organizations and communities.

Women's organizations also sponsored attendance of members at other official civil defense schools. In January, State and national leaders of the American Legion Auxiliary made up the entire student body for one week at National Civil Defense Training Center, Olney, Md.

The National Federation of Business and Professional Women's Clubs financed attendance of members at civil defense schools. One woman, sent by a member club of this group to the Civil Defense Training School, Stillwater, Okla., reported the following activities as a result of her course; she gave a basic 15-hour civil defense course, with the help of Red Cross and other local instructors, to 670 men and women in her home city; mimeographed and distributed 70,000 forms; and registered 14,701 women willing to take home protection and community protection training.

Public Booklets and Leaflets

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Public Booklets and Leaflets

As a result of the constant development of new weapons and continuing research in new problems of civil defense, any program of

public civil defense education must be a changing one. Accordingly, revisions have been made in some of the earlier publications of the agency. The following is a list of public leaflets, handbooks, and booklets produced during 1953.

Public Booklets, Handbooks, and Miscellaneous Leaflets

Before Disaster Strikes—What To Do Now About Emergency Sanitation at Home
Civil Defense and Atomic Warfare—A Selected Reading List
Home Protection Exercises—A Family Action Program
Operation Doorstep
Operation Doorstep Information Kit
The Welfare Task in Civil Defense
What About You and Civil Defense
What You Can Do Now!
Conelrad—in Case of Attack!
Conelrad Information Kit
Emergency Mass Feeding
Target Areas for Civil Defense Purposes

Publications in support of the Agency's technical guidance program distributed during 1953 numbered 12,009,257. These included both material to aid in the organization and operation of local civil defense organizations, and civil defense information for general public consumption.

Many more, probably numbering in the hundreds of thousands, were reprinted by private companies and organizations.

Several local civil defense organizations met the need for additional publications, not covered by normal distribution, by reprinting under the Federal-State Matching Fund program. (See section on Public Education in the States.)

Breakdown of the publications distributed in 1953, which includes reprints and revisions of a few originally printed prior to 1953, is as follows:

Administrative Guides.....	70, 263
Handbooks.....	104, 266
Public Booklets.....	10, 182, 427
Technical Manuals.....	450, 989
Technical Bulletins.....	112, 753
Training Bulletins.....	196, 256
Volunteer Manpower Booklets.....	104, 586
Miscellaneous.....	787, 717
Total.....	12, 009, 257

Cooperative Programs

Air Defense

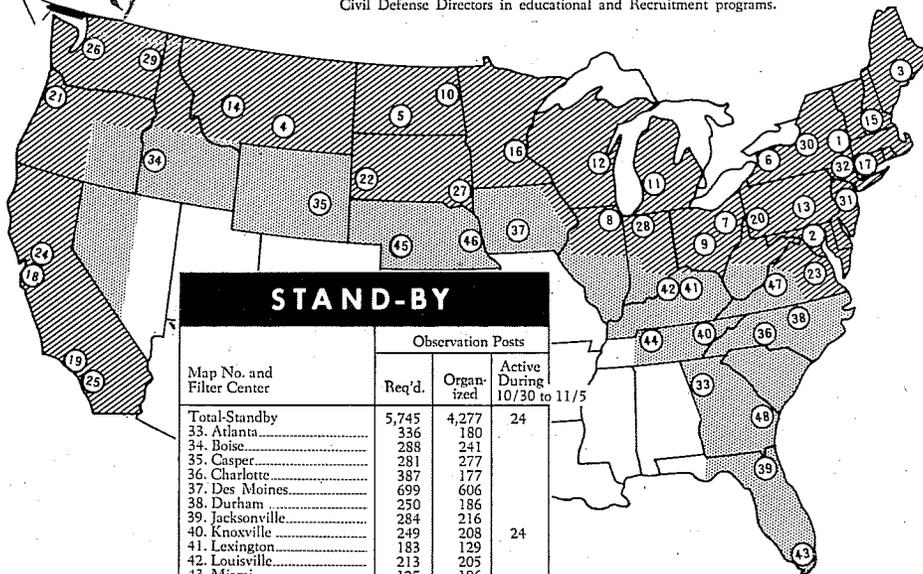
During 1953 the U. S. Air Force and the FCDA continued their joint educational program on Air Defense, first undertaken in the summer of 1952.



Ground Observer Corps

AS OF NOVEMBER 5, 1953

Note: The G.O.C. is a civilian component of the Air Defense Command, which is responsible for its training and operation. Although it has no legal responsibility for the Corps, FCDA is cooperating with the Air Force and State Civil Defense Directors in educational and Recruitment programs.



STAND-BY

Map No. and Filter Center	Observation Posts		
	Req'd.	Organized	Active During 10/30 to 11/5
Total Standby	5,745	4,277	24
33. Atlanta.....	336	180	
34. Boise.....	288	241	
35. Casper.....	281	277	
36. Charlotte.....	387	177	
37. Des Moines.....	699	606	
38. Durham.....	250	186	
39. Jacksonville.....	284	216	
40. Knoxville.....	249	208	
41. Lexington.....	183	129	24
42. Louisville.....	213	205	
43. Miami.....	125	106	
44. Nashville.....	273	212	
45. North Platte.....	162	147	
46. Omaha.....	708	473	
47. Roanoke.....	252	153	
48. Savannah.....	632	402	
49. Springfield.....	423	359	

SKYWATCH-

Map No. and Filter Center	Observation Posts			
	Req'd.	Organized	Manned	
			Total*	24 hrs.
Total-Skywatch	10,215	7,452	3,865	1,099
1. Albany.....	263	209	158	91
2. Baltimore.....	234	139	107	52
3. Bangor.....	257	227	137	23
4. Billings.....	145	143	100	27
5. Bismarck.....	142	142	63	20
6. Buffalo.....	133	133	76	8
7. Canton.....	225	161	41	5
8. Chicago.....	656	524	115	31
9. Columbus.....	366	255	110	45
10. Fargo.....	222	223	66	12
11. Grand Rapids.....	620	451	107	58
12. Green Bay.....	588	565	280	47
13. Harrisburg.....	313	226	81	22
14. Helena.....	217	191	155	10
15. Manchester.....	389	384	274	98
16. Minneapolis.....	1,405	915	315	43
17. New Haven.....	144	138	93	20
18. Oakland.....	176	123	77	33
19. Pasadena.....	312	172	129	42
20. Pittsburgh.....	345	233	145	18
21. Portland.....	565	235	204	70
22. Rapid City.....	118	95	33	6
23. Richmond.....	152	103	63	37
24. Sacramento.....	389	182	124	46
25. Santa Ana.....	187	116	91	34
26. Seattle.....	373	198	125	47
27. Sioux Falls.....	245	205	205	5
28. South Bend.....	350	256	97	23
29. Spokane.....	267	189	131	52
30. Syracuse.....	162	148	75	11
31. Trenton.....	121	67	56	28
32. White Plains.....	134	104	92	35



"Skywatch" Area 27 States



Stand-by Area 9 States



Air Defense Filter Centers

*Includes posts manned 24 hours and posts partially manned

Primary aims were (a) making people aware of the immediate need for an adequate air defense, and (b) assisting State civil defense directors in their Ground Observer Corps recruitment campaigns. In addition, the program notably strengthened ties of cooperation between the Air Defense Command and State civil defense directors, and between Headquarters, USAF and FCDA.

The second and third phases of the GOC advertising and recruitment campaigns were completed with resultant gains in volunteer enrollment. These helped increase the effectiveness of the aircraft detection system.

One of the most effective contributions to the joint program was President Eisenhower's message on the Ground Observer Corps, which was used by the Advertising Council on posters, car cards, and in advertisements.

Volunteer observers and filter center workers now are active in 36 States, Alaska, and the District of Columbia. The "Skywatch Area," 24-hour operation of GOC, still is confined to 27 States and Washington, D. C.

National Blood Program

Established by Executive Order in December 1951, the National Blood Program is a cooperative effort of the Department of Defense, American National Red Cross, and FCDA, under the guidance of the Office of Defense Mobilization.

In 1953 these agencies continued their joint campaign to educate the American people on the various uses for blood and blood derivatives and the continuing need for personal donations of blood.

A wide variety of printed and audio-visual materials was produced in 1953. With the cooperation of The Advertising Council, newspaper and magazine materials, additional fact sheets for radio and television, car cards, billboard sheets, and similar material have been prepared, and allocations made for network and television announcements.

Public Civil Defense Education in the States

Much of the task of disseminating public civil defense information must be accomplished by the States and cities. Substantial financial assistance toward local activities in this direction was rendered through the public civil defense education and information portion of the Federal-State Matching Funds program. During the 1953 fiscal year, FCDA matched over \$365,000 of State and city funds for public information and education. A total of 35 States and 2 Territories participated.

An analysis of the applications for Federal contributions show :

43 percent for the purchase of FCDA, State, and local printed and information materials.

2 percent for other public and privately printed materials.

42 percent for civil defense identification items.

5 percent for display and exhibit materials.

7 percent for other public education items.

As a typical example, one State prepared 200,000 leaflets presenting a family civil defense program. The leaflet, which was distributed to each family in the State, included the official FCDA air-raid warning instructions and a listing of the FCDA-recommended household first-aid kit, FCDA public booklets, and official films, as well as specific State-developed instructions for the family.

Civil defense identification items, such as signs and insignia, have been included in the contributions program because they are essential for guidance in an emergency and because they give the public concrete evidence of civil defense in being. A majority of the contributions for these items was for signs designating shelter areas, civil defense facilities, and civil defense highways and routes, and for vehicle and equipment insignia. As distinguished from printed materials, these items in general represent a nonrecurring expense.

TRAINING AND EDUCATION

The primary objective of FCDA training and education is to provide assistance to States and communities in developing and improving training programs designed to meet their specific requirements. Since most civil defense training must be carried on by States and communities, the service rendered them by FCDA includes consultation, advice, guidance, and appropriate working materials. In each region, a training officer is available for on-the-scene consultation.

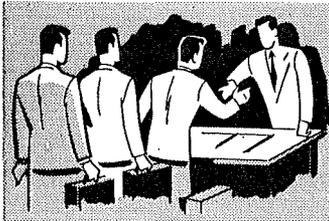
The 1953 activities of training and education included: (1) stimulating improved civil defense leadership and skill attainment through the facilities of higher education institutions; (2) stimulating civil defense participation by the Nation's schools through professional channels and organizations; (3) operating the National Civil Defense Training Center and Western Technical Training School; and (4) producing training materials.

All activities, including field service, were designed to widen civil defense participation; improve local instruction; better utilize available training facilities, materials, and equipment; and use more effectively professional leadership in training and education at all levels.

Pilot State Conferences on Training

In the spring, a series of pilot statewide conferences were planned to strengthen civil defense training at the State and local levels. Specific purposes of these conferences were: to further stimulate and maintain interest in civil defense protection and the training necessary for such protection; to assist in locating and utilizing additional training resources; to coordinate available training resources of organizations, institutions, and individual citizens; to more effectively use available civil defense training materials, and facilities for producing them; to define civil defense training problems and proposals for solution; to discover additional ways in which training could be improved; and find other ways in which FCDA could assist in that improvement.

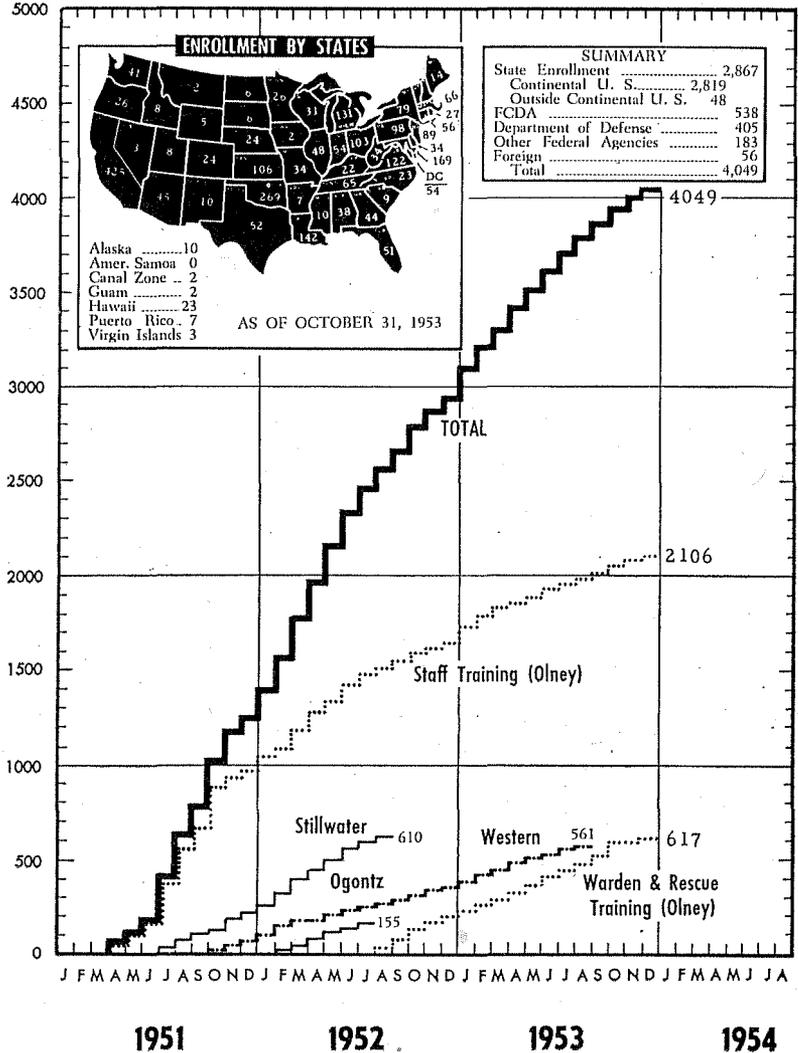
Working conferences of 2-3 days with 75-125 persons were planned and carried out through regional and State civil defense offices during the summer and fall. Designated institutions of higher learning provided staff and facilities under contract and accepted responsibility for organizing and conducting the conferences. Conferences were held in West Virginia, Tennessee, Kansas, Colorado, New Hampshire, Texas, Rhode Island, Florida, Indiana, Wisconsin, and Utah. Participants were primarily from these States.



FCDA Training Schools Enrollment

CUMULATIVE ENROLLMENT

STAFF & INSTRUCTOR TRAINING



Reports submitted by the participating States and other evidence indicates the following: that civil defense programs in most of these States were assisted materially by the conferences; that in some States the way was paved for a State staff school; that, in the future, institutions of higher learning will develop a wider range of service for civil defense training and education; and that considerable followup assistance from FCDA is needed.

Professional Participation

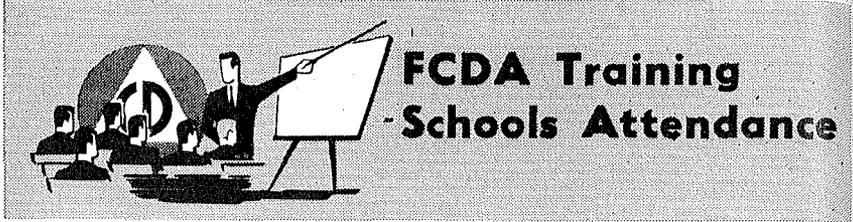
Staff personnel maintained active membership in many national professional organizations. Among these were: National Education Association; National Association of Secondary School Principals; American Association of School Administrators; Association for Higher Education; American Association of Junior Colleges; National Society for the Study of Education; American Personnel and Guidance Association; Student Personnel Association for Supervision and Curriculum Development; and Phi Delta Kappa, Professional Education Fraternity. As members, program contributors, or invited guests, staff members also represented FCDA in annual meetings of these associations.

In addition, staff members participated in the national meetings of such organizations as: U. S. Office of Education; American Council on Education; National Conference on Citizenship; Association of Urban Universities; National University Extension Association; and the Department of Rural Education, N. E. A.

FCDA personnel also participated in and maintained working relationships with State and regional educational conferences such as: Indiana Association of Secondary School Principals; Pennsylvania School Mens Conference; Federal Visual Aids Workshop of American University; University of Washington Summer Workshop; and the Western Conference on Civil Defense and Education.

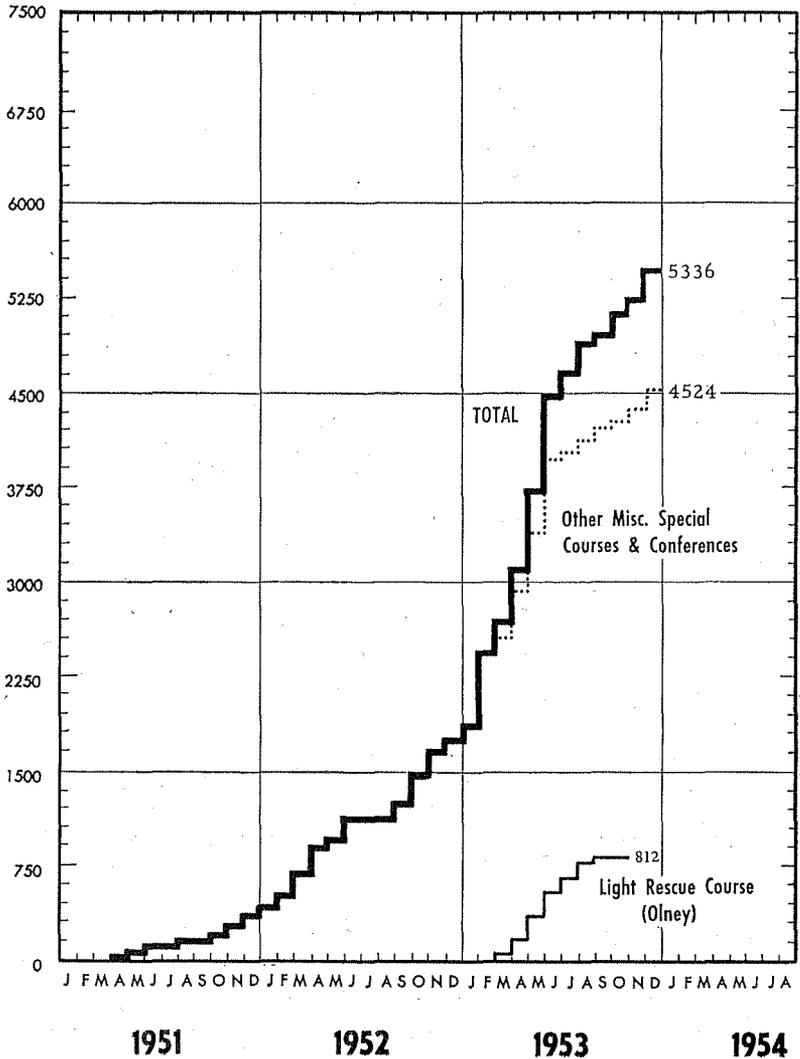
The National Advisory Committee on Civil Defense Training and Education met February 20, 1953. Proceedings of that conference state, in part, that " * * * the committee urged that the role of education and training as a definite part of civil defense be strengthened * * *. The committee gave considerable attention to the inter-relationship of civil defense and the education profession. Cooperation and coordination are keystones in a successful program. It urged realism in making emergency training plans and emphasized that psychological as well as physical skills are important to effective civil defense operations. The committee observed that schools and colleges have special responsibilities in developing leadership skills and in stimulating widespread constituent involvement in their civil defense program * * *."

TRAINING AND EDUCATION PROGRAM



CUMULATIVE ATTENDANCE

SPECIAL COURSES & CONFERENCES



Leaders in educational programs have consulted with FCDA personnel regarding special civil defense problems. Notable among these is the Citizenship Education Project of Columbia University which develops laboratory practices used by thousands of high school students. Increased civil defense educational interest has been evidenced by a constant flow of requests for civil defense education information from school administrators, teachers, parent-teacher groups, and elementary, secondary, and higher education students.

There is educational interest in journals such as the *NEA Journal*, with a circulation to over 500,000 professional educators, and *School Life* going to the reading audiences of nearly 20,000 school and public libraries. By three-way agreement, the U. S. Office of Education, the Atomic Energy Commission, and FCDA sponsored a special issue of *School Life* titled, "Citizenship for an Atomic Age." This special issue is devoted exclusively to civil defense and atomic energy and has already received wide acclaim as an incentive to civil defense efforts in schools.

By arrangement, the American Council on Education is preparing and distributing a policy statement, "Civil Defense and Higher Education." This statement will encourage colleges and universities to increase their interest in civil defense programs and education.

Training Schools

The National Civil Defense Training Center at Olney, Md., consists of two training schools—the Staff College for training in Civil Defense Administration and Operations, and the Rescue School, for training in civil defense rescue operations and related skills such as emergency action to save lives and fire fighting for householders. During the first 9 months, the FCDA also operated a Western Technical Training School at St. Mary's College, California.

The graduates from FCDA schools return to their home communities where they serve as a cadre of instructors, which multiplies itself by conducting local civil defense schools and courses.

Both centers also helped plan the administrative, operational, and technical aspects of civil defense at State and local levels. Likewise, each center has served as an action-research base in which developing policy was interpreted to representatives from the field and tested utilizing their own experiences.

The school at Olney has become a center not only for instructing civil defense volunteers but also for developing and testing doctrine and devices useful in civil defense. It has also become a public education medium of some importance, particularly through its night exercises which are open to the public. These exercises constitute training activities in which both Staff College and rescue students practice

and apply what they learned; with units from the fire departments and first-aid squads of nearby municipalities participating. About 10,000 people have observed these night training exercises in which control center operations are used. Civil defense services units are dispatched to the rescue street, and live "casualties" extricated under highly realistic fire and rescue situations. Such exercises have demonstrated to civil defense officials and the public the progress that has taken place and how the services work together.

During 1953, the Staff College graduated 470 trainees—State and municipal civil defense directors, civil defense service chiefs, civil defense coordinators in industrial organizations and government installations, and others. These trainees came from 31 States, 5 Territories, and foreign countries such as Canada and Brazil. In addition approximately 1,700 persons attended special courses and conferences at the Staff College.

