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CIVIL DEFENSE IN GERMANY

Prepared for

OFFICE OF CIVIL DEFENSE
DEPARTMENT OF THE ARMY
WASHINGTON, D.C. 20310

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CIVIL DEFENSE IN GERMANY

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MEMBER OF THE GERMAN CIVIL DEFENSE CORPS

FOREWORD

This report is one of four in a study of European civil defense. The study was conducted by the Management and Social Systems Area of Stanford Research Institute for the Office of Civil Defense, as part of Contract OCD-OS-63-184.

Appreciation is expressed for the information provided by the staffs of the German Federal Ministry of Interior, Bonn; the Agency for Civil Defense, Bad Godesberg; the Ministry of Interior, Land of Baden-Württemberg; the governmental area of Südbaden; and the City of Freiburg im Breisgau. The draft of this report was reviewed by the German Ministry of Interior, whose cooperation and constructive comments are gratefully acknowledged. James W. Kerr of the U.S. Office of Civil Defense further discussed the report in March 1955.

Rogers S. Cannell served as project leader for the European civil defense study. Arthur A. McGee and Leland H. Towle were the principal investigators of this portion of the study. Contributions to the research and preparation of the report were made by Mrs. Gretchen Garrison and Mrs. Edith Wyden.

AUTHOR'S NOTE

In August and September 1965, the German government passed the major part of the civil defense legislation described in Section IV of this report. The approved legislation includes the following:

Law on the Civil Defense Corps--providing for the establishment of a compulsory civil defense corps.

Law on Securing Services in the Area of Industrial Economy and the Circulation of Money and Capital--authorizing the federal government to issue decrees controlling industrial economy in time of war or domestic crisis.

Law for the Safeguarding of Transportation--enabling the federal government to issue directives in a war emergency to ensure efficient use of transportation resources.

Law on Securing Food, Agriculture, Forestry and Wood Supplies--establishing an emergency system to provide the civilian population and Armed Forces with food, agricultural supplies, and wood products in the event of a war emergency.

Law for Safeguarding Water Supply--enabling the federal government to take the necessary measures during peacetime and in a wartime emergency to secure the supply of water for all uses.

Law Relating to Shelter Construction--making compulsory the construction of protective shelter in all new public and private buildings. The law also provides incentives for building shelter in existing structures.

Law on Self-Protection of the Civilian Population--specifying the civil defense duties and responsibilities in peacetime and during a war emergency. The principal feature of the law is that it makes every German citizen between the ages of 16 and 65 liable to attend a minimum 10-hour civil defense training course.

CONTENTS

FRONTISPIECE	ii
FOREWORD	iii
AUTHOR'S NOTE	iv
I INTRODUCTION	1
II SUMMARY	3
III GERMAN CIVIL DEFENSE CONCEPT OF EMERGENCY OPERATIONS	6
The Intelligence System	7
The Survival System	13
IV THE ADMINISTRATION AND LEGAL BASIS OF GERMAN CIVIL DEFENSE	25
Administrative Structure	25
Proposed Civil Defense Legislation	27
APPENDIX A SELF-PROTECTION MEASURES	39
APPENDIX B ASSIGNMENT OF CIVIL DEFENSE RESPONSIBILITIES TO FEDERAL AGENCIES OF THE GERMAN GOVERNMENT	43

I INTRODUCTION

Background

Largely because of their World War II experience, European nations have made broad advances in the formulation of systems for survival and recovery in the event of a thermonuclear or limited war. This report contains the results of the study of civil defense planning and preparation in the Federal Republic of Germany (FRG). The study is primarily oriented toward defining operational organization, although policy, planning, and training organizations that have had a strong impact in promoting the growth of civil defense preparedness are also investigated.

Objective

The central theme of this report is the presentation of an overall picture of emergency operations as conceived by the German government. This subject is dealt with extensively in Chapter III, in which the German requirement for rapid response and flexibility to meet the great range of possible threats is outlined, as is the manner in which the Germans intend to meet such demands. Chapter IV describes the organization that has been established to provide the necessary capability and its operations. The highly federalized German civil defense organization and its plan of administration offer many interesting features.