The Staff College also assisted State and local officials by making available material, based on the units of instruction at the Staff College, and by lending personnel to assist in carrying on training or conferences at the State or local level.

During 1953, the Rescue School trained 423 State and local instructors in its regular 2-week course. These instructors returned home qualified to conduct local civil defense rescue schools.

The Rescue School also trained 812 persons, primarily from government facilities, in special 2-day rescue courses. These trainees returned to their places of work as qualified rescue team members. Two hundred and ninety-two persons attended the following special rescue courses: 3-day Neighborhood Fire and Rescue, Regional Rescue Seminar, Explorer Boy Scout Rescue, and 2-day Warden Rescue.

Seventeen basic rescue training sets are known to be in operation in local communities; 24 sets are partially completed and in operation; and 50 sets are in the planning stage. Some of these have been financed completely from local funds, whereas others have utilized Federal contributions. Among the already established ones are those at Portland, Oreg., San Diego and Glendale, Calif., St. Louis, Mo., and Baltimore County, Md.

A high degree of realism is achieved in rescue training by using a "Rescue Street" with 5 demolished buildings where wartime rescue conditions are simulated. Trainees learn rescue methods and perform actual rescue operations in these buildings, which duplicate conditions resulting from enemy attack or natural disaster.

The Western Technical Training School at St. Mary's College, Calif., was discontinued in September 1953. In eight months, this school trained 832 State and local instructors and leaders through general orientation courses, rescue and warden courses, and special

courses for engineers, and by utilizing radiological monitors, fire service personnel, school administrators and teachers, facilities self-protection coordinators, and training officers.

Nearly 2,000 men and women attended courses at St. Mary's in its 22 months of operation. They came from Arizona, California, Colorado, Idaho, Montana, New Mexico, Nevada, Oregon, Texas, Utah, and Washington, Alaska, Guam, and Hawaii. The State of California thought so highly of the training provided it paid the room and board of certified California trainees enrolled at the school.

Training at St. Mary's combined the practical and theoretical, with extensive use of a "Rescue Street" for the practical training. Many similar basic rescue training sets have been established in Western States as a result of the program carried out at the Western Technical Training School. Many graduates of the school are now serving as civil defense instructors and administrators in their own communities and agencies.

Since closing the school in September, two of its instructors were assigned to the FCDA Regional Office in Berkeley, Calif., to carry out "traveling team" instructional programs in the Western States.

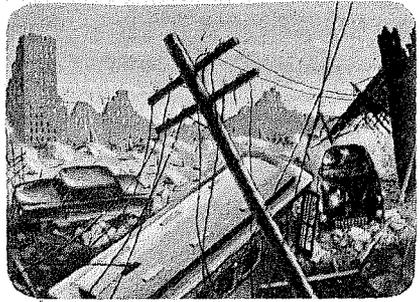
Training Materials and Technical Conferences

Twelve training bulletins were printed and made available to States and communities for training civil defense volunteers. These are listed below and make a total of 31 training bulletins.

These twelve training bulletins have color filmstrips with accompanying sound recordings.

These 35 mm. filmstrips, of 13 to 15 minutes running time, are:

1. **MAP MAKING FOR WARDENS.** Basic instruction on how to prepare a block map.
2. **THE BLOCK CENSUS.** Techniques for wardens in taking a block census.
3. **THE ROLE OF THE WARDEN IN RESCUE.** Basic rescue techniques for wardens.
4. **THE ROLE OF THE WARDEN IN FIRE.** Description of basic fire fighting duties of wardens.
5. **CONDUCTING A NEIGHBORHOOD CIVIL DEFENSE MEETING.** The "how to" techniques of conducting a civil defense meeting.
6. **RECONNAISSANCE FUNCTIONS OF THE BLOCK WARDEN.** How wardens can conduct a survey of a damaged area.
7. **FACILITIES AND THE BLOCK WARDEN ORGANIZATION.** An inventory of existing small facilities and people who can be used during a civil defense emergency.



WARDEN TECHNICAL TRAINING KITS

for nationwide use

8. **THE WARDEN'S RESPONSIBILITY FOR EMERGENCY SANITATION MEASURES.** Emergency techniques in the field of sanitation.

9. **THE ROLE OF THE WARDEN IN RECEIVING AND BILLETING EVACUEES.** How a group of persons through cooperative action can aid in the billeting of people.

10. **THE ROLE OF THE WARDEN IN MOVING DISASTER VICTIMS TO WELFARE ASSEMBLY AREAS.** Techniques in the movement of disaster victims to assembly areas.

11. **THE WARDEN POST MESSAGE CENTER.** Basic communication techniques to train wardens and auxiliaries in the field of communication.

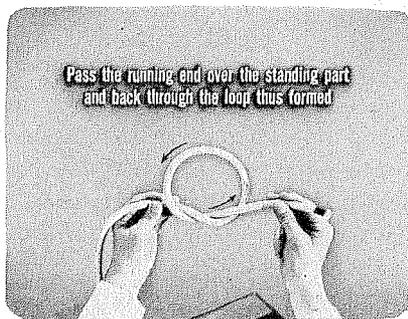
12. **ORGANIZING A NEIGHBORHOOD FOR SURVIVAL.** Basic orientation of the warden's responsibility in his neighborhood.

These training filmstrips are available on a matching funds basis at an estimated price of \$34 for 12 filmstrips, lesson plans, and recordings.

In addition, a series of 11 skill-training filmstrips were produced. These are black and white filmstrips of approximately 55 frames each, with titles and instructor guides, for general use by neighborhood groups and others in learning the "how to" of saving lives and property. The series includes:

1-2. **ROPES AND KNOT TYING PART I AND ROPES AND KNOT TYING PART II.** Techniques of knot tying for basic fire fighting and rescue.

3. **PICK-UPS, CARRIES AND DRAGS.** Correct methods of removing injured people.



SKILLS TRAINING KITS

for use at all levels



4. USING IMPROVISED AND REGULAR STRETCHERS. How to improvise with material at hand and the use of regular stretchers.

5. HANDLING AND CARE OF LADDERS. Basic techniques of handling and care of ladders.

6. USING A LADDER AS A STRETCHER. Technique of using a ladder as a stretcher.

7. LOWERING AND RAISING CASUALTIES ON A STRETCHER. How to use a stretcher to rescue people from buildings.

8-9. FIRE FIGHTING PART I AND FIRE FIGHTING PART II. How to put out small fires with a stirrup pump and back pack, also smoke and heat tests of rooms before removing casualties.

10. EMERGENCY FIRST AID. Methods for stopping severe bleeding and giving artificial respiration.

11. USING LADDERS IN RESCUE. Techniques of using ladders to rescue people.

An Instructor's Course in Emergency Mass Feeding was jointly developed and conducted by the Department of Defense and Federal Civil Defense Administration. Eleven courses were conducted at selected Army Food Schools, in cooperation with FCDA Regional Offices throughout the United States. Approximately 350 key personnel representing organizations concerned with mass feeding were trained. A training manual, *Emergency Mass Feeding (Instructor Course)* was also made available for adaptation to State and local needs.

Numerous technical training conferences and institutes were conducted by the Regional Offices in cooperation with State and local civil defense organizations. The subjects covered included Rescue, Warden, Facilities Self-Protection, Police, Engineering, Welfare, and Communications. Among the cities holding these training conferences were Seattle, Portland, San Francisco, Los Angeles, New Orleans, Boston, Chattanooga, and Dallas. More details of these conferences may be found in the technical sections of this report.

Financing the Program

During the fiscal year nearly \$445,000 of Federal funds were matched by an equal amount of money from 42 States and 3 Territories in purchasing training materials and equipment. The matching funds program contributed to the maintenance of previously established courses of civil defense instruction. The program provided some political subdivisions with the incentive to set up new training and education programs. Training and education funds under the Federal contributions program were expended as follows:

General Training and Education.—Thirty-six States and 3 Territories purchased \$180,000 worth of training materials and equipment. This included map boards, control boards, projectors, training manuals, exhibits, displays, instructional materials, maps, charts, and film projectors. Thirty-four States and three Territories purchased civil defense films and filmstrips amounting to \$49,000. During the year there was increased activity in conducting special training exercises. As civil defense workers became better trained in individual skills, some training programs advanced to the point where combined training could take place with individuals and groups working in operational situations. A sum of \$29,000 for conducting training exercises was approved.

Health and Special Weapons Defense Training.—Twenty-three States and three Territories purchased \$170,000 worth of medical training equipment and supplies. These requests covered such items as: dosimeters, survey meters, first-aid supplies, blood donor supplies, biological warfare detection and control supplies, and laboratory equipment.

Rescue Training.—Fourteen States purchased \$320,000 worth of rescue training equipment, including 30 rescue and fire training facilities. These facilities are located in the following States: California, 8; Connecticut, 1; Maryland, 4; Massachusetts, 1; Nebraska, 1; New Jersey, 3; Ohio, 3; Pennsylvania, 4; Rhode Island, 3; Texas, 1; Virginia, 1.

Other Civil Defense Training.—The States and their political subdivisions also purchased \$165,000 worth of auxiliary police training equipment, warden service kits, and welfare training equipment.

To insure the most effective use of available funds, Regional Administrators reviewed and approved requests in accordance with the criteria specified in the Federal Contributions Manual, taking into account such factors as the number to be trained, equipment and facilities locally available, and the type of training needed in the State and locality.

Agency and Organization Cooperation

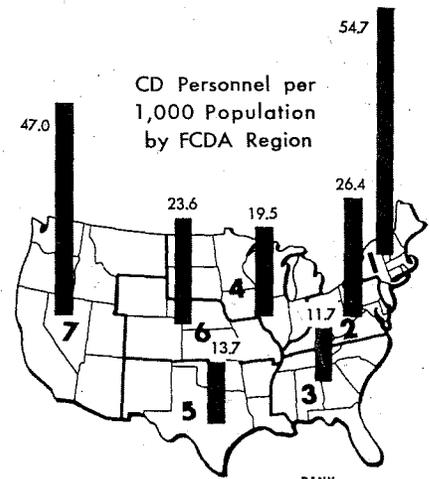
During the year the FCDA cooperated with the following national educational organizations: The American Council on Education, Adult Education Association of the U. S. A., American Vocational Association, National Education Association, and U. S. Office of Education.

Staff members on request participated in State and regional civil defense training meetings, and on invitation acted as consultants at other meetings, conferences, and workshops. Assistance was also given in developing a joint plan of civil defense training for the United States and Canada.

In January, a 2-day conference was held with FCDA's Training and Education Advisory Committee, composed of national leaders representing public and private educational groups. The recommendations of this committee aid FCDA in formulating basic principles and procedures for developing civil defense training and education.

Civil Defense Personnel Enrolled and Currently Assigned to CD Duties

RANK OF STATES ACCORDING TO CD PERSONNEL per 1,000 POPULATION



RANK	STATE	PERSONNEL ENROLLED & ASSIGNED DUTIES
1	DIST. OF COLUMBIA	55,088
2	NEW YORK	944,450
3	CALIFORNIA	637,502
4	CONNECTICUT	102,994
5	NEW JERSEY	231,875
6	VERMONT	17,713
7	MASSACHUSETTS	216,300
8	NORTH DAKOTA	23,292
9	NEW HAMPSHIRE	19,743

10	RHODE ISLAND	29,244	35.6	10
11	MINNESOTA	106,073	35.5	11
12	MONTANA	19,974	33.7	12
13	WASHINGTON	79,018	33.2	13
14	NEVADA	5,308	33.1	14
15	PENNSYLVANIA	324,000	30.8	15
16	NEBRASKA	40,666	30.6	16
17	MARYLAND	71,510	30.5	17

UNITED STATES

4,561,195

29.6

GUAM	3,764	63.3
HAWAII	26,444	52.9
PUERTO RICO	91,198	41.2
ALASKA	5,063	39.3
VIRGIN ISLANDS	332	12.4
AMERICAN SAMOA	No report	
CANAL ZONE	No report	

18	ARIZONA	21,891	29.2	18
19	DELAWARE	8,679	27.2	19
20	FLORIDA	72,965	26.3	20
21	SOUTH DAKOTA	16,854	25.8	21
22	MAINE	23,308	25.5	22
23	IDAHO	14,979	25.44	23
24	COLORADO	33,705	25.43	24
25	OHIO	198,800	25.01	25
26	LOUISIANA	66,634	24.83	26
27	MISSOURI	98,170	24.82	27
28	MICHIGAN	151,953	23.8	28
29	VIRGINIA	76,166	22.9	29
30	WYOMING	6,494	22.3	30
31	WISCONSIN	73,987	21.5	31
32	ILLINOIS	168,143	19.3	32
33	OREGON	28,141	18.4	33
34	TENNESSEE	54,374	16.5	34
35	KANSAS	29,019	15.2	35
36	GEORGIA	49,421	14.7	36
37	TEXAS	112,058	14.5	37
38	WEST VIRGINIA	28,680	14.3	38
39	NEW MEXICO	9,638	14.1	39
40	KENTUCKY	35,969	12.2	40
41	NORTH CAROLINA	40,043	9.8	41
42	OKLAHOMA	20,197	9.0	42
43	ALABAMA	27,136	8.8	43
44	UTAH	5,347	7.7	44
45	INDIANA	24,416	6.2	45
46	IOWA	9,713	3.7	46
47	MISSISSIPPI	1,527	0.7	47
48	SOUTH CAROLINA	1,211	0.5	48
49	ARKANSAS	26	0.01	49

CIVIL DEFENSE MANPOWER REQUIREMENTS

Civil defense manpower and personnel activities in 1953 were concerned with determining civil defense manpower requirements in relation to national manpower supply, the development of a manpower policy for FCDA planning, and continuation of Federal guidance and assistance to State and local civil defense organizations in their volunteer recruitment problems.

Sources of civil defense manpower are:

- (a) Full-time employees of civil defense organizations.
- (b) Full-time employees of other governmental agencies, Federal, State and local, in activities related to and essential to civil defense, such as city engineers, firemen, and policemen.
- (c) Employees of private industry and organizations providing basic public services, such as transportation, communications, engineering, health, and welfare.
- (d) Volunteers for staffing new civil defense services for which there are no peacetime counterparts, such as warden and rescue, and to fill out those built around existing community services.

Federal Manpower Planning Activities

Three developments showed an awareness among Federal manpower agencies of the special problems which a civil defense emergency would impose: (a) FCDA was invited to full membership on the Federal Interdepartmental Manpower Policy Committee of the Office of Defense Mobilization; (b) the Labor Department continued negotiations pertaining to its civil defense planning and emergency activity; and (c) a comprehensive study was completed by the Federal Personnel Council on Federal personnel problems relating to civil defense.

The Federal Interdepartmental Manpower Policy Committee continued developing a manpower program for full mobilization to implement the National Manpower Mobilization Policy. The present National Manpower Mobilization Policy, approved by the President on January 17, 1951, states "The manpower necessary to defense production, to *civil defense*, to Agriculture, and to production of essential civilian goods and services * * * must be considered as integral parts of a balanced mobilization program." This policy contains principles which will guide all Government agencies with manpower programs

under their control. Its aim is to assure maximum utilization of individual skills.

FCDA works with the Federal Interdepartmental Manpower Policy Committee to assure that recommendations to the ODM and to the President are in accord with civil defense concepts and FCDA planning, and that civil defense is included in any manpower program for full mobilization.

On June 25, 1953, the Federal Personnel Council approved a staff study on "Federal Personnel Problems Relating to Civil Defense." This report included some 20 recommendations covering both pre-emergency planning and emergency activity and touched on such fundamental problems as: (a) policy on Federal employees engaged in State and local civil defense activities; (b) excused absence for civil defense training; (c) protection of vital personnel, pay, and retirement records; (d) insurance covering Federal, State, and local civil defense volunteers; and (e) procedures governing the mobilization of Federal manpower resources in an emergency.

This report was transmitted to the President by the Civil Service Commission, and specific recommendations are being considered for appropriate action. In this connection, FCDA has submitted to the Bureau of the Budget a recommended Executive Order which provides for excused absence in certain instances for Federal employees to train for and participate in planned State and local civil defense work. This is being circulated to other Federal agencies for comment.

Negotiations were continued during the year with the Labor Department on the role it will play in civil defense planning and emergency activity. Emphasis is placed on the types of assistance that can be given to State and local personnel and manpower problems by the Public Employment Offices which are under jurisdiction of the Labor Department's Bureau of Employment Security. It is hoped the Public Employment Offices can assist local civil defense organizations in determining the available manpower and establishing an efficient record keeping and reporting system. Progress is also being made toward employing Regional Defense Mobilization Committees, cochaired by Labor and Commerce Department regional representatives, to plan the utilization of Federal manpower resources at regional, State, and local levels.

Following recommendations of the Association of State Directors of Civil Defense, FCDA proposed legislation by which the Federal Government would match funds with the States to provide death or injury compensation to civil defense volunteers. The proposed legislation was approved by the Bureau of the Budget but has not had Congressional action.

Civil Defense Personnel Enrolled and Currently Assigned to Civil Defense Duties . . .

REGION 1	STATE	PERSONS REQUIRED	ENROLLED & ASSIGNED	
			Number	Percent
	Total.....	3, 428, 121	1, 585, 627	46. 3
	Connecticut.....	200, 600	102, 994	51. 3
	Maine.....	33, 934	23, 308	68. 7
	Massachusetts.....	641, 930	216, 300	33. 7
	New Hampshire.....	19, 743	19, 743	-----
	New Jersey.....	231, 875	231, 875	-----
	New York.....	2, 209, 185	944, 450	42. 8
	Rhode Island.....	69, 334	29, 244	42. 2
	Vermont.....	21, 520	17, 713	82. 3

REGION 2	STATE	PERSONS REQUIRED	ENROLLED & ASSIGNED	
			Number	Percent
	Total.....	2, 179, 569	798, 892	36. 7
	Delaware.....	43, 722	8, 679	19. 9
	Dist. of Columbia.....	191, 358	55, 088	28. 8
	Kentucky.....	134, 540	35, 969	26. 7
	Maryland.....	274, 192	71, 510	26. 1
	Ohio.....	860, 800	198, 800	23. 1
	Pennsylvania.....	324, 000	324, 000	-----
	Virginia.....	177, 700	76, 166	42. 9
	West Virginia.....	173, 257	28, 680	16. 6

REGION 3	STATE	PERSONS REQUIRED	ENROLLED & ASSIGNED	
			Number	Percent
	Total.....	1, 705, 527	246, 677	14. 5
	Alabama.....	451, 753	27, 136	6. 0
	Florida.....	300, 417	72, 965	24. 3
	Georgia.....	414, 794	49, 421	11. 9
	Mississippi.....	56, 890	1, 527	2. 7
	North Carolina.....	203, 500	40, 043	19. 7
	South Carolina.....	3, 136	1, 211	38. 6
	Tennessee.....	275, 037	54, 374	19. 8

REGION 4	STATE	PERSONS REQUIRED	ENROLLED & ASSIGNED	
			Number	Percent
	Total.....	2, 939, 947	574, 431	19. 5
	Illinois.....	1, 345, 151	168, 143	12. 5
	Indiana.....	135, 416	24, 416	18. 0
	Iowa.....	47, 618	9, 713	20. 4
	Michigan.....	474, 174	151, 953	32. 0
	Minnesota.....	519, 980	106, 073	20. 4
	North Dakota.....	32, 465	23, 292	71. 7
	South Dakota.....	25, 860	16, 854	65. 2
	Wisconsin.....	359, 283	73, 987	20. 6

REGION 5	STATE	PERSONS REQUIRED	ENROLLED & ASSIGNED	
			Number	Percent
	Total.....	962, 656	208, 553	21. 7
	Arkansas.....	115, 500	26	0. 0
	Louisiana.....	195, 509	66, 634	34. 1
	New Mexico.....	21, 751	9, 638	44. 3
	Oklahoma.....	189, 896	20, 197	10. 6
	Texas.....	440, 000	112, 058	25. 5

REGION 6	STATE	PERSONS REQUIRED	ENROLLED & ASSIGNED	
			Number	Percent
	Total.....	760, 148	208, 054	27. 4
	Colorado.....	155, 818	33, 705	21. 6
	Kansas.....	177, 460	29, 019	16. 4
	Missouri.....	298, 790	98, 170	32. 9
	Nebraska.....	99, 196	40, 666	41. 0
	Wyoming.....	28, 884	6, 494	22. 5

REGION 7	STATE	PERSONS REQUIRED	ENROLLED & ASSIGNED	
			Number	Percent
	Total.....	1, 589, 709	812, 160	51. 1
	Arizona.....	70, 202	21, 891	31. 2
	California.....	1, 030, 113	637, 502	61. 9
	Idaho.....	52, 907	14, 979	28. 3
	Montana.....	43, 334	19, 974	46. 1
	Nevada.....	15, 139	5, 308	35. 1
	Oregon.....	111, 619	28, 141	25. 2
	Utah.....	39, 675	5, 347	13. 5
	Washington.....	226, 720	79, 018	34. 9

OTHER	STATE	PERSONS REQUIRED	ENROLLED & ASSIGNED	
			Number	Percent
	Total.....	298, 901	126, 801	42. 4
	Alaska.....	9, 972	5, 063	50. 8
	American Samoa.....	No report	-----	-----
	Canal Zone Govt.....	No report	-----	-----
	Guam.....	6, 598	3, 764	57. 0
	Hawaii.....	70, 485	26, 444	37. 5
	Puerto Rico.....	211, 200	91, 198	43. 2
	Virgin Islands.....	640	339	53. 0

Recruiting Volunteers

Guidance and assistance has been provided local organizations in conducting campaigns to obtain volunteers particularly for the purpose of establishing the basic framework for their Warden Services.

The enrollment of civil defense workers continued to increase during the year. As of June 30, 1953, the States reported approximately 4,561,000 persons enrolled and assigned to civil defense duties. This represents an increase of about 7 percent over December 31, 1952, and 48 percent over February 29, 1952, date of the initial report on civil defense personnel. The June 30 figure represents approximately 33 percent of total requirements, as presently estimated by the States, as compared to about 31 percent on December 31, 1952, and 24 percent on February 29, 1952.

Of the 40 States (including Territories and possessions) submitting enrollment data for both December 31, 1952, and June 30, 1953, 32 reported increases, 7 reported decreases, and 1 State reported no change. Louisiana reported the greatest increase—99.7 percent; Tennessee the largest decrease—47 percent.

Enrollments by States are shown on facing page.

CIVIL DEFENSE TECHNICAL INFORMATION AND GUIDANCE

In accordance with the provisions of Public Law 920, the agency in 1953 carried forward its program of providing technical guidance and information to the States and communities. This guidance and information is provided by the Civil Defense Operations Control Services, the Civil Defense Technical Advisory Services, and other component units of FCDA.

The continued development of new weapons calls for the continued development of new skills and techniques of defense and the greater part of the agency's technical information program has been the publication of material basic to the training of the protective services (police, fire, health, etc.) in these new skills and techniques. These publications serve, too, to keep civil defense directors and their staffs current with defense developments vital to civil defense planning in their States and communities.

Technical information has been processed and distributed in the form of administrative guides, manuals, handbooks, and technical bulletins. Administrative guides supply information for initial planning and procedure in organizing civil defense protective services. Manuals, handbooks, and technical bulletins supply these services with the detailed and specialized information needed to instruct and train civil defense workers in the skills and techniques required to put into operation the recommendations of the administrative guide.

Because of changes in methods of defense against special weapons and the results of progressive research in the field of civil defense, any program of technical information must be a changing one and revisions have been made in some of the earlier publications of the agency.

The agency has prepared technical reports of research projects shared with other Government agencies such as the Atomic Energy Commission, as well as such projects as "Operation Doorstep," the interim public report on the FCDA tests at the AEC Atomic Proving Ground at Yucca Flat, Nev., on March 17.

During 1953 the agency's technical guidance program included both material to aid in the organization and operation of local civil defense organizations and civil defense information for the citizen volunteer.

During 1953 nine technical manuals, eight technical bulletins, one instructors guide, and ten handbooks, public booklets, and leaflets were published.

Technical Manuals

Organization and Operation of Civil Defense Casualty Services, Part I—The First-Aid System, Pub. TM-11-1, 1953, 20 cents, 52 pp. Recommends general principles designed to assist key civil defense professional medical personnel in planning and operating a first-aid system.

Utilization and Control of Streets and Highways in Civil Defense Emergencies, Pub. TM-13-1, 1953, 15 cents, 24 pp. Describes the problems involved in keeping selected urban streets and rural highways free from serious congestion in civil defense emergencies and suggests methods of solving these problems.

The Dentist in Civil Defense, Pub. TM-11-9, 1953, 15 cents, 21 pp. Describes the role of dentists in the civil defense casualty services program, and recommends the training they will need to perform their duties.

Emergency Medical Treatment, Pub. TM-11-8, 1953, 25 cents, 70 pp. Summarizes treatment recommended for large numbers of casualties in disasters, such as atomic bombing, intense high-explosive or incendiary bombing, as well as munitions explosions in populated areas.

Home Shelters for Family Protection in an Atomic Attack, Pub. TM-5-5, 1953, 30 cents, 86 pp. Describes basement lean-to, basement corner-room, covered-trench, and basement-exit shelters; helps the householder select the type of shelter best suited to his needs; and gives step-by-step building instructions.

Civil Defense Urban Analysis, Pub. TM-8-1, 1953, 55 cents, 85 pp. Presents to city civil defense organizations methods for preparing a civil defense urban analysis.

Operation and Repair of Water Facilities in Civil Defense Emergencies, Pub. TM-13-2, 1953, 25 cents, 63 pp. Describes operations, functions, and requirements of water utilities during civil defense emergencies.

Rescue Techniques and Operations, Pub. TM-14-1, 1953, 35 cents, 127 pp. Explains rescue techniques and operations to members of civil defense rescue services; and describes the rescue squad's tools and equipment and gives instructions for their use.

Civil Defense Against Biological Warfare, Pub. TM-11-10, 1953, 20 cents, 42 pp. Appraises critically the hazards of biological warfare and describes the program for defense of man, animals, plants and crops. This weapon is described in its proper perspective, neither minimizing nor exaggerating the effectiveness of biological warfare or the value of available defensive measures.

Technical Bulletins

Responsibilities for Production and Distribution of Potable Water During Emergencies, Pub. TB-11-10, 1953, 5 cents, 2 pp. Recommends responsibilities for production of potable water during civil defense emergencies for casualties, homeless people, civil defense workers, and people in habitable dwellings and other buildings.

Use of the Tourniquet in Controlling Hemorrhage, Pub. TB-11-11, 1953, 5 cents, 1 p. Announces a change in the standard tourniquet practice by civil defense lay personnel and recommends a new procedure to follow.

Casualty Services in Facilities, Pub. TB-16-1, 1953, 5 cents, 3 pp. Describes the organization and functions of one of the facility self-protection units recommended in the civil defense organization: Casualty services in multistoried buildings.

Utilization of FCDA Stockpiled Portable Generator Sets, Pub. TB-13-2, 1953, 5 cents, 4 pp. Provides instructions for civil defense personnel assigned the task of operating FCDA stockpiled portable generator sets. Information is also given on selecting the proper size units and hooking them up for single-phase or 3-phase operation.

Utilization of FCDA Stockpiled Lightweight Steel Pipe and Centrifugal Pumps, Pub. TB-13-5, 1953, 5 cents, 8 pp. Describes manpower, equipment, and step-by-step procedures required for transporting and assembling the pumps, lightweight pipe and accessories needed to bring water from a river, lake, reservoir, or other source for emergency firefighting operations or other essential community needs.

Preliminary Report of Tests of Thermal Type Atomic Bomb Air Zero Locators, Pub. TB-13-3, 1953, 3 pp. Briefly describes the four types of thermal air zero locators tested at the Nevada Proving Ground of the Atomic Energy Commission. The bulletin also discusses preliminary observations resulting from the tests. (For Official Use Only.)

Report of Tests of Identification Tags Exposed to Blast and Thermal Radiation of an Atomic Bomb, Pub. TB-13-4, 1953, 1 p. Describes the various types of stainless steel identification tags tested to determine their ability to withstand the blast and thermal radiation of an atomic explosion at the Nevada Proving Ground of the Atomic Energy Commission. (For Official Use Only.)

Radio Frequency Allocation Plan for Disaster Communications Service and Radio Amateur Civil Emergency Service, Pub. TB-4-2, 1953, 5 cents, 4 pp. Describes a plan for establishment of State and local radio-communications which should be relatively free from harmful interstate interference; to provide coordinated use of certain frequencies in mobile support and mutual aid; to permit intrastate

and interstate use of the available frequencies in such a manner that harmful interference to the operation of both portable and mobile transmitter-receivers is reduced.

Instructors Guide

Emergency Mass Feeding, 1953, 45 cents, 93 pp. Presents lesson plans, diagrams, and illustrations on many aspects of emergency mass feeding. Improvisation is emphasized in this guide. Construction from materials at hand of ovens, grills, cooking, and eating utensils are outlined in this instructor course guide.

TACTICAL OPERATIONS

Civil Defense Tactical Operations are concerned with the coordinated employment and deployment of civil defense forces to cope with disaster, especially that caused by enemy action. The Federal Civil Defense Administration developed specific guidance programs in 1953 on such preparations for tactical operations as:

- (a) Civil defense urban analysis.
- (b) Organization of the ground: Methods and principles of assignment and carrying out of responsibility for disaster operations in zones, sectors, or other geographic subdivisions of a city or metropolitan area.
- (c) Organization, mobilization, and direction of mutual aid and mobile support.
- (d) Control center staff organization, functions, and operations.
- (e) Local civil defense patterns of organization and administration, including recommended systems for registration and assignment of volunteers.
- (f) Operational coordination of logistic and technical services at the local level in an emergency.

In addition, the Federal Civil Defense Administration has been developing practical guidance on evacuation and dispersal plans and on procedures for more rapid methods of computing damage and casualties so as to furnish as promptly as possible a basis for mobilization and assignment of interregional and Federal personnel, materials, and equipment.

The development of a sound operational civil defense organization in any city is closely dependent upon the completion of a civil defense urban analysis. The cost of the analyses to cities making them in 1953 has been quite small—averaging only several thousand dollars for all except the largest cities. In some cases, the analysis has paid for itself by uncovering civil defense assets which the city had not realized it possessed.

In addition to preparing the material for the publication *Civil Defense Urban Analysis*, TM-8-1, FCDA staff members gave requested assistance to civil defense directors in the following critical target cities in the techniques of preparing an urban analysis:

Seattle, Wash.	Cleveland, Ohio
Dallas, Tex.	Columbus, Ohio
Fort Worth, Tex.	Toledo, Ohio
New Orleans, La.	Youngstown, Ohio
Cincinnati, Ohio	

Cities which have completed the urban analysis are:

New Orleans, La.	Dayton, Ohio
Boston, Mass.	Baltimore, Md.
Milwaukee, Wis.	San Francisco, Calif.
Washington, D. C.	

The following critical target cities have reported to FCDA that they are in the process of preparing an urban analysis:

Jersey City, N. J.	Cleveland, Ohio
Norfolk-Portsmouth-Newport News, Va.	Toledo, Ohio
Wichita, Kans.	Fort Worth, Tex.
Denver, Colo.	Dallas, Tex.
Houston, Tex.	Kansas City, Kans.
St. Louis, Mo.	Atlanta, Ga.
Kansas City, Mo.	Portland, Oreg.
Worcester, Mass.	Seattle, Wash.
Fall River, Mass.	Philadelphia, Pa.
Springfield, Mass.	Los Angeles, Calif.

Day and night population dot maps were prepared for the 92 critical target cities and probable casualties estimated for various bomb sizes. Each critical target city civil defense director and his State civil defense director now possess a set of these maps.

The State civil defense director of North Carolina was given assistance in establishing a control center in the outskirts of Raleigh.

Under auspices of the State of Maryland a pilot project was initiated for organizing farm civil defense. The purpose of this project is to isolate problems and observe solutions arrived at locally, as a basis for general planning. The project is located at New Market, Md., and visits were made for consultation and observation.

A project for a county analysis to develop techniques for rural and nonurban civil defense was initiated in Frederick County, Md., with the U. S. Department of Agriculture. In addition, local authorities at Easton, Maryland, agreed to undertake a preliminary study for the organization of civil defense in Talbot County, Md., as a basis for further study of the nonurban civil defense problem.

Boundaries of vulnerable urban districts, based on population density, were established for 31 cities during the year. These boundaries

are used to determine site locations and protective construction requirements for projects requesting Federal loan assistance under section 409 of Public Law 920, The Federal Civil Defense Act of 1950. Approximately 20 requests have been processed to date.

WARNING AND COMMUNICATIONS

Attack Warning Program

To furnish civil defense officials and the civilian population of the country with advance warning of an enemy attack, FCDA has established and regularly tests a highly efficient nationwide attack warning system.

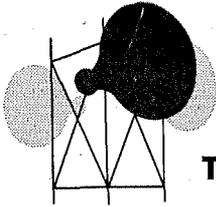
The present system is composed of the communications systems used for the dissemination of warnings from the various Air Defense Control Centers, USAF to all points throughout the country, and the devices for sounding public warnings at local levels. The nationwide attack warning system can be divided into three portions—Federal, State, and local.

FEDERAL WARNING PORTION

The Civil Air Defense Warning (CADW) networks constitute that portion of the Nationwide attack warning system which originates at the Air Defense Control Centers, USAF and terminates at 195 Key Point Civil Air Defense Warning Centers throughout the country. These networks have special private telephone lines which are constantly manned. The CADW system, including the special equipment in the Air Defense Control Centers and the Key Point Centers, is maintained by FCDA funds as the basic warning system for the United States.

Since July 1, 1952, when FCDA assumed operational responsibility from the Air Defense Command, USAF for the CADW networks, FCDA Attack Warning officers have been stationed at the 11 USAF Air Division headquarters and FCDA liaison officers have been assigned to the Air Defense Command and its three Air Defense Forces.

Inasmuch as most of the tactical information and intelligence on which attack warnings are based is available at each Air Defense Control Center, FCDA Attack Warning officers would be able to furnish intelligence to supplement the warnings to the Key Point Centers. With such intelligence civil defense officials could modify civil defense operational plans to fit the situation.



1953 GAINS IN TARGET AREA WARNING SYSTEMS

[Percentage of completion of warning installations]

	Percent through 1952	Percent including 1953	1953 program
Alabama.....	16	41	\$55, 464
Arizona.....	21	53	22, 324
California.....	45	63	331, 426
Colorado.....	38	45	10, 388
Connecticut.....	75	83	24, 872
Delaware.....	¹ 60	¹ 86	16, 562
District of Columbia.....	27	98	120, 000
Florida.....	40	52	32, 322
Georgia.....	21	49	71, 830
Illinois.....	26	27	5, 966
Indiana.....	12	27	53, 788
Iowa.....	6	6	0
Kansas.....	54	61	8, 840
Louisiana.....	31	42	22, 364
Maine.....	72	72	0
Maryland.....	¹ 78	¹ 86	36, 070
Massachusetts.....	62	67	38, 762
Michigan.....	31	33	17, 010
Minnesota.....	12	47	96, 966
Mississippi.....	4	72	20, 500
Missouri.....	44	48	15, 928
Nebraska.....	¹ 53	¹ 87	34, 800
New Hampshire.....	20	20	0
New Jersey.....	31	37	56, 742
New York.....	63	72	244, 998
North Carolina.....	14	15	634
Ohio.....	77	84	75, 232
Oklahoma.....	0	3	3, 170
Oregon.....	¹ 64	¹ 73	16, 282
Pennsylvania.....	28	42	250, 178
Rhode Island.....	80	85	6, 620
South Carolina.....	22	22	0
Tennessee.....	19	51	91, 604
Texas.....	9	15	45, 150
Utah.....	0	5	3, 588
Virginia.....	34	67	95, 424
Washington.....	¹ 79	¹ 83	15, 344
West Virginia.....	30	30	0
Wisconsin.....	32	36	12, 164
Wyoming.....	0	¹ 83	16, 200
Alaska.....	100	100	0
Guam.....	100	100	0
Puerto Rico.....	-----	6	8, 338
Total and Averages.....	42. 3	53. 2	1, 977, 850

¹ In these States the figures do not coincide with the 1952 report. Adjustments have been made to reflect more realistic balance between equipment installations within the target cities and outlying target areas.

Since assuming responsibility for the supervision and operation of the CADW networks from the USAF, changes and additions have been effected based on time studies and efficiency reports. The Key Point Centers can receive and acknowledge test warnings from their Air Defense Control Centers in less than two minutes. Warning can reach all key points in the country within 15 minutes.

In view of the latent possibilities of the CADW networks, a study is being conducted to determine the feasibility of utilizing them to transmit warnings of impending natural disasters or to request assistance for downed military or civilian aircraft.

STATE WARNING PORTIONS

The portion of the Nationwide Attack Warning system from the Key Point Centers on down to the many local communities is primarily a responsibility of the States.

During the past year, FCDA Attack Warning officers—in cooperation with the FCDA Regional Offices—have been working with States in perfecting State warning plans. Studies have been made of available communications means that can be utilized to provide an integrated system for the dissemination of warnings from the Key Point Centers to all local levels. Major cities are given priority so that they may receive speedy, positive warnings of impending attack.

LOCAL WARNING PORTIONS

The systems used at the local level to give warnings to the general public are a responsibility of the local municipalities. These constitute the last and most important portion of the Nationwide Attack Warning system, as they are the means by which the general public is told to take specific actions.

During the past year progress has been maintained in the establishment of adequate outdoor warning device systems. By the end of fiscal 1954 the warning systems in communities and cities in target areas will provide approximately 53 percent of the protection required across the Nation. This estimate includes only those devices and control circuits which will have been installed and ready for operational use. The table on facing page reflects the coverage by States.

As part of an intensive program to determine adequacy of warning systems in target areas, 232 out of 253 principal cities have been analyzed and studied. The study made use of population density studies to insure that the systems provided coverage where most needed, and

of the latest engineering principles applicable to outdoor warning systems. Data on which city warning layouts were based were developed by FCDA in close collaboration with research laboratories and industry.

Specifications for warning devices were revised and reissued. Manufacturers of devices meeting the revised specifications were invited to so certify, and a list of the certified equipment, by type and size, has been published for the guidance of prospective purchasers. Equipment on the list is eligible for purchase under the contributions program.

The warning chapter of the FCDA Contributions Manual (M25-1) was amended to reflect changes in criteria and improved techniques in developing warning device requirements. As an example, a simplified table has been worked out to show directly the coverages of devices of various signal strengths under different standardized conditions.

To ascertain that devices to be installed are correctly rated, and will provide guaranteed basic outputs, negotiations have been completed to have all warning devices tested under controlled laboratory conditions. Test procedures have been developed so that each device will receive adequate mechanical, electrical, and acoustical examination. These tests will show whether or not equipment has good construction and will insure a product which will develop certified sound outputs. Data obtained from the tests will be the basis for preparing a revised list of acceptable devices to supersede the present interim list of certified equipment.

A siren manufacturers' conference was held for the purpose of resolving problems affecting siren installation.

Among the resulting recommendations were:

1. That a more distinctive siren tone was highly desirable and that two-tone design should be specified for certain devices.
2. The optimum range of frequencies for warning devices should be 200-650 cycles per second.
3. That warning device system layout factors should be standardized. This was accomplished by the issuance of Annex 5-E of the FCDA Contributions Manual (M25-1) (Revised).

Investigation into new types of warning devices is continuing. One of the more promising items under study is a device that might be used for alerting individual homes.

Communications Program

Progress was made in 1953 in establishing an emergency civil defense communications program in target and support areas. This program is designed to assure the continuity of civil defense communi-

cations to target areas, support areas, and State control headquarters. It provides means for two-way communications between control centers and civil defense teams, such as wardens, fire fighters, rescue, and engineering groups. The program is financed in part by Federal contributions and will provide equipment to convert existing normal communications to emergency systems following the procedures established by civil defense plans.

At the end of 1953 approximately 40% of the Nation's target area communications facilities had been installed. When equipment purchased under the FY 1952-1953 contributions program is in operation, about 60% of the estimated requirements for State and local communications facilities will be met.

Response from the States to the fiscal 1954 contributions program indicates that approximately \$1,800,000 of Federal funds will be requested for the expansion of communications systems. Recognition has been given to the need for financial assistance under this program for the construction of control centers, the proper utilization of wire communications systems having recurring costs, and for a general broadening of the program area.

Plans have been developed to establish greater emphasis on principal cities within the presently defined target areas, to insure maximum protection with the money expended. Present planning assumes an ever-increasing enemy capability; during the past year equipment and system planning was sufficiently flexible to allow adaptability to future expanded requirements. An example of this flexibility is a greater emphasis on the use of mobile communications control centers.

Specifications covering fixed, mobile, portable, and "walkie-talkie" type radio communications equipment were revised and expanded. A list, by type and manufacturer, of radio communications equipment complying with the FCDA specifications has been published. Only radio equipment on the list will be eligible for purchase under the contributions programs. The list will assure civil defense organizations that the equipment purchased complies with specifications and meets the standards of good engineering techniques and practices.

The Contributions Manual chapter covering communications equipment was revised to include changes in criteria and improved communications techniques for assuring the purchase of equipment which can effectively supply the needs of an expanding civil defense program.

To establish coordinated use of the radio frequencies available for civil defense, a publication, *Radio Frequency Allocation Plan for Disaster Communications Service and Radio Amateur Civil Emergency Service* was developed and issued. The plan provides for maximum use of radio with a minimum of communications interfer-

ence between the States. This plan has been adopted by the majority of State and local civil defense authorities.

Experience by the States in civil defense exercises involving radio communications has shown the need for more radio channels than are presently available to civil defense for intrastate and interstate operations. FCDA has advised the appropriate Government agencies of these requirements and is continuing to work toward relief of the situation.

The program of utilizing radio amateurs in civil defense under the Radio Amateur Civil Emergency Service (RACES) is progressing satisfactorily with increasing interest in organizing units. Over 120 local plans have been processed to date.

Through the cooperation of the radio broadcasting industry, the plan for Control of Electro-Magnetic Radiation (CONELRAD) for AM radio operation during enemy attacks has been extended to approximately 1,300 broadcasting stations and tests have proved the system to be effective.

FCDA National Headquarters can be connected to its seven regional offices and the 48 State civil defense headquarters through TWX (teletypewriter) circuits which under emergency conditions are connected as full-time circuits in various combinations. Communications are provided for the operation of FCDA National Headquarters at alternate emergency locations.

Arrangements have been made with the Department of Defense and other Government agencies for the handling of civil defense messages between the continental United States and the Territories. FCDA also utilizes the services of the Military Affiliated Radio Service (MARS) and the mobile support units of the Civil Air Patrol to assist in handling civil defense communications.

TRANSPORTATION

Never before in the history of our Nation has it been so necessary for the transportation industry to organize its forces with the various Government regulatory agencies in preparation for a national emergency. The Nation's transportation facilities have grown to almost inconceivable size. They employ more than 12,000,000 persons and their facilities have a replacement value of over 190 billion dollars.

Industrywide emergency planning is nearing completion under leadership of the Office of Defense Mobilization. The participating agencies include Defense Transport Administration, Defense Air Transportation Administration, National Shipping Authority, Department of Defense, National Production Authority, and FCDA. Their efforts will provide a national policy to govern the emergency organization and mobilization of transportation for the guidance of regions, States, and municipalities.

In 1953, the Federal mobilization structure was reorganized and a new ODM Transportation and Storage Committee was created. The Director of ODM instructed the new committee to proceed with the recommendations outlined in a previous subcommittee report on transportation problems arising from a potential enemy attack.

As a member of the Committee and the planning group for emergency transportation, FCDA has been assigned responsibility for recruitment of industry representatives at Regional, State, and local levels. These representatives will work with field representatives of Federal agencies to develop the organizational structure and operational procedures necessary for maximum use of transportation facilities under attack conditions for civil defense, military, and other essential requirements.

In each regional office FCDA has established an advisory committee and an emergency operating group from representatives of other Federal agencies and organized industry groups.

State and local plans for use of transportation in civil defense emergencies are being reviewed and revised by FCDA for necessary correlation with national emergency transportation plans. FCDA also provides aid and guidance to States and communities in preparing or expanding such plans.

FCDA is participating with the ODM committee in reviewing emergency plans of the Federal Government for the wartime regulation of transportation, to keep pace with changing conditions.

Aviation

FCDA is cooperating with the Defense Air Transportation Administration in preparing plans for the nationwide mobilization and emergency operation of all types of civil aircraft. There are more than 96,000 of these, with a replacement value of \$91¼ billion. Such mobilization will be based on concentrated airlift operations, utilizing privately owned transport-type aircraft. Plans for emergency use of 60,000 small aircraft have been developed with the aid of 13 national associations of private fliers.

Through other Federal agencies and under the direction of ODM, plans are being developed for the use of Government-owned aircraft and aviation facilities for civil defense purposes.

The problems of aviation in civil defense were presented by FCDA to the President's Air Coordinating Committee. FCDA also serves as a member of the Advisory Committee to the Joint USAF- (United States Air Force) CAA (Civil Aeronautics Administration) Planning Board.

Highway

Nearly 10 million commercial vehicles, at a replacement value of over \$100 billion, constitute the Nation's highway transport facilities.

Through the working group of the ODM committee, FCDA and Department of Defense representatives are encouraging the establishment of a national defense highway road net, coordinating both military and civil defense needs. Under ODM direction, the Federal Bureau of Public Roads is assuming leadership in this field. Several State and regional nets have already been established.

The American Trucking Association has established a plan for creating a nationwide operational structure to perform truck transportation services, through the State and local organizations of its members, for the military. Through joint efforts of FCDA, DOD, and the Association, this plan will be expanded to meet both military and civil defense needs under emergency conditions.

Industry groups are working on similar plans for expansion of intercity bus and city transit systems on a full war transport organization basis.

Water

The Nation's water transport consists of over 60,000 commercial craft plus 400,000 private craft of under 5 tons displacement.

An agreement was made in 1953 between the U. S. Coast Guard and FCDA concerning the emergency use of all small boats of the Nation. A pilot model organization has been established in the Hampton Roads, Va., area for guidance in establishing similar organizations in all port areas where emergency mobilization of small craft may be necessary.

Pilot model plans for the use of all elements in major harbor areas have been initiated in selected ports, and will be used as guidance for plans of operation in all port areas.

Rail

The Association of American Railroads and other industry groups are continuing their cooperation with FCDA to develop a national transportation mobilization plan, for the Nation's 1,800,000 freight and passenger cars and other rolling stock. These facilities have a replacement value of 60 billion dollars. The Association is also assisting in: (1) Selecting top ranking railroad operation personnel to study planning requirements of a transportation gateway, and (2) drafting a simplified emergency operational procedure for use by the Federal Government in time of attack. Several railroads have adopted civil defense programs for their respective roads and have provided executives to serve on local civil defense advisory groups for transportation.

Test Exercises

Representatives of the transportation industry participated in local, State, regional, and national command post exercises during 1953. These exercises contribute to the improvement of such exercises

SUPPLY

To alleviate suffering and provide needed assistance to communities during a limited postattack period, reserve supplies of certain vital items must be established. No target community could hope to have or store all the materials it would need to meet every contingency following an attack. Therefore, under section 3 (b), Public Law 920, "the procurement and stockpiling of necessary materials and supplies," FCDA is assisting critical target areas to meet their needs for emergency supplies and equipment after an attack. In an emergency, when essential supplies and equipment become depleted locally, they will be supplemented from Federal reserve stocks stored in Federal warehouses within a few hours' shipping distance from target areas.

Based on consultation with the States, other Government agencies, and industry, FCDA determines the specifications for supplies and equipment, purchased partially or completely with Federal funds. FCDA also makes necessary arrangements for the procurement, storage, and distribution of these items of supplies and equipment for civil defense purposes. For the procurement of medical supplies and equipment, arrangements have been made by FCDA with the Armed Services Medical Procurement Agency of the Department of Defense. For the procurement of engineering, training and education, rescue, and other categories of supplies and equipment, arrangements have been made by FCDA with the Federal Supply Service of the General Services Administration.

Other Government agencies such as the Department of Agriculture, Veterans' Administration, and the Public Health Service, are providing FCDA with technical assistance in specific procurement fields and are helping with the development of supplementary emergency supply sources. The Public Buildings Service of the General Services Administration has accepted the responsibility for acquisition of Federal warehouses, and the operation of these warehouses is carried on by the Federal Supply Service.

As of December 1, 1953, additional procurement orders for emergency medical supplies and equipment worth \$19,000,000 have been placed with purchasing agencies. These procurement orders added to the previous procurement programs bring the total medical supplies and equipment for stockpiling to approximately \$100,000,000 worth, of which approximately four-fifths have been delivered to Federal warehouses and other storage areas. These stockpile items will provide basic medical supplies and equipment for the care of 2,000,000 casualties for a period of 3 weeks.

In addition to the medical stockpile items, FCDA has arranged for the storage and care on a nonreimbursable basis at 40 locations within

the States, for the stockpiling of certain engineering equipment. This equipment includes portable generators, water purification units, water pipe and emergency couplings, vinyl film for window closures, and other miscellaneous engineering items with a total value at the start of the current fiscal year of approximately \$6,000,000.

Three FCDA warehouses and five storage areas providing approximately 600,000 square feet of space were activated during 1953, making a total of nine FCDA warehouses and five storage locations in operation and providing close to 930,000 square feet of storage space. The warehouses and storage areas are located as follows:

<i>Location</i>	<i>Space, square feet</i>
Bremen, Ind.....	74, 400
Carrollton, Ga.....	44, 000
Ellenville, N. Y.....	33, 000
Gilbertville, Mass.....	99, 000
Lake Charles, La.....	46, 000
Marshall, Mich.....	85, 000
New Castle, Pa.....	127, 000
San Jose, Calif.....	48, 000
Zanesville, Ohio.....	106, 000
Somerville, N. J.....	160, 000
Mechanicsburg, Pa.....	51, 000
Clearfield, Utah.....	25, 000
Spokane, Wash.....	25, 000
Honolulu, T. H.....	4, 000

The last five of these are provided to FCDA rent-free.

An additional 245,000 square feet of space will be required for the storage of items planned for purchase under the fiscal year 1954 appropriations. In addition to the warehouse space and the 40 engineering equipment locations shown, FCDA has acquired on a nonreimbursable basis in the States, 41 locations for commercial cold storage warehousing of blood derivatives.

As an aid to the Federal stockpiles, FCDA has assisted the States in the procurement of medical supplies and equipment worth approximately \$17,000,000 which they are stockpiling for civil defense use. FCDA has also assisted the States in the procurement of other items worth approximately \$6,000,000 such as fire-fighting, rescue, and training equipment and other miscellaneous supplies for civil defense purposes.

Plans are under way in some States for obtaining Federal surplus property for civil defense use. Such property will make it possible for them to supplement limited budgets and obtain items not available under the contributions program. These items include personal equipment for workers such as protective clothing, flashlights, picks, hose, and shovels. Reception areas may be able to obtain such things as kitchen equipment and tents through surplus Federal property.

An extensive program for packaging medical supplies and equipment in units for automatic issue to first-aid stations and hospitals has been developed. Approximately 3,000 of these units have already been established with a goal of approximately 50 percent of the stocks to be so packaged. The units will be established in each warehouse location in sufficient quantities to permit immediate issue of a unit to each first-aid station and hospital in operation at the time of the emergency. Stock not packaged in units will be available to the States as needed.

The purchase and assembly of additional units of 200-bed improvised hospitals is also included in present supply planning. These will be made available to target areas under the same concept of automatic issue.

The development of a nationwide plan for integrating Federal, State, and local civil defense supply operations at the time of an emergency has been set up. The majority of the States have adopted FCDA principles and criteria in organizing their supply activities. Technical experts representing the various industries, suppliers, and Government agencies have been consulted at the Federal, State, and local levels to obtain assistance in solving the problems of supply, and the development of potential resources. Through such consultation, the readiness of the Nation to meet any emergency may be determined and the degree and depth of required support established at all levels of civil defense.

EMERGENCY OPERATIONS

In a civil defense emergency, the Administrator of FCDA is responsible for providing overall direction, coordination, and guidance for civil defense activities, insuring maximum use of civil defense forces, FCDA stockpiles, resources of other Federal agencies, and all nonmilitary resources of the Nation needed for civil defense. These responsibilities are carried out through the operations of the National Emergency Operations Centers, Regional Emergency Operations Centers, other Federal Agencies, and State and local governments.

Operations in a civil defense wartime emergency are based on analysis of the damage reported, requests received for assistance and provisions of support based on availability of resources.

Logistics support and coordination of interstate and interregional movements of supplies and personnel in a civil defense emergency will be accomplished through the seven FCDA Regional Centers and FCDA National Headquarters Emergency Operations Centers. Emergency communications have been established for the prompt relay of operational information and intelligence to FCDA Central Headquarters in the event of an attack and for the coordination required with other Federal agencies at the national level.

Encouraging operational readiness has been achieved through training of the National Headquarters staff in the Emergency Operations Centers and by utilization of field employees of other Federal agencies as staff members of FCDA Regional Emergency Operations Centers.

Natural disaster operations have helped considerably in civil defense coordination with other Federal agencies. Work is continuing with other Federal agencies in the development of procedures and agreements to insure coordination in the supply of civil defense emergency aid.

An emergency operations manual covering general principles of operations, organization, and procedures for National Headquarters has been prepared and Regional manuals have been prepared by each FCDA Region.

Civil defense exercises are held periodically at all levels of civil defense each year. These exercises provide a means of training personnel, testing procedures, and remedying deficiencies to improve operations.

Each FCDA Regional Office holds at least one exercise per year with the States in its jurisdiction. The National Headquarters participates in these exercises at the National Emergency Operations Center.

The FCDA National Headquarters has held four exercises, the most recent of which was on August 22, 1953. It ran for approximately 12 hours. As a result of this exercise, changes were made in (1) the FCDA emergency organization, (2) communications procedures, (3) methods of evaluating information and coordinating the supply of aid, (4) standard operating procedures, and (5) operating data on file in the National FCDA Emergency Operating Centers. Preparations are now under way for the development of Exercise No. 5 which will involve all levels of civil defense operations.

Approximately 250 of the present National Headquarters personnel have received training in the operation of National Emergency Operating Centers.

The emergency operations responsibilities of FCDA require the manning of radio, telephone, and teletype, and facsimile communications equipment. Since this Administration does not have a large communications staff, the majority of operating positions for this equipment are filled by secretaries and stenographers. Training of these is a continuing project. Approximately 140 persons have received telephone, teletype, and facsimile training, of which 25 have received full training.

A self-protection plan has been developed for FCDA National Headquarters, and a manual containing procedures outlining the methods of protecting personnel and property has been prepared. Operations procedures have been tested, a control room established, shelter areas

designated, and personnel trained in the building self-protection organization. Communication channels have been established. Limited first-aid supplies are available. Additional first-aid supplies and rescue equipment are necessary.

WARDEN SERVICE

The work of organizing and staffing the Warden Service has continued during 1953. Warden personnel requirements submitted by the States during this period total 2,893,279. Approximately 683,328 wardens have been obtained against the estimated requirements, or about 23 percent of the total goal.

Training of warden volunteers has made definite progress in most States having large requirements. It has usually consisted of training in basic civil defense, either before or after enrollment in the Warden Service, followed by specific warden training.

A plan has been developed, and is being recommended to the States, for obtaining civil defense participation by neighborhood residents and for the establishment of a neighborhood organization to serve as a channel for civil defense information. The means of approach will be that of person-to-person on a door-to-door basis, supported by mass media and existing organizations. The four chief elements of the operation of the phased program, which began in the fall of 1953, are organization, recruiting, training and utilization.

A prototype training program for District of Columbia Warden Service instructors was developed at the request of, and in collaboration with, the District of Columbia Office of Civil Defense. This course provided a recommended package of materials and techniques available for use by communities which need assistance in starting this kind of activity. This material was further tested in setting up a Warden Instructors' Course in Jefferson County, Tex., and is now available to all States from FCDA Regional Offices.

A national training conference of State and local personnel concerned with the Warden program was held in February 1953, and was followed by a Warden Operations Conference in November.

Technical guidance was given the State of California in conducting a California Warden Staff Advanced Training Course at the Western Technical Training School, St. Mary's, Calif.

A series of 12 lesson plans with accompanying film strips were completed and made available to States through the matching funds program. (See section on Training Materials and Technical Conferences, pages 91 to 93.) These training units have proved to be valuable lesson material and visual aids for conducting warden training courses. Additional lesson plans and training film strips are planned for future production.

The ultimate goals of the Warden Service are as follows:

1. To perfect a Warden Service operational plan covering each phase of preattack, attack, and postattack periods.
2. To complete estimates of manpower and equipment required for the Warden Service.
3. To develop techniques for the use of wardens and householders in connection with the latest advances in special weapons defense.
4. To develop a working relationship between the warden and other services with reference to support activities.
5. To conduct warden seminars and conferences in all of the regions until key officials of the warden services are thoroughly trained.
6. To complete the warden training bulletin series and accompanying film strips.
7. To complete development plans and techniques for organized self-protection of small and medium size churches, schools, hospitals, and business establishments; and to distribute the information by means of technical bulletins.
8. To develop additional home exercises for the family and neighborhood.
9. To develop model exercises for municipal warden services.

RESCUE SERVICE

The primary job of the Rescue Service involves locating persons entrapped in the wreckage of damaged or collapsed structures, gaining access to them, administering first aid if required, and removing them to safety.

Considerable local interest was stimulated in 1953 through FCDA-conducted rescue seminars. Seven sessions were held in four FCDA regions. These conferences were designed to bring the total rescue program to the specialists who will be doing the rescue job in the States and municipalities. Attendance at these meetings was most encouraging. Following each seminar there was a noticeable increase in requests for Federal contributions for rescue equipment, training facilities, and training materials. In addition, applications for enrollment at rescue training schools have increased beyond the capacity of existing facilities.

A film entitled "Trapped," which effectively shows the problems of rescuing persons from beneath bombed houses, has been made available for use by the States and cities. Originally produced by the Swedish Government, the film now has an American sound track prepared by FCDA. It has proved most effective in its showings to various groups throughout the country.

Two training bulletins were published in 1953 on specific phases of the rescue program. They are: (1) *Rescue Tools and Their Application to Rescue Techniques*, and (2) *Rescue Squad Operations*. Film strips to accompany these bulletins are under preparation.

A technical manual entitled *Rescue Techniques and Operations* was published and distributed throughout the country. This manual provides detailed technical and specialized information for civil defense volunteers in the Rescue Service. It explains the organization, equipment, squad operations, and the many techniques required in doing the rescue job. Until this manual was published there was no suitable training text nationally available on rescue techniques and operations as they apply to civil defense disasters.

The American Legion and the Amvets have taken action to promote formation of rescue squads throughout the Nation in cooperation with local civil defense authorities. American Legion executives will attend special orientation courses to enable them to sponsor rescue squads in their own communities. The Amvets have resolved to promote organization of rescue squads as their primary civil defense project for the coming year. They will send trainees to Olney for FCDA rescue training.

During the past year, many industrial organizations working closely with labor have organized rescue squads and developed training programs. In some instances industry has taken the lead in the local community to provide rescue equipment and training facilities.

The Federal contributions program provides a major stimulus to the Rescue Program since equipment and training facilities are essential to the training and operational readiness of all rescue squads. The financial burden thus imposed on the States and cities in equipping and training a rescue force could not be met without the assistance provided through matching funds, and it is anticipated that as the understanding of the size of the rescue job progresses, the need for Federal contributions in the rescue area will increase. Funds obligated through December 31, 1953 will provide for 260 trucks with tools, 68 trucks without tools, and 339 complete sets of tools. Funds also have been obligated for the purchase of rescue training sets and minor items of rescue equipment.

New procurement methods have been developed to speed up the acquisition of rescue tools and equipment under this program. Approximately 135 units of rescue equipment were made available to the States and municipalities during fiscal year 1953. A sample item of each piece of equipment is constantly under observation at the Rescue Instructor School. Improvements in existing equipment are made and new equipment is added where necessary.

In cooperation with private industry, a rescue trailer has been designed and built which can be towed by practically any type of vehicle in an emergency. The trailer carries a complete set of rescue tools. It has been demonstrated in a number of cities and has received wide acceptance. Limited production of the rescue trailer has commenced and it is available under the Federal contributions program.

Civil defense rescue forces provided major assistance in the natural disasters which occurred at Worcester, Mass., and Flint, Mich. Reports of these disasters and the tornado damage sustained at Waco, Tex., were carefully studied to develop operational rescue techniques helpful in future disasters.

Much remains to be done toward increasing the state of readiness of the Nation's rescue service. The creation of a reliable rescue service is of prime importance to the civil defense effort. Rescue in civil defense is daily gaining recognition as a new craft, requiring extensive technical knowledge of the behavior of damaged buildings.

In establishing a reliable rescue service FCDA is guided by the following objectives:

1. To promote general recognition and understanding of the type and size of the rescue job.
2. To integrate existing rescue organizations and expand their activities for civil defense purposes as the most effective way to recruit and train the large number of volunteers required.
3. To acquire needed training facilities and equipment to provide for initial and progressive training and the highest degree of operational readiness feasible.
4. To organize the Nation's rescue squads into an effective civil defense rescue service.

FIRE SERVICES

Our Nation's fire-fighting resources in both equipment and manpower have been increased in 1953. Training in fire fighting has been continued throughout the year on State and local levels. Further research has been conducted on the fire effects of atomic weapons and methods for reducing the fire hazard.

According to the latest State and city figures available, 394,273 persons have been enrolled and assigned to duty in the fire services. This is 58 percent of the estimated requirement of 650,000 persons.

A total of 968 fire pumpers, together with miscellaneous tools and equipment, are being procured under the Federal contributions program for fiscal year 1953. This is in addition to the 405 pumpers procured in 1952. The following table lists the quantities of fire equipment procured under the matching funds program for the fiscal years 1952 and 1953:

FIRE EQUIPMENT

Fiscal year	Pumpers	1½-inch hose	2½-inch hose	Portable pumps	Electric flood-light generators
1953-----	968	474, 550	1, 498, 488	242	309
1952-----	405	210, 450	640, 755	192	15
Total-----	1, 373	685, 000	2, 139, 243	434	324

Fire pumpers purchased with matching funds will be delivered to all but 18 of the 56 States, major Territories and possessions. Of these, New York, Pennsylvania, and California will receive the biggest number—233, 228, and 189, respectively.

There is increased evidence that the Nation is realizing its defense requires a united and coordinated effort. In Alabama, for example, pumpers were purchased for support of New Orleans which is in a different region and two States removed. In another instance Massachusetts purchased pumpers it will send to the aid of critical targets in New York.

Of special significance is the fact that all but eight States which have purchased civil defense pumpers now have interstate compacts in effect or before Congress.

Training in conventional fire-fighting techniques is being handled adequately on the State and municipal level by the many peacetime facilities.

Special instruction in the handling of wartime fires caused by both conventional and atomic weapons has been given at fire meetings such as the Fire Department Instructors Conference at Memphis. The material presented at the meetings was published in fire services magazines, newspapers, and bulletins and given wide circulation.

Wartime fire problems have also been discussed regularly in courses given at the National Civil Defense Training Center at Olney, Md. Test exercises are conducted at this National Center to teach the various civil defense services how to coordinate their activities. The specially constructed "Rescue Street" is used for the exercises. Voluntary assistance is furnished by various Maryland fire departments.

FCDA has obtained most of its fire research material through cooperative work with the Department of Defense and the Department of Agriculture. The Fire Division of FCDA has acted as a consultant to these organizations in the development of laboratory and atomic test programs. FCDA also sponsored a study of fire incidence at Hiroshima and Nagasaki.

Municipal and statewide civil defense test exercises have served as a means of developing and checking plans for handling war-caused fires.

Regional office activity in the fire field has been designed to assist the States to develop statewide operational fire services plans, to obtain coordination of State and U. S. Forestry Service and agreements on interchange of equipment, to obtain inventories of fire equipment, and to assist in the completion of fire susceptibility surveys.

POLICE SERVICES

The objective of the Police Services is to insure maximum utilization of existing police manpower, equipment, and facilities supple-

mented by sufficient numbers of volunteer auxiliaries to cope with the abnormal problems and expanded requirements which would be created by an enemy attack.

The responsibilities and duties of the Police Services in an emergency are to:

1. Protect life and property.
2. Maintain law and order.
3. Regulate and control traffic to expedite the movement of essential emergency vehicles and personnel.
4. Regulate and control preattack evacuation of the populace and any necessary postattack movement.
5. Detect, isolate, and report unexploded ordnance.

This is accomplished by providing technical information and guidance to police and other responsible officials on matters involving activities not required in normal police functions, but which are necessary for civil defense planning and large scale emergency operations.

To accomplish these objectives, in 1953 the Police Services re-established a Police Advisory Committee. This committee consists of active and outstanding members of the International Association of Chiefs of Police and the National Sheriffs' Association. It has been reactivated to bring together a pool of experts from which to solicit advice and assistance in the furtherance of the program, and to obtain the cooperation of professional groups in civil defense matters.

Matching funds for expanding existing police communication systems to meet civil defense requirements and tie them in with civil defense control centers have been incorporated in the attack warning and communications contributions program.

Matching funds to assist States and their political subdivisions in acquiring materials and equipment for training auxiliary police have been incorporated in the Training and Education contributions program.

Materials relating to police participation in civil defense and natural disasters were prepared and presented at the annual International Association of Chiefs of Police Conference held in Detroit, Mich., September 13-17, 1953, and at the National Sheriffs' Association Convention held at Oakland, Calif., June 15-18, 1953.

Practical experience in a disaster situation presented itself during an "on-the-spot" evaluation of disaster operations in Ocean City, Md., resulting from the hurricane of August 13, 1953, and in Vicksburg, Miss., resulting from the tornado of December 5, 1953.

An interim emergency operations plan was developed. Continuous revision and refinement of this plan to conform with changes in the overall FCDA Emergency Operations Plan has been maintained.

The Police Services participated in a 3-day conference of auxiliary police instructors of Maryland, April 29-May 1, 1953.

At the invitation of State and Regional civil defense authorities, the Police Services conducted Police Institutes for the States of Kentucky and Rhode Island. The purpose of the meetings was to promote civil defense readiness of police agencies through top level instructions and to provide an opportunity for discussion of problems and ideas by national, regional, State, and local civil defense police personnel.

During the year, FCDA cooperated with the Department of Defense in providing technical civil defense advice necessary for the development and production of an explosive ordnance reconnaissance training film. The film was prepared at no cost to FCDA.

FCDA continued to provide practical plans for suitable traffic control to obtain maximum utilization of highway transportation in support of operations essential to civil defense, industrial, and military activities in vital areas under emergency conditions. The Emergency Traffic Control Training Course has now been presented in each of the FCDA regions. A follow-up program relating to the Emergency Traffic Control Course was initiated in Region I.

The doctrine and techniques employed in this training course is being adjusted to meet problems which would be created by the adoption of the new policy of tactical population dispersal in urban areas. Research incident to the adjustment has been carried on in several urban areas and will continue to be a major activity.

ENGINEERING SERVICES

During 1953, FCDA's engineering personnel continued to provide technical guidance and assistance to the States and target cities in the demonstration and testing of engineering stockpiled equipment, the development of engineering resources, the preparation of operational plans, and in analyzing and disseminating atomic weapons effects data.

A permanent testing unit representing a complete installation of FCDA stockpiled engineering equipment was established at the National Civil Defense Training Center, Olney, Md. This unit consists of an 1,800-foot assembled section of 8-inch lightweight steel pipe with quick-connecting couplings, valves, tees, and other fittings; two 1,500-gpm centrifugal pumps; one 100-gpm portable water purifier with two 3,000-gallon rubber-covered nylon storage tanks; one mobile chlorinator with capacity of 2 to 300 pounds of chlorine in 24 hours; a 30-kilowatt portable generator set; and a demonstration unit of special window closure material. This permanent installation is being used by FCDA engineers and local civil defense engineering, water works, and fire department personnel as a demonstration and test unit.

Pilot studies to develop uniform operational requirements were completed for a number of selected target areas. This information is

important in analyzing structural damage effects and developing emergency operational plans for fire-fighting operations, debris clearance of streets and highways, restoration of water, gas, electric and sewer service, and rehabilitation of essential buildings following an attack or a disaster. The results of these studies will ultimately reflect total FCDA engineering stockpile needs, and information pertinent to target city engineering analysis will be disseminated to States and target areas in the form of technical bulletins and manuals.

During 1953, the engineering office established a model plan for conducting engineering seminars in areas where civil defense officials desire to exchange information on the various civil defense engineering procedures and to demonstrate the application of FCDA stockpiled engineering equipment for the benefit of local water works personnel. A Regional Engineering Conference was held at Berkeley, Calif., in February. This was followed by a 2-day prototype Engineering Seminar at Olney, Md., in June, under auspices of Region II, which was attended by 165 key civil defense officials, State and city sanitary engineers, utility executives and their engineers and superintendents from that area. A direct result of the Olney meeting was a full-dress field demonstration of FCDA engineering equipment at Pittsburgh, Pa., early in December for supervising engineers, who will form a cadre of instructors to train personnel in their respective areas. The Pittsburgh meeting was sponsored by Pennsylvania State civil defense officials who attended the June seminar.

Several equipment demonstrations were held in various target areas in New York State in connection with regularly scheduled civil defense exercises, and the lightweight steel pipe and water purifiers were demonstrated before a group of 400 State water works officials in Atlanta, Ga., in September.

FCDA stockpiled engineering training units, consisting of 1,000 feet of pipe and fittings, one 1,500-gpm centrifugal pump, one 100-gpm portable water purifier with two 3,000-gallon storage tanks, one mobile chlorinator, two 15-kilowatt portable generator sets and one 5-kilowatt portable generator set, together with detailed maintenance procedures for use by civil defense organizations.

A structural design, material, and cost analysis was made, in conjunction with industry, of available lightweight pipe and fittings to determine the types most suitable for supplementing existing water utility facilities in emergencies. As a result, a lighter weight pipe and an improved quick-connecting coupling will be procured in the future. These items will be interchangeable with existing FCDA stockpiled pipe and fittings. Similar studies have been undertaken on all engineering items FCDA is stockpiling, and specifications are being revised accordingly.

During fiscal 1953 FCDA obligated funds amounting to \$1,000,000 for purchase of emergency engineering supplies and equipment. This makes a total expenditure of \$6,000,000 through fiscal 1953 for such equipment. Engineering equipment is now stockpiled by FCDA at 40 strategic locations.

The sampling inventory was continued in 22 selected counties of 18 States. The inventory will estimate the availability of needed engineering equipment throughout the Nation. The National Society of Professional Engineers furthered this program materially by assisting State and local civil defense officials in preparing equipment inventory procedures and in coordinating the data gathered. The Associated General Contractors of America asked their local chapters to cooperate in the collection of inventory data.

Field preparations for the 1953 technical test program at the Nevada Proving Ground were completed; a field analysis was made of the test results obtained, and work was started on classified reports for the Atomic Energy Test Organization. Reports on the frame buildings, home shelters, and air zero locators tested were completed and submitted to the Atomic Energy Commission. The analysis of the building components test data, a complex technical project, is underway.

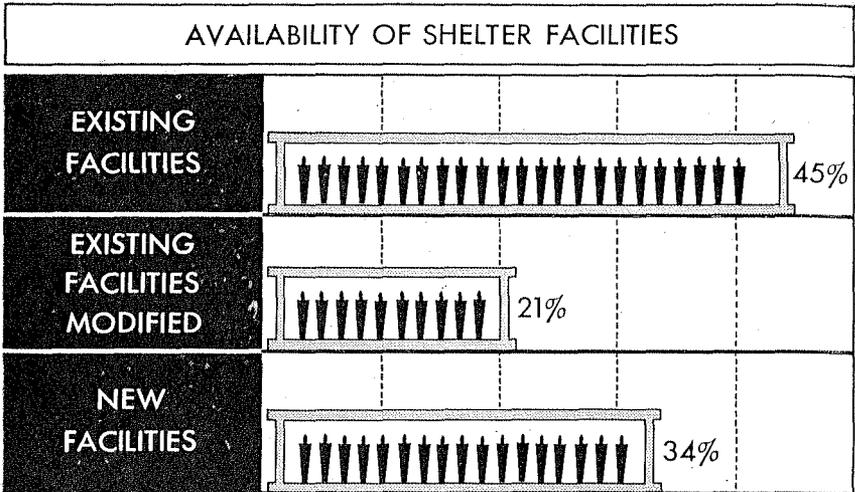
Lehigh University has completed the major phase of its FCDA contract study involving atomic blast effects phenomena and an analysis of two types of structures located at varying distances from an atomic explosion. The second phase of this study, involving blast damage possibilities, is progressing satisfactorily.

SHELTER

The shelter program, which is based on the provision of protection for people in critical target cities, was continued during 1953 with emphasis being placed on the use of existing buildings for shelter. Industry was encouraged, in planning new construction, to incorporate protective facilities for shelter so efficient utilization of the structure would be possible both in peace and in war.

Fifty-six of our critical target cities have started shelter surveys in their congested commercial areas. In some cities those surveys were completed, and they are now being extended to include the entire city. In addition, several cities in less critical areas are making shelter surveys. Preliminary results of shelter surveys in some of the major target cities indicate that with a 15-minute warning period in commercial areas, 45 percent of the people can be given reasonably safe shelter in facilities requiring no modification and 21 percent can be accommodated in existing facilities after modification. New facilities are needed to shelter the remaining 34 percent.

Data on available shelter obtained thus far from these surveys are



encouraging. However, it must be remembered that the congested commercial areas surveyed contain a large percentage of buildings that have the type of construction most suitable for shelter purposes. These shelter surveys were made by volunteer workers. The administrative cost of making them was borne locally.

The Public Buildings Service, General Services Administration, has surveyed most of the buildings owned and operated by the Federal Government. Shelter signs are being posted in all Government buildings.

Standards were developed covering protective design for buildings located near target areas, based upon predicated loadings resulting from explosions of special weapons that may be used in the foreseeable future. It is expected that these standards will become available to architects and engineers shortly after the first of the year.

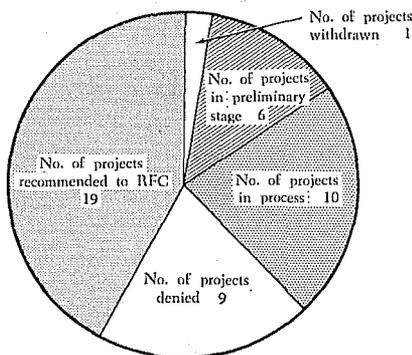
Other Government agencies were urged either to disperse or incorporate protective construction in new buildings located in target areas. An example is the new Institute of Pathology Building, Washington, D. C. The Corps of Engineers, U. S. Army, relocated this building and redesigned it as a modern windowless structure. By applying the principles of protective construction they were able to provide blast-resistant features at approximately the same cost as for normal construction:

The program to encourage industry to incorporate protective construction in their buildings was continued in 1953. FCDA participated in the Office of Defense-Mobilization program under which 100 percent tax amortization grants may be given to defense supporting industries who incorporate protective facilities in their structures.

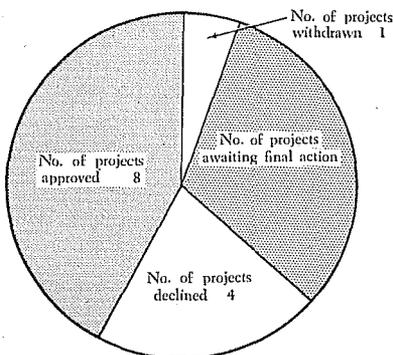
Additional standards and criteria were prepared for protective construction in industrial facilities and hospitals to guide private enterprise and Government agencies in granting Federal assistance for essential facilities. Technical assistance was given in the review of construction plans for new hospitals and other buildings in probable damage zones to assure that protective construction incorporated in the design of these buildings would meet FCDA standards.

To date, 45 applications for Federal assistance on certification of RFC loans have been received by FCDA. Of these, 19 were recommended to RFC for approval, and some of the others are still being processed.

RFC ACTIONS



FCDA ACTIONS



TOTAL NUMBER OF APPLICATIONS RECEIVED....45

APPLICATIONS RECOMMENDED TO RFC.....19

Continuous research is being conducted to determine the amount, kind, and location requirements of shelter facilities needed to protect people against various sizes of A-bombs both under the existing situation of limited warning time and in anticipation of longer warning time in the future.

FACILITIES SELF-PROTECTION

Facilities self-protection plans are based upon the principle that most facilities can best perform for themselves those functions necessary for survival and continued operation in time of disaster.

The Nation's large industrial cities would be prime targets of any enemy attack. These cities are likewise susceptible to destruction from natural disasters. In these areas are located facilities containing a great part of our major productive capacity, represented by industrial plants, machinery and equipment, and personnel employed in industry and commerce. These resources are particularly vulnerable to natural or war-caused disasters. Facilities therefore need to be prepared in advance to minimize the effects of such disasters.

Guidance has been afforded numerous industries and institutions to

assist them in the development, installation, and operation of self-protection organizations. Groups of plants in vulnerable areas have been encouraged to pool their protective resources and to assist one another in the event of emergency.

During 1953, the number of industrial and commercial establishments initiating serious planning in the development of adequate self-protection programs has increased. While many of these programs are only in the preliminary stages, several establishments of national reputation have developed programs to the extent of incorporating protective construction features in existing and proposed structures. Some establishments have undertaken the extension of their present protective forces to meet civil defense and other emergency needs. To provide themselves with competent instructors for this purpose, many establishments have sent key employees to FCDA and local rescue operations training centers. Outstanding progress has been made in the fields of record protection and planning to assure the preservation of the corporate structure of leading commercial facilities. State and local civil defense organizations have taken greater cognizance of the contributions made by industry in advancing sound programs to minimize the effects of disaster.

In fourteen of the Nation's large industrial areas, FCDA personnel have conducted technical training conferences for persons who have the responsibility of developing facilities self-protection programs in their respective establishments. Approximately 1,400 representatives of industrial and commercial establishments have participated in conferences which were held in Minneapolis; Chicago; Cincinnati; Youngstown; Toledo; Seattle; Portland; Providence; Fort Worth; Baton Rouge; Wickliffe, Ohio; St. Marys, Calif.; and Alexandria, Va. As a result of these conferences, increased activity in civil defense was evident in many plants in these areas. In addition, State and local civil defense authorities in several of these areas have been stimulated to conduct many more seminars following the conferences initially conducted by FCDA.

Following the issuance last year of an Executive Order directing Federal agencies to organize and carry out self-protection programs, most agencies have undertaken this responsibility. Efforts to stimulate these programs by offering advice and guidance resulted in increased activity in this field by the Public Buildings Service of the General Services Administration. Its self-protection program and plan for close coordination of Federal buildings in Washington, D. C., showed considerable progress in 1953.

Advice on self-protection matters has been given to numerous Federal establishments, including the United States Senate, the Office of Defense Mobilization, and the State Department for use by other nations.

Facilities self-protection personnel participated in the Union Industries Show, sponsored by the Union Label and Service Trades Department of the American Federation of Labor, in Minneapolis, and the Plant Maintenance Show held in Cleveland. This was a means of bringing the program to the attention of selected groups.

HEALTH SERVICES

The civil defense health services are responsible for taking emergency action to save lives; administering to casualties; safeguarding our people, crops, and animals against the effects of atomic, biological, and chemical warfare agents; and other public health hazards resulting from enemy attack.

Casualty Services

Casualty care runs the gamut from self-help, neighbor-help, and first-aid measures initially to the most highly specialized medicine and surgery. It requires, in addition to personnel, both equipment and supplies in quantities never previously considered. Certain proportions must be on hand for immediate use, others stored for rapid movements as needed, and still others for backup supplies for the first 3 weeks of emergency care.

FCDA plans, based on vulnerable population, call for a total program of approximately 8,000 first-aid stations and at least 6,000 improvised hospitals of 200 beds each. At present, depending on the area, only 10-25 percent of the casualties could be cared for in existing hospitals.

In 1953 studies on the entire program of existing and improvised hospital systems for civil defense purposes continued. Items for the 200-bed improvised hospital were assembled for critical evaluation and stabilization at Saratoga Springs, N. Y. Items were deleted, substituted, inserted, and quantities were increased and decreased, all with the idea that each item must fit in with a sound civil defense concept of the mission of the improvised hospital. This mission is the early hospitalization of seriously sick and injured casualties in or as close as possible to the stricken area for lifesaving initial and reparative treatment or surgery.

Many thousands of trained nurse personnel are going to be needed to staff the numerous first-aid stations, improvised and existing hospitals. Certain organizations in 35 States have accepted responsibility for civil defense nursing, as follows:

- (a) State nurses' associations—9 States.
- (b) State health departments—11 States.
- (c) Both States nurses' associations and State health departments—15 States.

Disaster nursing has been included in the curriculum of some of the schools for professional student nurses in 18 States. Four States have included disaster nursing in the curriculum for practical nurses.

During 1953 approximately 1 million persons have been trained in first aid by the American National Red Cross. Approximately 168,000 were trained in home care of the sick, 64,000 in mother and baby care, and 4,000 as volunteer nurse's aides.

Out of 38 States answering a questionnaire, 13 States and the District of Columbia have made assignments of professional personnel to first-aid stations and improvised hospitals. Five other States are working on such plans, and 19 States report no plan as yet.

Only two States have set up plans whereby nurses would be available for assignment out of the State in case of an emergency. These States are North Carolina (500 registered nurses) and Washington (573 registered nurses and 142 practical nurses).

Blood Program

The Federal Civil Defense Administration has continued its active participation in the National Blood Program under the overall direction of the Office of Defense Mobilization and with technical guidance from the National Research Council. A revised edition of Technical Manual TM-11-5, *Blood and Blood Derivatives*, was published in January 1953.

Together with the Department of Defense and the American National Red Cross, FCDA has continued the public donor recruitment program through the Office of Defense Mobilization and with the participation of the Advertising Council. The appeal this year, however, has been shifted from a primary defense need to the overall total needs for blood and its products. The American Medical Association and the American Association of Blood Banks have been brought into the planning and guidance of the publicity effort to help insure a proper balance in the approach to the public.

Increased effort has been made through Regional Offices and interested national professional organizations to stimulate the States to develop expanded, coordinated emergency blood collection facilities so that mass casualty requirements for whole blood can be met if the occasion arises. In turn, planning has progressed for the coordination of interstate and interregional support in relation to whole-blood requirements, including the participation of the network of American National Red Cross centers and those operated by the Department of Defense on the larger military bases. In the field of blood derivatives, both FCDA and the Department of Defense have shifted from dried blood plasma to serum albumin at the recommendation of the National Research Council. A more satisfactory product for defense reserves is

obtained from serum albumin. It is used also to assist in making other products of plasma fractionation available for general use—especially gamma globulin for use in the prevention of measles, infectious jaundice, and paralytic poliomyelitis.

In the field of plasma expanders, procurement of Dextran has continued and further studies on PVP (polyvinyl pyrrolidone) by the National Research Council indicated, as of November 30, 1953, that it is also acceptable as an expander for national defense reserves.

Psychological Problems in an Emergency

Much has been said about the dangers of panic and apathy and other kinds of disruptive group behavior that might follow disaster. To increase knowledge of the experiences and understandings that would permit readily formulating these plans, the FCDA asked leading professional groups in the field of mental health for guidance and assistance. In addition to doing the job asked of them, they are actively participating in the development of a better understanding of civil defense. Nineteen hundred and fifty-three saw the development of practical aids in the field of mental health that largely meet the needs of every citizen, particularly the civil defense worker.

Mental Health Implications in Civilian Emergencies, prepared by the Community Service Committee of the National Advisory Mental Health Council, was published by the Department of Health, Education, and Welfare, in May 1953, and made available for FCDA use and distribution.

A manual on psychological first aid, directed to every civil defense worker, has been completed by the American Psychiatric Association and will soon be made available by them. This manual presents in simple language much of the understanding all citizens should have in order to help themselves, and to be able to help others who may have emotional disturbances. Our ultimate survival demands that we all be able to both survive the shock of attack and to become effective civil defense workers.

Radiological Defense

During the year, the major emphasis of the radiological defense program continued to be that of securing technical information from the Atomic Energy Commission, Department of Defense, National Bureau of Standards, and other agencies—for analysis, evaluation, and dissemination to the State and local radiological defense organizations.

A significant event in this program was the first regionwide conference on radiological defense, held during October 1953 in Region I. The attendance and interest shown by the State and local people

indicate the value of this method of information exchange. Similar conferences in other regions are being encouraged. The program was also presented at many conferences with interested groups and individuals. Members of the radiological defense staff served on national committees relating to radiation physics and bioradiology.

Local and State radiological defense personnel were given training instruction during the 1953 series of atomic tests at the Nevada Proving Ground. Sixteen persons participated in this exercise which was directed by one of the staff members.

Several other projects during the atomic test series were also supervised by staff members. The evaluation of radiological defense instruments under actual field conditions, the feasibility of using commercial and amateur film for measuring radiation exposures, and the extension of dose-distance curves as a means of estimating the size of an enemy atomic bomb were parts of these projects. In cooperation with the Food and Drug Administration, Department of Health, Education, and Welfare, the effect of nuclear and thermal radiation on drugs and biologicals was studied. Further training and tests are planned for the next continental test series.

One thousand Geiger counters and 1,000 medium-range ionization chamber instruments are being procured in accordance with FCDA specifications for distribution to the States and Territories for training and familiarization. The quantities of these same instruments needed for operational requirements may be purchased by the States under the contributions program. Specifications for a high range instrument and for two types of dosimeters are being prepared. These instruments will also be available on a matching fund basis and will be procured for Federal stockpiling. The National Bureau of Standards has continued its program of evaluation of radiological instruments for civil defense. This program includes testing of instruments for acceptance as well as providing testing and advice to aid manufacturers and encourage development of instruments for civil defense use. Arrangements have been made with AEC for the long-term loan of high intensity Cobalt-60 sources to State civil defense organizations for their use in instrument calibration and training exercises.

Following the procedures outlined in Bulletins TB-11-8, *Permissible Emergency Levels of Radioactivity in Water and Food*, and TB-11-9, *Emergency Measurements of Radioactivity in Food and Water*, kits containing an instrument and a standard source are now available commercially. This procedure of using a standard source provides a quick field method for determining whether a sample of food or water is acceptable for consumption.

A technical manual on Radiological Defense Monitoring and Operations was initiated. Emergency permissible concentrations of radio-

active contamination of personnel are under study with the objective of preparing a technical bulletin on levels requiring and methods of decontamination.

Biological Warfare Defense

The Federal Civil Defense Administration, the Department of Health, Education, and Welfare, and the Department of Agriculture in the summer of 1953 entered into an agreement to implement a system for improving the reporting of diseases of man, animals, and crops, to make a joint evaluation of the unusual occurrence, in number or in kind, of diseases of man, animals, and crops, and to make a joint decision as to biological warfare implications.

A civil defense technical manual TM-11-10, *Civil Defense Against Biological Warfare*, was prepared and distributed. This manual contains an appraisal of the biological warfare hazards and details a program of defense for man, animal, and crops. This is the first technical manual on biological warfare published by FCDA.

Stockpiles of wide-spectrum antibiotic, biologic, and chemotherapeutic drugs have been increased to provide treatment for biological warfare casualties.

Progress has been made with the collaboration of the Sectional Research Program of the National Institute of Microbiology in developing a nationwide system to provide for laboratory identification of biological warfare agents and for the rapid diagnosis of disease. Some of the supplies and equipment needed for training health laboratory technicians in this field have been made available through the Federal contributions program.

Close liaison has been maintained with the Department of Defense; Department of Health, Education, and Welfare; Department of Agriculture; Central Intelligence Agency; and other Federal agencies in problems related to biological warfare defense.

Discussions have been held with the Department of Health, Education, and Welfare and the Department of Agriculture relative to the possible delegation of certain biological warfare defense activities from FCDA to those agencies.

Numerous papers and addresses on biological warfare defense have been prepared and presented at professional meetings, civilian and military, and some have been published in professional journals. Radio interviews have also been held at which problems of defense of animals against biological warfare have been discussed.

A paper was prepared on the *Small Animal Practitioner in Civil Defense*. The emergency Advisory Committee of the AVMA approved it and the paper was published in the October issue of the AVMA Journal and represents the policy of the AVMA in relation to the veterinarians' civil defense responsibility in urban areas.

The FCDA veterinary consultant was appointed Chairman of the United States Livestock Association committee on exotic (foreign) animal diseases. An initial report was developed, presented and approved at the Association's annual convention in Atlantic City in September. The USLSA is composed of Federal and State U. S. livestock and regulatory officials, meat packers, livestock breeders, livestock feeders, and animal disease researchers. Biological warfare defense for animals was integrated into this report and is now a part of the program of this Association. This report has been distributed to all State veterinarians and all Bureau of Animal Industry inspectors-in-charge located in all States and Washington offices. Copies have also been distributed to the Public Health Services and several of the Army and veterinary journals.

An exhibit on biological warfare against animals and crops was developed to be shown at national and regional veterinary meetings as well as county and State fairs and livestock shows throughout the country. A leaflet on *Facts for Farmers on Biological Warfare* was prepared and has been distributed at each showing of the exhibit.

Sound movies on foreign animal diseases have been cooperatively developed and acquired by FCDA and the U. S. Department of Agriculture in 1953. Following is a list of films available for use by veterinary schools and veterinary associations:

"Anthrax in Ohio", "Teschen Disease", "Scrapie", "Nagana", "Heartwater", "East Coast Fever", "Foot and Mouth Disease in Africa", "Epidemic Foot and Mouth Disease in Canada". Others are in the process of being developed. This material has also been made available to the Canadian Government for veterinary short courses.

Chemical Warfare Defense

The Army Chemical Corps is in the process of completing final tests on the organizational type protective masks suitable for civil defense workers, and procurement of this item to meet requisitions under the Federal contributions program will be instituted in the near future. Completion of development by the Chemical Corps of the lightweight protective mask for civilians and of an infant protector is expected during the present fiscal year.

Stockpiling of atropine self-injection units for treatment of nerve gas casualties is being continued under the Federal stockpiling program.

The Chemical Corps at the request of the Federal Civil Defense Administration is giving consideration to the establishment of a training course for civil defense personnel in defense against chemical warfare.

Ways and means are being sought to make certain military protective items and equipment available to the States.

Close liaison has been maintained with the Department of Defense and with personnel of friendly nations on problems relating to defense against chemical attack.

Numerous meetings of professional, military, and regional groups interested in civil defense problems of chemical warfare have been attended. The participants have been informed of FCDA plans and activities in this field, and their cooperation and assistance invited.

Civil defense needs for protection of adjacent civilian populations against the hazards of stored industrial toxic chemicals are being brought to the attention of groups exploring the overall problem.

Emergency Sanitation

Considerable attention has been given to the review and encouragement of research on the vulnerability of water and food supplies to biological and chemical warfare and the development of countermeasures to protect such supplies. The Public Health Service, the Food and Drug Administration, and the Department of Defense have been most cooperative in evaluating studies needed in this field.

A family handbook, H-11-1, *What To Do Now About Emergency Sanitation at Home*, was completed in 1953 and distributed to States and cities for incorporation in their plans for public civil defense education. Assistance was given to the Warden Service in that part of the training program dealing with neighborhood sanitation.

For guidance of State and local organizations, technical bulletin TB-11-10, *Responsibilities for Production and Distribution of Potable Water in Disaster* was released. Assistance was given to the Engineering Services in the development and presentation of training materials and a training course in the operation and use of equipment for emergency treatment of water supplies.

The relationship between the civil defense engineering services and the sanitary engineering services of the State health departments in emergency water supply and sewage services was clarified at a meeting in May attended by representatives of the Conference of State Sanitary Engineers, the Public Health Service, and the Federal Civil Defense Administration. It was agreed that their capabilities could and should be utilized directly in each of the various typical State civil defense organizational patterns. Programs for emergency sanitation services were reviewed in several States with mutual advantage in the exchange of comments.

Emergency Medical Supplies and Equipment

With certain exceptions, particularly basic equipment for improvised hospitals, medical supplies and equipment provided for by FY 1952-1953 appropriations for Federal stockpiles and the Federal-State

Matching Funds program will, in general, be sufficient for the emergency medical care of approximately 2,000,000 surviving casualties for the first postattack week. With funds made available for fiscal year 1954, it is estimated that the care of such casualties can be extended over a period of three weeks.

Total supplies for the Federal stockpiling program made available by funds appropriated through fiscal year 1954 will be as follow:

Program	Item	Amount
Casualty	Reserves of medical and surgical supplies and equipment (82 items).	For 2,000,000 casualties (3 weeks' treatment).
	200-bed improvised hospitals (supplies and equipment).	101 units.
Blood and shock therapy.	Equipment and supplies for collection and transfusion of whole blood.	2,059,796 sets.
	Blood derivatives (bottles of plasma and serum albumin).	1,507,808 units.
	Plasma volume expanders	2,820,511 units.
	Intravenous solutions, 1,000 cc. bottles.	5,580,000 units.
Biological warfare defense.	Specially required antibiotics	1,395,000 doses.
	Sulfadiazine	60,000,000 tablets.
	Equipment for rapid emergency production of animal vaccines as required.	88 pieces.
Radiological defense	Survey meters	1,000 meters.
Chemical warfare defense.	Atropine injection	500,000 doses.
Postattack health	Vaccines and antitoxins for public protection.	25,050,000 doses.

EMERGENCY WELFARE SERVICES

The FCDA Emergency Welfare program has been established to help States provide the basic necessities of life to people made homeless or otherwise affected by enemy action. The program's objectives are to alleviate suffering, maintain morale, and get people back to work as quickly as possible, by insuring that they are fed, lodged, clothed, provided financial assistance when necessary, and given help in locating family members and getting reestablished in or near their own homes. These services must be provided immediately after attack and continued during a civil defense emergency to supplement the work of the regular community welfare agencies until they can take over the additional load.

Because the resources of these existing public and private welfare agencies—their personnel, materials, facilities, and services—form the foundation of local civil defense welfare organizations, emphasis during 1953 was on planning for their utilization in civil defense at all levels.

One of the most significant areas of progress in 1953 was the development of the Emergency Mass Feeding Instructor Training Program. The primary element of this training was improvisation with what was at hand—salvaged metal, tin cans, bricks, and mud. Jointly developed by FCDA and the Army Quartermaster Corps of the Department of Defense, this training was pilot-tested with representatives of 20 national organizations associated with quantity feeding operations. Initial instructor courses have now been given in every region, with the Army providing facilities. More than 350 instructors have been so trained. In addition, an estimated 1,500 instructors have been trained in local follow-up programs. Motion picture film on improvisation is being developed at each of the regional instructor training courses at Fort Lewis, Wash., and Fort Devens, Mass. Miniature models of field expedients used in these courses have been made available by the Army in each of the FCDA Regions.

Planning with the American National Red Cross was continued which resulted in the development of training programs, conferences, institutes, and agreement on the two agencies' welfare responsibilities in natural disaster operations. This agreement included the interchangeable use of local civil defense and Red Cross workers in both enemy-caused and natural disasters.

Negotiations have been carried on with all the national professional social work associations for the mobilization of their membership and determination of the most effective ways of using their skills in an emergency. In cooperation with these associations, a publication on *The Social Worker in Civil Defense* is being developed. Meetings have been held with the following: National Conference of Social Work; American Public Welfare Association at national and regional conferences; State Conferences of Social Work; Department of Health, Education, and Welfare; Civil Defense, Department of National Health and Welfare, Canada (in Washington, D. C., and Ottawa); National Committee on Social Work in Defense Mobilization; Child Welfare League of America; Family Service Association of America; Liquefied Petroleum Gas Association; organizations in the feeding industry—hotels, restaurants, dietitians, home economists' associations, and school lunch officials; National Research Council; American National Red Cross; and U. S. Department of Defense and Labor.

Professional and industrial literature was used to further civil defense in the field. The journal of the Child Welfare League of America published a statement of principles adopted by the League, on the emergency care of children in civil defense emergencies. This gave local child welfare boards and staffs a guide for participation in civil defense. The United Community Defense Services prepared a statement on the civil defense program for the 1953 issue of the

Social Work Year Book. A number of magazines in the feeding industry have published articles on mass feeding in civil defense. FCDA distributed *Understanding the Welfare Problem in Civil Defense*, and a revised issue of the leaflet, *The Welfare Task in Civil Defense*.

State civil defense offices and Departments of Welfare continued to further civil defense preparedness through new formal agreements and increased participation of State and local departments of public welfare. For example, the Missouri Division of Welfare started a series of instructional bulletins in cooperation with the civil defense agency to keep State and local welfare employees informed of their civil defense responsibilities.

A number of States and cities have assigned responsibility for Emergency Welfare Services to one or more persons as full-time jobs. New York, New Jersey, Washington, Oregon, Massachusetts, Pennsylvania, and California, for example, have full-time State staffs, including in some States field representatives to work with localities. New York City has continued to assign members of its Department of Welfare staff to full-time work on civil defense.

Development of State planning material on welfare continues. During 1953, Arizona, California, Connecticut, Georgia, Mississippi, Tennessee, New York, Utah, and Wyoming issued new publications on such subjects as overall emergency welfare services, emergency financial aid, emergency feeding, mass care, lodging, clothing, and registration and information services.

Several States have prepared operational plans for Emergency Welfare Services. California prepared a preliminary operational plan and has been concentrating the work of its State field staff on the development of operational plans in its localities, with the working draft as a guide. Arizona has completed an operational plan and Georgia and Pennsylvania are preparing theirs.

Active training programs in Emergency Welfare Services are reported by a number of States.

A comprehensive survey of lodging and feeding facilities was completed in California. 5,630 buildings have been located with capacity for lodging about 2 million people. Feeding facilities in these buildings and in an additional 5,000 public eating places are estimated to be capable of serving 3,800,000 meals per day.

A number of States report development of welfare groups for mobile support teams.

At least eight States and twenty-two cities have adopted personal identification tag programs. Most of these programs are for the tagging of school children. During 1953, the tags were tested in the laboratories of the National Bureau of Standards and at the AEC

Proving Ground, Yucca Flat, Nev. The tags which were recovered stood up under these severe tests. On the basis of these results, minor changes were made in the specifications in cooperation with the Office of the Army Quartermaster General.

Representatives of the Social Security Administration of the Department of Health, Education, and Welfare, and FCDA continued to plan for civil defense welfare activities and projects to be undertaken by the former. Plans were made with this and other Federal agencies for augmenting FCDA regional welfare staffs in an emergency.

A National Advisory Committee on Emergency Feeding was appointed early in the year. It has been instrumental in furthering emergency feeding planning by keeping local affiliates informed of the program.

Plans for the use of surviving institutional-type kitchens in restaurants, hotels, schools, churches, and halls were greatly improved through the development of a program for the emergency use of liquefied petroleum gas—propane and butane. In cooperation with the Liquefied Petroleum Gas Association, advice and guidance on the emergency conversion of cooking and heating equipment for the use of this alternate fuel were being prepared for the States.

Interest in the emergency welfare program was further stimulated during the year by visits of two key representatives of the United Kingdom Women's Volunteer Service, the "Women in Green," which did an outstanding welfare job in Great Britain during World War II. These representatives visited eight States, attended our National Civil Defense Training Center, and conducted training programs in several communities.

The Department of Defense is working with FCDA in developing training material for the care of people in the out-of-doors. Some of this material has been completed and was included in the Emergency Mass Feeding Instructors Course Handbook. The Housing and Home Finance Agency and its advisory groups are working with FCDA on material to assist States and localities in making the fullest possible use of private homes for lodging in an emergency.

With the help of the Federal contributions program several States made a start toward obtaining essential equipment such as cots, mattress pads, blankets, gasoline burners, stockpots, and thermal food and liquid containers, for the operation of mass care centers and feeding stations. Total Federal expenditures for such supplies for the fiscal year ending June 30, 1953, were \$70,035, matched by an equal amount from the States.

A detailed program for registration, welfare inquiry, and welfare information was established and a technical manual describing local organization and procedures for the program is being published.

FCDA participated in a field study of the Worcester tornado and the hurricane "Barbara," and initiated a study by the Florida State University of the hurricane "Florence."

Conferences held with the Civil Defense Director for the Territory of Alaska, Department of Health, Education, and Welfare, Department of Labor, Canadian Civil Defence Officials, and U. S. Air Force representatives resulted in the preparation of a civil defense evacuation plan for Alaska, coordinated with the military plan for the evacuation of dependents of civilian employees of the Department of Defense.

Liaison was maintained with the National Research Council's Committee on Disaster Studies.

CIVIL DEFENSE PREPAREDNESS BY OTHER FEDERAL AGENCIES

In April 1952, Executive Order 10346 had established the framework for intensified Federal interagency cooperation in a civil defense emergency. This Presidential Order directed each Federal department and agency, consistent with military requirements and the continuity of its own essential functions, to plan in consultation with the FCDA for the use of its personnel, materials, and facilities in civil defense.

The civil defense steering committees which were organized in 1952 in the major departments and agencies of Government to spearhead the civil defense activities were continued. Other agencies named civil defense liaison officers or established formal civil defense offices. During 1953 personnel changes occurred in these groups, but the work went forward, and these organizations still represent the focal point for general civil defense progress in the Federal Government.

The Public Building Services of the General Services Administration has continued to supervise the self-protection job within agencies under its jurisdiction, including surveys to determine proper shelter areas. Other departments and agencies such as Agriculture, Defense (including recommendations for military contractors), Interior, Post Office, Justice (for Federal prisons), Veterans Administration, Atomic Energy Commission, and Library of Congress have performed this function for their facilities under their control and have created self-protection programs.

Two governmentwide drills have been conducted in Washington. The last, held on November 5, 1953, disclosed that, although much remains to be done, the Washington organization is rounding into shape and would be of major assistance in protecting Federal personnel and property in the event of an emergency.

Early in the year, FCDA distributed to the Federal agencies an organization plan for civil defense in the field and requested them to emphasize its implementation. An example of activity on a joint basis in the field is the inventory of Federal resources for use in a civil defense emergency now being assembled.

FCDA has received the benefit of continuing liaison with the various intelligence agencies in developing its plans for civil defense protection. The security agencies of the Government have furnished valuable assistance in planning for the exchange of emergency operating data.

The civil effects test conducted in cooperation with the Atomic Energy Commission and the Department of Defense in the spring of 1953 included various items submitted by several agencies for testing. The Public Health Service and the Food and Drug Administration submitted items the testing of which would furnish guides for storage and protection. The Post Office Department provided three standard mail trucks, and the Atomic Energy Commission furnished some vehicles and other items of interest to civil defense.

Agreements were reached with departments and agencies having responsibilities in natural disasters. Nine such agreements already are operative.

Under the joint chairmanship of the Office of Defense Mobilization and the Department of Labor, Regional Defense Mobilization Committees were reorganized to promote more effective development of defense programs throughout the Nation. Since civil defense is included as a substantial part of these committee undertakings, and field representatives of all Federal agencies participate, FCDA has worked with the Central Committee and with its own Regional Administrators in the development of procedures which will accomplish civil defense objectives by use of the RDMC's talents.

More than 1,500 Government employees and officials have attended formal meetings, classes, seminars, and conferences at which FCDA officials discussed the civil defense program. At Olney, Md., large classes completed courses in warden and rescue work. Other courses offered at various locations included light rescue, administrative policy, engineering seminars, and fire councils.

A joint venture involving several agencies and led by the Defense Plants Administration (then Small Defense Plants Administration) and the Defense Production Administration considered special uses for liquid petroleum gas in welfare work in evacuation areas. A considerable program has been developed and is going forward in that field.

DEPARTMENT OF AGRICULTURE

After negotiations with the Department of Agriculture during the summer, a survey of rural factors involved in civil defense has been undertaken jointly by the Department and FCDA.

The USDA has accepted responsibility for and is cooperating with FCDA in the national emergency food supply program.

The Department has continued its work on the detection, diagnosis, and control of plant and animal diseases which could be used in biological warfare, and is making the results of its continuing research available to FCDA.

The Forest Service conducted further tests to determine combustion points at which initial fires might start following an atomic explosion.

The Forest Service has assisted the FCDA and the Department of Defense in a study of the problem of reducing the danger of primary fire from atomic blast. The Forest Service has also participated with the Armed Forces Special Weapons Project of the Department of Defense in an analysis of the thermal effects of atomic weapons.

The Extension Service and the Bureau of Human Nutrition have given much time to conferences from which guidelines have been developed for the emergency feeding program.

ATOMIC ENERGY COMMISSION

The atomic test program in the spring 1953 series was the most significant single cooperative effort between the FCDA and the AEC in 1953. The results obtained have been of major assistance in many phases of civil defense work. The details of this program are reported elsewhere.

The AEC Chairman and Commissioners have conducted two formal briefing sessions for FCDA executives. Top-level cooperation of this type has also enabled FCDA to base its plans upon more current and more realistic weapons effects information.

Transmittal of technical reports needed in various aspects of civil defense planning has been continued. During 1953 the volume of this material totaled, in the case of atomic weapons effects, approximately 125 reports.

At FCDA request, AEC reviewed the bibliography of civil defense atomic material which had been issued about two years earlier enabling the FCDA to publish a complete and up-to-date bibliography on the subject.

CIVIL SERVICE COMMISSION

The CSC completed the study of the status of the Federal employee as a civil defense worker, before and during a civil defense emergency. An ad hoc committee of the Federal Personnel Council on Civil Defense added its recommendation to the study.

The CSC has rendered valuable assistance to FCDA in other matters such as the operation of the security program.

DEPARTMENT OF COMMERCE

Bureau of Census

The Bureau has prepared population density maps for use by critical target cities in their civil defense planning including the development of warning systems.

National Bureau of Standards

The Bureau has continued the testing and evaluation of instruments for radiation detection and measurement. It has also aided in developing standards for civil defense instrument-calibration procedures and in the development of facilities for conducting work of this type.

The Bureau has consulted with FCDA in determining criteria for sirens used in the warning system.

The Bureau made qualitative analyses of engineering items, such as lightweight steel pipe and rust preventive coatings, and furnished advice on the physical characteristics of the different kinds of vinyl film. They also made tests of reinforced gunited masonry walls under lateral static loading to determine the increased resistance of masonry walls to lateral loads.

Bureau of Public Roads

As a result of continuing negotiation and consultation, progress has been made in developing national civil defense routes. Implementation of final agreement on this major undertaking is expected to be reached early in 1954.

National Shipping Authority (Maritime Administration)

The Administration has continued its work with ODM's Committee on Defense Transportation and Storage in developing plans for emergency utilization of offshore shipping facilities, both at sea and in port.

Defense Air Transportation Administration

As correlating agency for the Civil Aeronautics Administration and the Civil Aeronautics Board, this agency has continued to cooperate with ODM's Committee on Defense Transportation and Storage in developing emergency operational plans for use of all categories of commercial and private military aircraft.

Civil Aeronautics Administration

The CAA has implemented policy agreements on use of its communications and weather information facilities in a civil defense emergency and natural disasters.

Weather Bureau

The Bureau has furnished weather data essential to civil defense operations in natural disasters both to Headquarters FCDA and to the FCDA Regional Offices. This service is continuing and is being developed to serve essential needs in civil defense emergencies under attack.

DEPARTMENT OF DEFENSE

The DOD has furnished analyses and guidance concerning military aspects of biological warfare hazards to water and food supplies which affect FCDA policies.

Civil defense communications in United States Territories and Possessions are handled by DOD facilities.

The DOD has furnished assistance and guidance in emergency mass care concerning feeding, sanitation, water purification equipment, and emergency housing. It has assisted in development and use of radiation instruments, and its personnel have participated in the dissemination of information on such subjects at FCDA meetings. An example was a discussion sponsored by the Naval Medical Research Institute and conducted in one FCDA region on the medical aspects of radiological defense.

With FCDA, the DOD developed courses on emergency mass feeding, and Army instructors conducted them at military facilities in each Army Area.

The DOD assisted the FCDA police services in preparations for a film on unexploded ordnance reconnaissance.

In joint participation with other Government agencies, the DOD has enabled FCDA to further refine its plans and make considerable progress technically. Some examples follow: (1) Study of primary fire threat in cooperation with the Department of Agriculture; (2) study by Stanford Research Institute on "Impact of Air Attack in World War II" sponsored by FCDA with the full cooperation of the DOD in providing source materials; (3) "Project East River" jointly sponsored by the FCDA, NSRB, and DOD; (4) study of thermal effects by the Armed Forces Special Weapons Project and the Forest Service of the Department of Agriculture.

The Chemical Corps assisted in developing a low-cost gas mask for civilian use in defense against various hazards such as chemical warfare. Tests for this development were conducted by the Chemical Corps with AEC participation.

The Army Corps of Engineers provided technical advice and assistance on specifications for engineering supplies and equipment stockpiled for emergency use.

The report to the DOD by the Institute of Research, Lehigh University, has been of considerable help to FCDA technical services in supplying information on blast resistance of various types of buildings.

The Air Defense Command, with which FCDA is closely allied for advance warning, has provided guidance on the warning system through the United States Air Force.

The Navy has agreed to make tests for FCDA on some of the equipment used in the warning system.

The Signal Corps has furnished advice based upon experience, in developing communication equipment specifications.

The DOD, with the Office of Defense Mobilization, is participating in discussions concerning certain surplus stocks which could be used in civil defense.

The DOD, in joint conferences with the Office of Defense Mobilization and FCDA, has assisted in the development of damage assessment procedures which will serve the joint interests of the three agencies.

DEFENSE TRANSPORT ADMINISTRATION

This agency has continued its cooperation with ODM's Committee on Defense Transportation and Storage in formulating national plans for storage and emergency surface domestic transportation, including highway, rail, inland water, and port.

FEDERAL COMMUNICATIONS COMMISSION

FCC has reported extensively on results of the nationwide CONELRAD tests so progress and methods could be evaluated.

It has furnished material assistance in frequency allocation problems involving radio station licenses for the Radio Amateur Civil Emergency Service (RACES) program and other frequencies available to civil defense. It has also assisted in obtaining additional frequencies for FCDA use.

GENERAL SERVICES ADMINISTRATION

Federal Supply Service

This Service has continued to serve as a procurement, inspection, and testing agency in obtaining FCDA emergency engineering supplies and equipment. It also has handled purchase of training, rescue, and other special purpose civil defense materials.

In addition, it has administered construction contracts for, and has assisted in the establishment of, emergency standby power at national emergency control centers. It has also operated Federal warehouses under FCDA supervision and provided personnel for warehouses in operation.

Public Buildings Service

This office has surveyed for shelter areas and has set up facilities self-protection programs designed to coordinate protection plans in all Government buildings over which it has jurisdiction, both in Washington area and in the field. It has selected nearly a thousand

Federal employees who have been trained in FCDA courses in Civil Defense Training Centers covering rescue activity. These were either 2-day light rescue, or 1-week rescue courses.

It also has handled lease and contract negotiations for warehouses and other emergency storage facilities acquired by FCDA.

In addition, this office has served FCDA internal operations in an advisory capacity on fire protection, safety methods, and security.

HOUSING AND HOME FINANCE AGENCY

This agency has continued its studies and recommendations on emergency housing, postreconstruction and rehabilitation, and use of community facilities. It also has continued contributions to vulnerability analysis studies for civil defense.

HHFA and FCDA task forces have studied the following problems: emergency temporary shelter for civil defense use; emergency repair of housing; conversion of structures to acceptable emergency housing; community facilities and utilities; compensation of communities for aid rendered in an emergency, and the preattack relationship between the Federal Government, States, and localities in connection with relocation of community facilities necessitated by attack. Guidelines have been set for future work on these problems, and priorities for more advanced studies are being determined.

DEPARTMENT OF THE INTERIOR

The Bureau of Indian Affairs, the Office of Territories, the Alaska Railroad, and the Alaska Road Commission have cooperated with FCDA. They have assisted the Director of Civil Defense for the Territory of Alaska in developing an overall civil defense program.

FCDA has been able to use the results of certain studies made by the Department on the mineralization of saline waters. The Bureau of Mines has continued to furnish speakers for our FCDA training courses and seminars both in Washington and the field.

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

The FCDA has discussed delegating emergency authority in certain fields with the Department of Health, Education, and Welfare. Both the Department and the FCDA have devoted considerable efforts in arriving at the proper procedures for accomplishing this delegation. They have also attempted to determine the specific fields in which such delegation of authority would be feasible. Some of the fields studied for this purpose are as follows: financial assistance to needy persons for emergency welfare and other appropriate service; food and drug inspection needs to protect the citizens against contamination; and detection, identification, and control of communicable diseases of humans.

Through its constituent agencies, the Department has stepped up cooperation with FCDA, State, and Territorial civil defense directors in the establishment of emergency public health and welfare planning services.

Public Health Service

The Public Health Service has continued its assistance in determining medical requirements, and in reviewing plans of applicants for RFC loans for hospital construction, with respect to civil defense needs.

Assisted by FCDA, it has incorporated biological warfare defense training into its regular courses for State and local officials. It has given guidance on the training needs dealing with the nature and operational handling of radiation effects.

It has also supplied FCDA with the results of its research and experience in such fields as communicable disease control, maternal and child health services, emergency food and drug control, and emergency public health and sanitation.

Its conferences with FCDA personnel on insect and rodent control supplies have assisted in developing civil defense procedures.

Evaluation of biological warfare hazards to water and food supplies by the Public Health Service has resulted in recommendations to FCDA for study and application. It has also performed an analysis of the operational responsibility for emergency sanitation services.

Office of Education

This Office has served as consultant to FCDA on educational developments and methods as required for guidance of civil defense training and education. The Office developed and published an extensive special issuance of its magazine *School Life* under the title of *Citizenship for the Atomic Age* to cover necessary development for civil defense.

Food and Drug Administration

The Food and Drug Administration, in cooperation with the National Institutes of Health, determined for FCDA the various drugs and medicines subjected to the atomic civil effects test. The information derived from testing these items was needed for guidance in planning their storage and use in an emergency.

It has continued research to establish radioactivity field standards for food and drugs. It has also consulted with us and furnished guidance on a comparative method for monitoring of food and water.

DEPARTMENT OF JUSTICE

The Department has continued to serve in development of operating procedures regarding across-the-border arrangements with Canada in the emergency period. It has a member on the Joint U. S.-Canadian Civil Defense Committee.

The Department, through its Federal Bureau of Investigation, has assisted FCDA in operating its security program.

DEPARTMENT OF LABOR

The Department has developed certain guidance material and has initiated studies on the civil defense program for registration and information needs. This includes information on workmen's compensation and other labor problems.

LIBRARY OF CONGRESS

FCDA provided advice and guidance to the Library in the development of self-protection programs for libraries, museums, and archives. This has resulted in the publication of a manual for civil defense guidance of institutions of its type and participation in civil defense conferences for librarians.

The Library has offered the use of its facilities for research in the field of civil defense. FCDA police services have benefited by such research concerning preattack dispersal of populations from potential target areas. FCDA fire services have also benefited from the research conducted by the Library for the United States Air Force relative to fire spread.

OFFICE OF DEFENSE MOBILIZATION

ODM has continued directing a working group of representatives of DTA, DATA, NSA, DPA, DOD and FCDA, which is developing operating procedures for the nationwide emergency transportation structure.

The Transportation and Storage Committee established by ODM includes members from the Departments of State, Treasury (Coast Guard), Defense, Interior, Agriculture, Commerce, and Foreign Operations Administration, Defense Transportation Administration and FCDA. The Committee is chaired by the Under Secretary of Commerce for Transportation and determines policies and operating procedures proper to an emergency period, including civil defense requirements.

The office also has continued to coordinate the activities of FCDA,

Department of Defense, and the American National Red Cross in the National Blood Program to meet the Nation's present and stockpiling requirements for blood and blood derivatives.

Staff members have also continued to work with FCDA on solutions to problems such as: self-protection plans for industrial facilities; protective construction within industry in general; policy control and operation of the industrial dispersion program and proper application of tax amortization; damage reporting and assessment for restoration of the industrial complex; and community facilities phases of industry-government postattack production plans.

RECONSTRUCTION FINANCE CORPORATION

The RFC has regularly processed loans on construction which will have civil defense use in an emergency.

DEPARTMENT OF STATE

In all dealings with foreign nations, FCDA has been guided by State Department experience and policy. Considerable work with countries of the North Atlantic Treaty Organization and with Canada has been through conference with officials of the Department.

TREASURY DEPARTMENT

The Department has continued its cooperation on plans for harbor operations, protective measures, and assistance to local civil defense groups in developing their harbor organizations and training programs.

The Department has participated in further discussions relative to suspension of customs clearance at the United States-Canadian border to facilitate movement of civil defense forces. The Department has a member on the Joint U. S.-Canadian Civil Defense Committee.

It has also continued developing procedures to provide operating funds to FCDA in a civil defense emergency, to assure continuation of public cash and credit operations, and to safeguard their records of Federal employees, pensioners and others.

Its issuance of regulations allowing tax exemptions on money spent by industry for civil defense construction or installations has allowed needed facilities to be added.

FCDA has worked out policies and a Memorandum of Agreement with the Coast Guard to deal with the use of small craft in an emergency. This is of major benefit to FCDA planning in many coastal cities and areas having water transportation problems.

VETERANS ADMINISTRATION

This agency has incorporated protective construction recommended by FCDA in Veterans' Administration hospitals being built in critical target areas.

It has also participated in planning for mobile support of civil defense casualty services, and has planned radiological defense training for selected Veterans' Administration personnel.

It has completed publication of a current comprehensive manual which serves as a guide to its field establishment in the conduct of civil defense planning and emergency activity.

AMERICAN NATIONAL RED CROSS

The Red Cross has continued to cooperate in many areas of civil defense. It has expanded its canteen service training program to include civil defense emergency feeding for workers. Its present training emphasis is on improvising cooking equipment and other necessary equipment for care of people in emergencies.

During 1953 the Red Cross trained additional personnel as follows: approximately 1,000,000 in first aid; 231,985 in home nursing; and 4,352 as volunteer nurse's aides.

In addition, it has continued its participation as equal partner with FCDA and the Department of Defense in the National Blood Program, and is serving as the official collecting agency.

NATIONAL RESEARCH COUNCIL

The NRC of the National Academy of Sciences has been of assistance in the blood program, emergency care of casualties, in developing bactericidal materials for water supply, and in other special problems. FCDA anticipates that NRC studies now in progress will help determine the maximum tolerable levels to avoid adverse physiological effects of excessive chlorination of water supplies.

RECOMMENDATIONS TO THE CONGRESS OF THE UNITED STATES

We recommend the enactment of legislation to repeal section 307 of the Federal Civil Defense Act of 1950, as amended (50 U. S. C. App. 2297). The objective of the proposal is to continue indefinitely the present authority of the President under title III of such Act to deal with a civil defense emergency. This authority, which section 307 would terminate in any event as of June 30, 1954, does not become available until the Congress or the President finds that an attack upon the United States has occurred or is anticipated and that the national safety therefor requires an invocation of the provisions of title III. Thereafter, such authority is subject to termination at any time by either concurrent resolution of the Congress or Proclamation of the President.

We recommend the enactment of legislation (S. 1309 and H. R. 2318, 83d Congress) to amend sections 203 and 403 (b) of the Federal Civil Defense Act of 1950, as amended (50 U. S. C. App. 2283 and 2255). The objectives of the proposal are (a) to authorize the various Federal departments and agencies having jurisdiction over customs, immigration, import, export, and related matters, to allow civil defense forces and equipment of the United States and of neighboring countries to cross and recross our international border for temporary periods; and (b) to exempt all nationals of neighboring countries or of the countries that are parties to the North Atlantic Treaty from that portion of the loyalty oath for civil defense workers which requires swearing allegiance to the Constitution.

We recommend the enactment of legislation (S. 2310, 83d Congress) to amend section 201 of the Federal Civil Defense Act of 1950 (50 U. S. C. App. 2281) by adding thereto a new subsection generally authorizing the Federal Civil Defense Administrator to make financial contributions to the States, which must be equally matched, for the purpose of providing compensation for personal injury or death sustained by any person who is a member of or registered for membership in the United States Civil Defense Corps while in performance of his duties or while engaged in authorized training. Contributions to any State could not exceed one-half the cost of providing benefits that would be payable if the Federal Employees' Compensation Act were applicable, on the basis of presumed compensation of \$300 per month, to the United States Civil Defense Corps.

Appendix A

CIVIL DEFENSE ABROAD

During the past 5 years many nations, particularly those in Europe, have established or reactivated their civil defense organizations. Most European countries, especially those close to the iron curtain, must expect attack both by ground forces and from the air.

In large part because of the civil Geneva Conventions of 1949, civil defense organizations have been completely separated from military establishments. They have concentrated on technical training, evacuation, construction of shelters, and integration of a warning system which may allow populations to move out of congested areas before an attack. Many of these nations lie so close to potential launching sites that preattack warning of more than 5 to 10 minutes may be impossible. As a consequence, civil defense planning includes (a) designation of evacuation areas to which a greater part of the population of major cities may be moved prior to any outbreak of hostilities, and (b) provision of shelters only for civil authorities, essential industries, and workers required to maintain national continuity.

During 1953 there has been a growing tendency on the part of the European nations to develop civil defense along international lines. In part, this parallels the activities directed toward the formation of common military defenses for the Community of Europe. The nations comprising the North Atlantic Treaty Organization have taken steps to establish an international warning system and have outlined plans for mobile support across international borders and for the exchange and standardization of techniques. Several nongovernmental organizations have been formed to emphasize the importance of civil defense and increase public awareness of the needs for organization. Chief among these are the Council of European Municipalities and the International Union for the Protection of Populations.

In Europe the most profound understanding of the need for an extensive civil organization to cope with the effects of attack exists in the Scandinavian countries and the United Kingdom. There have been no significant developments in France due to budgetary problems; German civil defense is in the planning stage; Belgium, Italy, and the Netherlands have only initiated laws to establish civil defense organizations; in Greece, Turkey, Spain, and Portugal, development of civil defense has been rudimentary.

The development of civil defense in the Scandinavian countries has been perhaps more intense than in any other European nation. The Scandinavian countries in recognition of the Geneva Convention have taken measures to insure that civil defense forces are in no way related to Army, Navy, or Air defense staffs. In general, the organization of civil defense is considered to be equal with other defense organizations, and plans have been made to permit the independent operation of these forces in the event of invasion.

GREAT BRITAIN

In the United Kingdom civil defense has been revitalized and is being redeveloped to provide protection against modern weapons. Several ministries share the more important civil defense responsibilities. The Home Office is responsible for supervising program planning, determining all civil defense requirements and certain important operational responsibilities, including recruitment, training, and direction of the civil defense corps, police and fire services. The Home Office is also responsible for the coordination of research and intelligence.

The Ministry of Health is charged with the development of evacuation plans, care of the homeless, hospital and first-aid services, organization of ambulance units, supply of blood, and organization of sewage disposal, water supply, and burial of the dead.

The War Office and Air Ministry are responsible for the operation of various detection services and transmission of warnings to the civil defense warning system. The Army is also expected to assist civil defense forces as the situation requires.

During 1953 the British also initiated a separate civil defense program for large industrial and commercial premises in the concentrated areas. Initially the program will apply to establishments which employ more than 200 workers. Government assistance, either in the form of technical or financial aid, is provided not only for government owned or controlled establishments, but also for those considered essential for war purposes.

Great Britain expects to train 500,000 volunteers in the civil defense corps and allied services. At the end of August 1953, personnel recruited numbered approximately 395,000 in the civil defense corps, auxiliary fire services, national hospital reserve, and the special constabulary. Members of the civil defense corps and auxiliary firemen are reimbursed for subsistence or lodging if civil defense duties require them to be away from their homes. The reimbursement rates approximate \$3 a day.

The British maintain a Civil Defense Staff College and three technical schools. Courses in the Staff College are primarily adminis-

trative; the technical schools provide training for rescue, fire fighting, and other services. Under the new industrial program, over 1,100 instructors have been trained.

NORWAY

In Norway, civil defense is one of the three elements of total defense; the others are military and economic defense. Organizationally, civil defense is the responsibility of the Ministry of Justice. The civil defense program was established in 1948 as a 4-year plan to provide shelters, communications, and emergency supplies and to create a civil defense force of about 61,000 people. The total cost of this program is estimated to be \$21,700,000, and does not include expenditures for defense made by individual property owners, industrial concerns, and railways.

By law the program divides civil defense into two major purposes: actions to prevent damage and actions to remedy damage. The preventive measures comprise evacuation, provision of shelters, warning systems, and blackout. Remedial actions include casualty and rescue services, gas identification and decontamination, and public utility repair services.

Evacuation planning is directed toward the dilution of population density in the larger cities. Altogether it is expected that 420,000, or about 40 percent of the population of 63 cities and towns, will be evacuated. It is expected that some 11,000 persons will be required to carry out evacuation, and workers have already been appointed and trained. In addition, some 22,000 persons have been appointed to control billeting areas; these have also been recruited and trained.

Provision of shelters is considered in two parts; municipalities are required to provide public shelters, and each house must provide shelter for its occupants. The 4-year civil defense plan includes provisions for public shelters for approximately 20 percent of the population of the 50 largest cities, or 180,000 people. As of July 1, 100 shelters with space for 58,000 people had been completed, and the program was expected to be two-thirds completed by the end of 1953. The government assumes two-thirds of the expenditures by municipalities for public shelters. These shelters are planned in such a way that they may be used in peacetime for storage space, garages, etc. A warning system is established and 700 acoustic warning appliances have been installed to reach approximately half of the population. Warning will be given to the population on the basis of decisions or observations of the Air Force. The civil defense organization has trained warning officers in the Air Force operations rooms as well as in the Air Force radar stations.

Under the present organization plans the civil defense forces are assigned either to local civil defense organizations or to organized mobile columns. These columns number about 200 men each and are located in 14 sub-regions throughout the country to provide mutual assistance to any area which cannot cope with effects of attack. Approximately one-third of the total Norwegian civil defense personnel is allocated to the fire services. This allocation is particularly concentrated in the large cities and will provide ten times as many fire fighters as in peacetime.

Under the 4-year plan, total civil defense forces are to number approximately 61,000 persons, including 9,000 women. As of July 1, 1953, 51,000 had already received initial training and two or three refresher courses. The remaining 10,000 persons are expected to be recruited and trained by June 30, 1954. The largest portion of the civil defense forces are obtained through conscription and represent men over 45 years of age or others who cannot be mobilized for military services. Approximately 10 percent of the organization is made up of volunteers.

Material requirements for the civil defense program will cost approximately \$8,000,000. The construction program, comprising control centers and depots, mobile column camps and storerooms, will require an expenditure of approximately \$13,000,000. As of July 1, 1953, 60 control centers had been completed, and 12 more were to be added by the end of 1953. Ninety depots in which civil defense forces will be stationed under emergency conditions have been completed. In most instances, these depots are tunnels constructed in rock. The program calls for a total of 150 such depots with space for 30,000 people.

In addition to the specific civil defense measures which the government and municipalities are providing, self-defense measures are required of all property owners, public institutions, and industries. Property owners are required to protect inhabitants of dwellings, and banks, department stores, hotels, etc., must also provide adequate shelters.

Industrial concerns employing more than 50 persons and power and fuel plants are required to establish separate civil defense organizations including casualty, rescue, and police services. It is expected that the total industrial civil defense program, comprising about 1,500 plants, with a total labor force of 190,000 persons, will organize a force of 4,000 civil defense workers. All expenditures for industrial civil defense are borne by the industries.

DENMARK

The general organization and administration of civil defense in Denmark is similar to Norway. Except for hospital services, which

are administered by the Health Directorate, the entire program is under the administrative direction of the Ministry of Home Affairs. As in Norway, the program is directed toward preventive and remedial measures.

The program was established by law in 1949, and total expenditures at the end of 1952 amounted to approximately \$27,000,000. These do not include municipal expenditures of approximately \$1,200,000 nor the expenses of industrial establishments. The current annual budget for operating the civil defense program is approximately \$2,300,000.

Present evacuation plans call for removing 30 percent of the population from congested areas. Public shelters will be provided for essential workers and others who are unable to evacuate, and all new buildings are required to provide private shelter areas. Denmark has no rocky hills or other areas affording natural shelters. As a consequence, all shelters are built of reinforced concrete. At the present time, approximately 5,100 shelters are available and it is intended eventually to construct total shelter capacity for approximately 500,000 persons.

According to Danish legislation, the public auxiliary service, not to be confused with the population's self-protection, or civil defense corps, is divided into two groups: the State's national auxiliary service, which is not confined to any particular place but can be employed where required, and the local auxiliary service, which is normally restricted to the urban community it serves. Present strength of these services is about 110,000 persons.

The civil defense corps, provides for 327 permanent officers employed by the State to train draftees who are called up in the same way as personnel for the Armed Forces. At the present time, 1,200 men can be called up annually. These comprise the force in peacetime which is formed in 3 brigades of 3 columns each, with 3 sections in each section, making a total of 27 sections. The present mobilization strength of the corps is about 8,000 men. As the mobilization force increases each year, it should be possible gradually to bring the corps up to a mobilization strength of 17,000 to 18,000 men, or 8 brigades. The smallest tactical unit, the column, consists in peacetime of 29 permanent officers and 150 conscripts; in wartime, of 97 officers and 677 conscripts. The training of personnel takes place at 12 barracks at various places in the country, though the main force is quartered near Copenhagen.

Young women volunteers will be used for light work such as telephone and radio service, catering and as chauffeurs and dispatch riders. Suitable women are trained as officers. They are trained for 3½ months at the schools at which they are quartered, and treated as conscripts, with the same rights and obligations.

The civil defense corps is equipped with completely modern material: big four-wheel-drive, cross-country vehicles, equipped with everything considered necessary from wireless, field kitchens, ambulances, fire-fighting equipment, cranes, and bulldozers to transportable field dressing stations. In peacetime, the corps will have 993 special vehicles, 896 of which have been purchased and are at present being fitted. Over 400 vehicles are already in use and the rest were expected to be finished before the end of 1953. On mobilization, the rolling stock of the corps will be supplemented by about 1,200 motor vehicles, which have been registered.

At the local level, civil defense committees are responsible for organizing fire, rescue, welfare, and other technical services. All major production plants are required to establish plant protection programs at their own expense. These programs include fire, rescue, and patrol services for which the national government supplies certain basic equipment including pumps, stretchers, and gas masks.

A warning system provides a wired communication network covering the entire country. Signals to the general public are effected by electrically-operated sirens which are started from civil defense command centers in each town. Warning information is obtained from the Air Force.

SWEDEN

Sweden's civil defense organization is considered one of the best in Europe. The organization and administration of civil defense in Sweden is similar to the other Scandinavian countries. It is separate from other defense measures but considered equal. The nation has elaborate plans for placing major essential industries, together with workers and governmental agencies, into shelters blasted into rock mountains; and in the event of occupation the nation can be separated into several areas, each of which will operate autonomously. The current budget for civil defense is approximately \$12,600,000 per year, of which approximately half is allocated for shelter construction.

Every able-bodied man or woman between the ages of 16 and 65 is required to take on a civil defense function and must devote 60 hours per year to special civil defense training. All fire-fighting equipment and personnel are subject to civil defense orders in case of attack. Shelters probably form the single most important part of the Swedish civil defense program, and it is expected that the construction program for the next 10-year period, which will require more than \$100,000,000, will provide shelters for approximately 1,000,000 people. These shelters are not intended solely for war emergency but are designed for such peacetime uses as department stores, theaters, storage areas, etc. Many are outfitted with air conditioning, anti-gas filters,

decontamination chambers, and auxiliary power generators sufficient in size to provide emergency lighting for the larger cities.

As in the other Scandinavian countries Sweden expects to evacuate a substantial part of the population from the center of major cities. The amount of warning time is not expected to be more than 15 minutes, but under instructions issued to the general public, the population will be asked to move into the country voluntarily when the international situation indicates the necessity of such action.

Unlike the other Scandinavian countries, Sweden has not been at war nor occupied for 150 years and has not been attacked on its own soil for even a longer period. Recently, the civil defense organization conducted a comprehensive survey to determine Swedish public knowledge and attitudes and will to resist, if attacked by ground forces or atomic weapons.

This national cross-section study covers such important questions as Swedish expectations of war, the potential effectiveness of civil defense if atomic bombs were not used or if atomic bombs were used, the amount of protection shelters can give, knowledge of protective measures against gas, and knowledge of the alert alarm. Over three-quarters of the population apparently believes that any aggressor should be resisted even if the outcome is uncertain. As a result of these surveys, the Swedish civil defense organization intends to publicize its shelter program to reassure the public concerning individual safety.

RUSSIA

Available evidence for 1953 indicates that the U. S. S. R. has continued to place strong emphasis on civil defense. Since no new facts are presently reportable, it is assumed that no great changes have taken place since 1952 when the known facts were as follows:

1. All voluntary training activities were merged in 1952 under central control with a new title of DOSAF, or "Voluntary Society for the aid of the Army, Air Force, and Navy." This intensification of the civil defense program is expected to reach every village and every machine tractor station in the Soviet Union.

2. Since the 1920's, Russia has been decentralizing its industrial set-up and developing its industry in the East. Industrial dispersion admittedly is a move to improve Russia's strategic position. There is every indication that Russia has increased these tactics in accordance with civil defense planning. It is almost certain that strong measures will be taken to protect Moscow. The large subterranean vaults of the Moscow subway could serve as an excellent shelter system. Construction of all new homes in Stalingrad must include provision for shelters, and concrete shelters also have been installed in other areas.

3. The Russian equivalent of the Ground Observer Corps in this country was increased in 1952 to more than 1,000,000 members. Russia has long recognized the importance of civil defense and since 1947 has been training workers at a rate of about 5,000,000 a year. Total Russian civil defense forces are estimated at more than 22,000,000.

WESTERN HEMISPHERE

In the western hemisphere, Canadian civil defense follows a pattern similar to that of the United States. Joint preparations for mutual operations between the two countries, initiated in 1951, continue. Communications for attack warning have been installed at several places on both sides of the border and both nations have agreed to control electromagnetic radiation (CONELRAD) in the event of approach of enemy aircraft. South of the United States, no general preparations are being taken, except in Brazil which is in the process of reorganizing its civil defense.

OTHER COUNTRIES

Elsewhere in the world there are indications that the development of civil defense as an independent governmental activity or as part of military defenses is being considered or undertaken. The Egyptian Government has established a civil defense program as part of the Ministry of Defense. Both the Indian and Pakistan Governments are establishing civil defense organizations within their Ministries of Interior and are providing some form of civil defense training with primary concentration on defense against bacteriological warfare and the control of panic. The Australian Government has requested United States civil defense information and has indicated that a separate agency is to be established.

Appendix B

COOPERATION WITH FOREIGN COUNTRIES

During 1953 FCDA continued active cooperation with foreign civil defense organizations and extended cooperation to others. Such relationships provide FCDA with information on the techniques and degree of civil defense development in other countries and make available our published information to friendly nations.

Early in the year the Administrator visited each of the Scandinavian countries, as well as Germany and the United Kingdom. The principal purpose of these visits was to secure first-hand knowledge of civil defense planning and development in general, as well as specific plans for evacuation of people from target areas and provision of shelters, not only for civil defense forces, but in certain instances for entire industries.

During the year, at the request of the Department of State, other FCDA executives attended meetings of the NATO Committee on Civil Defense, as the official United States delegates. This provided further opportunity to strengthen the understanding and relationship between FCDA and the civil defense organizations of European nations.

CANADA

Civil defense cooperation on mutual aid and mobile support, attack warning and technical advancement between the United States and Canada was increased. The Joint United States-Canadian Committee on Civil Defense, established in 1951, set up working groups comprised of United States and Canadian counterparts to consider technical problems common to both nations. Direct communications between the members of these groups was authorized.

These working groups in 1953 directed their attention to health, welfare, and special weapons defense; training and education; public affairs; the development of legal methodology for the concluding of specific agreements between States and provinces; establishment of immigration and customs regulations regarding the movement of civil defense personnel, materials, and equipment across the international boundary; warning and communications services; standardization of terminology and equipment and reimbursement for the cost of civil defense aid.

Through these groups this country and Canada have jointly developed a civil defense blood program, cooperated on research in the manufacture and use of radiological monitoring instruments, and evolved measures for general epidemic control. In the field of public affairs, informational releases, motion pictures, film strips, and posters have been exchanged, and arrangements were made for the adaptation of one of the "Alert America" convoys for Canadian use. Civil defense officials from city, State and National Governments in both countries have attended technical and staff schools established by both the United States and Canadian civil defense organizations.

Interim procedures were developed to permit the free movement of personnel and equipment across the international border during civil defense exercises. The installation of electrical communications between the two countries for transmission of attack warning was completed; alert procedure of both nations was standardized, and CONELRAD was accepted for North American implementation, insofar as possible.

During the year, several test exercises were carried out between American and Canadian cities. Informal agreements were developed by New York, Michigan, and Washington with bordering Canadian provinces for mutual aid.

DENMARK

FCDA established informal relations with the Danish civil defense organization, as a result of which current data on civil defense in that country, its progress and planning have been furnished to this agency. Of particular interest was information on evacuation, construction of shelters, and the warning system.

FRANCE

The exchange of information between the French Director of Civil Defense and FCDA continued through 1953. In addition, the Director of Civil Defense for the Paris prefecture visited the United States and reviewed new techniques on rescue, fire fighting, police services, and decontamination. He also visited several of the larger cities in the United States, where, under the auspices of FCDA, he was able to study municipal civil defense.

GERMANY

During the year, a German Mission consulted FCDA on civil defense plans. The West German Government had previously taken steps to build a civil defense organization and had made plans for air-raid warning devices and shelters.

GREAT BRITAIN

Extensive exchange of civil defense information and materials continues between FCDA and the British Home Office. Publications, films, and printed materials are being exchanged. This exchange includes studies on the effectiveness of training methods, civil defense organization, health and welfare.

Representatives of FCDA have consulted British civil defense authorities in London, and arrangements have been made for British civil defense workers to continue making similar visits to the United States.

During October the Deputy Science Advisor to the British Home Office on civil defense matters visited FCDA to discuss research in general and measures to control thermal damage in particular.

SWEDEN

The exchange of technical information initiated during 1952 continued during the past year. Several visits by FCDA personnel to Sweden strengthened the working relationship between Sweden and the United States. The Swedish Civil Defense Director made available considerable technical data on construction of shelters and evacuation programs developed by that country.

EGYPT

In May at the request of the Department of State, FCDA provided a 3-day orientation for seven officers of the Egyptian Army. This included a review of civil defense organization in the United States and the manner in which such services as fire, rescue, and police, would operate during an emergency.

BRAZIL

During August and September, at the request of the Department of Defense, FCDA provided orientation to officials of the Brazilian Government. This orientation was similar to that given the Egyptian officials, and included, in addition, staff courses at the Civil Defense Training Center at Olney and detailed discussions of the organization of civil defense at all levels.

CUBA

Cuba has agreed to cooperate with the United States on the implementation of North American CONELRAD. In addition, FCDA is exchanging civil defense information with the Cuban Government.

OTHER COUNTRIES

FCDA has also exchanged information with Switzerland, South Africa, Argentina, Australia, the Philippines, China (Formosa), Turkey, Greece, Belgium, the Netherlands, Portugal, India, Pakistan, and Italy.

COOPERATION WITH NATO NATIONS

During the year FCDA has, at the request of the Secretary of State, furnished the delegation for two meetings of the North Atlantic Treaty Organization Committee on Civil Defense. In addition, FCDA has provided the Department of State with staff studies and technical reports concerning cooperation within NATO on civil defense matters.

Appendix C

FCDA ADVISORY COMMITTEES

The Federal Civil Defense Administration is responsible under Public Law 920 for preparing national civil defense plans and programs. To accomplish this, FCDA is authorized to study and develop civil defense measures which will help provide adequate protection of life and property. In developing these measures and in planning the national civil defense program, FCDA has constantly sought and utilized the guidance and advice of competent, recognized experts in all fields pertaining to civil defense.

There are some 50 or more general and technical advisory committees made up of specialists who generally provide their advice and assistance on a public service basis. These committees counsel on every facet of civil defense in such diverse fields as industry, labor, engineering, emergency welfare, veterans affairs, fire fighting, and public information.

The major committee is the National Civil Defense Advisory Committee whose 12 members are appointed by the President. The FCDA Administrator serves as committee Chairman. Six members represent State and local governments and the remainder are citizens selected on the basis of their broad and varied experience.

The Industry Advisory Committee was organized and met twice during 1953. A steering subcommittee, of the parent industry committee, under the chairmanship of Stanley C. Hope, president, Esso Standard Oil Co., recommended test operations be set up in a pilot city to explore ways and means of stimulating and implementing the support which local industry can give to community civil defense. Hartford, Conn., was selected as the first city for testing the plan. This operation proved so successful that the plan is being extended to other cities.

The Women's Advisory Committee was reorganized and enlarged during the past year to make it more representative. This committee now includes about 50 outstanding women leaders—heads of national organizations and leaders in welfare and other public service activities. The committee is assisting FCDA in its evaluation of the overall civil defense program and is advising the agency in its relations with national women's groups and the means by which these groups can contribute to the national security program.

Appendix D

PUBLIC LAW 875—81st CONGRESS

(64 Stat. 1109; 42 U. S. C. 1855)

AN ACT

Purpose.

To authorize Federal assistance to States and local governments in major disasters, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That it is the intent of Congress to provide an orderly and continuing means of assistance by the Federal Government to States and local governments in carrying out their responsibilities to alleviate suffering and damage resulting from major disasters, to repair essential public facilities in major disasters, and to foster the development of such State and local organizations and plans to cope with major disasters as may be necessary.

Definitions.

SEC. 2. As used in this Act, the following terms shall be construed as follows unless a contrary intent appears from the context :

(a) "Major disaster" means any flood, drought, fire, hurricane, earthquake, storm, or other catastrophe in any part of the United States which, in the determination of the President, is or threatens to be of sufficient severity and magnitude to warrant disaster assistance by the Federal Government to supplement the efforts and available resources of States and local governments in alleviating the damage, hardship, or suffering caused thereby, and respecting which the governor of any State (or the Board of Commissioners of the District of Columbia) in which such catastrophe may occur or threaten certifies the need for disaster assistance under this Act, and shall give assurance of expenditure of a reasonable amount of the funds of the government of such State, local governments therein, or other agencies, for the same or similar purposes with respect to such catastrophe;

(b) "United States" includes the District of Columbia, Alaska, Hawaii, Puerto Rico, and the Virgin Islands;

(c) "State" means any State in the United States, Alaska, Hawaii, Puerto Rico, and the Virgin Islands;

(d) "Governor" means the chief executive of any State;

(e) "Local government" means any county, city, village, town, district, or other political subdivision of any State, or the District of Columbia;

(f) "Federal agency" means any department, independent establishment, Government corporation, or other agency of the executive branch of the Federal Government, excepting, however, the American National Red Cross.

SEC. 3. In any major disaster, Federal agencies are hereby authorized when directed by the President to provide assistance (a) by utilizing or lending, with or without compensation therefor, to States and local governments their equipment, supplies, facilities, personnel, and other resources, other than the extension of credit under the authority of any Act; (b) by distributing, through the American National Red Cross or otherwise, medicine, food, and other consumable supplies; (c) by donating or lending equipment and supplies, determined under then existing law to be surplus to the needs and responsibilities of the Federal Government, to States for use or distribution by them for the purposes of the Act including the restoration of public facilities damaged or destroyed in such major disaster and essential rehabilitation of individuals in need as the result of such major disaster; and (d) by performing on public or private lands protective and other work essential for the preservation of life and property, clearing debris and wreckage, making emergency repairs to and temporary replacements of public facilities of local governments damaged or destroyed in such major disaster, providing temporary housing or other emergency shelter for families who, as a result of such major disaster, require temporary housing or other emergency shelter, and making contributions to States and local governments for purposes stated in subsection (d). The authority conferred by this Act, and any funds provided hereunder shall be supple-

Federal assistance authorized (when directed by the Pres.).

P. L. 134, 83d
Cong., 1st
Sess.; 42 USC
1855b.

P. L. 107, 82d
Cong., 2d
Sess.; 42 USC
1855b.

mentary to, and not in substitution for, nor in limitation of, any other authority conferred or funds provided under any other law. Any funds received by Federal agencies as reimbursement for services or supplies furnished under the authority of this section shall be deposited to the credit of the appropriation or appropriations currently available for such services or supplies. The Federal Government shall not be liable for any claim based upon the exercise or performance or the failure to exercise or perform a discretionary function or duty on the part of a Federal agency or an employee of the Government in carrying out the provisions of this section.

Delegated by
E. O. 10427.

Cooperation
with other
agencies.

SEC. 4. In providing such assistance hereunder, Federal agencies shall cooperate to the fullest extent possible with each other and with States and local governments, relief agencies, and the American National Red Cross, but nothing contained in this Act shall be construed to limit or in any way affect the responsibilities of the American National Red Cross under the Act approved January 5, 1905 (33 Stat. 599), as amended.

Direction of
the Pres.

Delegated by
E. O. 10427.

SEC. 5. (a) In the interest of providing maximum mobilization of Federal assistance under this Act, the President is authorized to coordinate in such manner as he may determine the activities of Federal agencies in providing disaster assistance. The President may direct any Federal agency to utilize its available personnel, equipment, supplies, facilities, and other resources, in accordance with the authority herein contained.

Regulations.
Delegated by
E. O. 10427.

(b) The President may, from time to time, prescribe such rules and regulations as may be necessary and proper to carry out any of the provisions of this Act, and he may exercise any power or authority conferred on him by any section of this Act either directly or through such Federal agency as he may designate.

Repair of
Federal
facilities.

SEC. 6. If facilities owned by the United States are damaged or destroyed in any major disaster and the Federal agency having jurisdiction thereof lacks the authority or an appropriation to repair, reconstruct, or restore such facilities, such Federal agency is hereby authorized to repair, reconstruct, or restore such facilities to the extent necessary to place them in a reasonably usable condition and to use therefor any available funds

not otherwise immediately required: *Provided, however,* That the President shall first determine that the repair, reconstruction, or restoration is of such importance and urgency that it cannot reasonably be deferred pending the enactment of specific authorizing legislation or the making of an appropriation therefor. If sufficient funds are not available to such Federal agency for use in repairing, reconstructing, or restoring such facilities as above provided, the President is authorized to transfer to such Federal agency funds made available under this Act in such amount as he may determine to be warranted in the circumstances. If said funds are insufficient for this purpose, there is hereby authorized to be appropriated to any Federal agency repairing, reconstructing, or restoring facilities under authority of this section such sum or sums as may be necessary to reimburse appropriated funds to the amount expended therefrom.

SEC. 7. In carrying out the purposes of this Act, any Federal agency is authorized to accept and utilize with the consent of any State or local government, the services and facilities of such State or local government, or of any agencies, officers, or employees thereof. Any Federal agency, in performing any activities under section 3 of this Act, is authorized to employ temporarily additional personnel without regard to the civil-service laws and the Classification Act of 1923, as amended, and to incur obligations on behalf of the United States by contract or otherwise for the acquisition, rental, or hire of equipment, services, materials, and supplies for shipping, drayage, travel and communication, and for the supervision and administration of such activities. Such obligations, including obligations arising out of the temporary employment of additional personnel, may be incurred by any agency in such amount as may be made available to it by the President out of the funds specified in section 8. The President may, also, out of such funds, reimburse any Federal agency for any of its expenditures under section 3 in connection with a major disaster, such reimbursement to be in such amounts as the President may deem appropriate.

SEC. 8. There is hereby authorized to be appropriated to the President a sum or sums, not exceeding \$5,000,000 in the aggregate, to carry out the purposes of this Act.

Additional
authority to
Federal agencies
and reimburse-
ment.

Appropriation
delegated by
E. O. 10427.

The President shall transmit to the Congress at the beginning of each regular session a full report covering the expenditure of the amounts so appropriated with the amounts of the allocations to each State under this Act. The President may from time to time transmit to the Congress supplemental reports in his discretion, all of which reports shall be referred to the Committees on Appropriations and the Committees on Public Works of the Senate and the House of Representatives.

Repeal of P. L.
233, 80th
Cong.

SEC. 9. The Act of July 25, 1947 (Public Law 233, Eightieth Congress), entitled "An Act to make surplus property available for the alleviation of damage caused by flood or other catastrophe", is hereby repealed.

Approved September 30, 1950.

Appendix E

EXECUTIVE ORDER

No. 10427

ADMINISTRATION OF DISASTER RELIEF

By virtue of the authority vested in me by the act of September 30, 1950, entitled "An Act to authorize Federal assistance to States and local governments in major disasters, and for other purposes," 64 Stat. 1109, as amended (42 U. S. C. 1855 ff.), hereinafter referred to as the act, and as President of the United States, it is hereby ordered as follows:

SECTION 1. The following-described authority and functions shall be exercised or performed by the Federal Civil Defense Administrator:

(a) The authority conferred upon the President by section 3 of the act to direct Federal agencies to provide assistance in major disasters.

(b) The authority conferred upon the President by section 5 (a) of the act to coordinate the activities of Federal agencies in providing disaster assistance, and to direct any Federal agency to utilize its available personnel, equipment, supplies, facilities, and other resources, in accordance with the authority contained in the act.

(c) The preparation of proposed rules and regulations for the consideration of the President and issuance by him under section 5 (b) of the act.

(d) The preparation of the annual and supplemental reports provided for by section 8 of the act for the consideration of the President and transmittal by him to the Congress.

SEC. 2. In order to further the most effective utilization of the personnel, equipment, supplies, facilities, and other resources of Federal agencies pursuant to the act during a major disaster, such agencies shall from time to time make suitable plans and preparations in anticipation of their responsibilities in the event of a major disaster. The Federal Civil Defense Administrator shall coordinate on behalf of the President such plans and preparations.

SEC. 3. To the extent authorized by the act, the Federal Civil Defense Administrator shall foster the development of such State and local organizations and plans as may be necessary to cope with major disasters.

SEC. 4. Nothing in this order shall be construed to prevent any Federal agency from affording such assistance and taking such other ac-

tion as may accord with the existing policies, practices, or statutory authority of such agency in the event of any disaster which will not permit delay in the commencement of Federal assistance or other Federal action, and pending the determination of the President whether the disaster is a major disaster: *Provided*, That such assistance and such other action shall be subject to coordination by the Federal Civil Defense Administrator, acting on behalf of the President.

SEC. 5. The Federal Civil Defense Administrator may delegate any authority or function delegated or assigned to him by the provisions of this order to any other officer or officers of the Federal Civil Defense Administration or, with the consent of the head thereof, to any other Federal agency.

SEC. 6. Federal disaster relief provided under the act shall be deemed to be supplementary to relief afforded by State, local, or private agencies and not in substitution therefor; Federal financial contributions for disaster relief shall be conditioned upon reasonable State and local expenditures for such relief; the limited responsibility of the Federal Government for disaster relief shall be made clear to State and local agencies concerned; and the States shall be encouraged to provide funds which will be available for disaster relief purposes.

SEC. 7. As used herein, the terms "major disaster" and "Federal agency" shall have the meanings ascribed to them in the act.

SEC. 8. So much of the records of the Housing and Home Finance Agency relating to the activities delegated by Executive Order No. 10221 as the Housing and Home Finance Administrator and the Federal Civil Defense Administrator shall jointly determine shall be transferred to the Federal Civil Defense Administration.

SEC. 9. Executive Order No. 10221 of March 2, 1951 (16 F. R. 2051), is hereby revoked: *Provided*, That the Housing and Home Finance Administrator is hereby authorized and directed to carry out and complete all activities, including reports thereon, provided for by that order in connection with any disaster determined, in accordance with the provisions of the act and prior to the effective date of this order, to be a major disaster: *And provided further*, That the Housing and Home Finance Administrator shall prepare the annual and supplemental reports provided for by section 8 of the act for the calendar year 1952 for the consideration of the President and transmittal by him to the Congress.

SEC. 10. This order shall become effective January 16, 1953.

HARRY S. TRUMAN

THE WHITE HOUSE,

January 16, 1953