Research Approach

To integrate the efforts of the various research teams, a preliminary study was made to determine the most promising subject areas in each country.* Subsequent to this investigation, a two-man team was dispatched to the FRG to interview civil defense officials at each level of government. Three days were spent in Bonn interviewing officials of the Ministry of Interior, which has major civil defense responsibilities for policy and planning. Simultaneously, the Bundesamt für Zivilen Bevölkerungsschutz (Federal Agency for the Protection of the Civilian Population or the Federal Civil Defense Agency) located in Bad Godesberg, near Bonn, was also visited. Following discussions at the federal level, the team spent two

* Study of Civil Defense Organization and Doctrine in Friendly Nations, a progress report by Rogers S. Cannell, Stanford Research Institute, and James W. Kerr, Office of Civil Defense, December 1963.

days in Stuttgart, the capital of the Land* of Baden-Württemberg, interviewing state government officials in the Ministry of Interior, which has major responsibilities for civil defense at the land level. Next, two days were spent in Freiburg im Breisgau, the seat of the governmental area of Südbaden, interviewing officials having civil defense responsibilities. Discussions were also held with the officials of the city of Freiburg having prime civil defense responsibility at the city level. The particular land, governmental area, and city visited were selected because they are relatively advanced in planning and implementing civil defense systems.

The primary subject areas that were discussed during the interviews with German officials include:

1. The German concept of emergency operations. This included a description of their warning, radiological monitoring, and communications systems; the protective shelter, evacuation, welfare, and emergency medical plans that have been developed for the population; the emergency organization that has been outlined at the local, state, and federal levels of government; and the organization, training, and deployment planned for the Civil Defense Corps. This subject is discussed in Chapter III.
2. The German administrative organizations that are responsible for developing the operational capability planned by the government. This includes a review of the functioning of the Department of Interior and the organization of the Civil Defense Agency and various civilian associations. This subject is covered in the early parts of Chapter IV.
3. The proposed civil defense laws that are currently before the German legislature. These laws contain the legal basis for program implementation and emergency system operation and are presented at the end of Chapter IV.

This information gathered relating to these subject areas is the basis of this report.

* A German "Land" (plural Länder) is roughly equivalent to a state in the United States.

II SUMMARY

The German civil defense program has relied heavily on private citizens and on land and local governments to make voluntary preparations for defense. But, in the opinion of the German government, this approach has not resulted in the development of an adequate system. Despite intensive efforts by the government to educate the public to the danger of thermonuclear war and to the effectiveness of possible countermeasures, the voluntary system has failed. The government has therefore sponsored legislation prescribing a compulsory system with almost total federal control. Under this legislation, the government would be authorized to establish all-embracing emergency organizations, to conscript cadres to man these organizations, and to prescribe extensive training and realistic exercises in peacetime. The proposed laws would also grant sweeping emergency powers to the government to enable it to respond effectively in an emergency.

Despite the problems of program implementation, German civil defense planners have developed a complete and well-integrated concept of emergency operations. The concept involves a system that has been devised to cope with the effects of a possible thermonuclear war, but which may also function during a limited war or natural disaster. The most significant features of German Civil Defense are cited below:

The Warning System

In the warning system, the pressing of one button at a land warning center, which is linked to the NATO military control centers, will activate all sirens in the land. Simultaneously, all major officials of land and local governments and of vital facilities (hospitals, power stations, police, railroads, etc.) are alerted by means of a special telephone-radio device. Mayors are instructed to sound sirens manually within 5 seconds of the telephone-radio alert if the sirens have not already been activated automatically. The public may also be warned by AM and FM radio, from the warning centers, which is designed to provide national coverage. There are, therefore, three rapid and redundant means of conveying attack warning to the public.

The Weapons Effects and Damage Assessment System

The German Weapons Effects and Damage Assessment (Monitoring) System, which is independent of the land and local direction and control system, presents an interesting concept in intelligence collection. It is almost exclusively devoted to data gathering and is not directly involved in operations. It is closely linked to the military and to the federal level of

government. The basic elements of the system are the manned monitoring posts that act as sensors. These posts are located at 6-8 mile intervals throughout Germany, and they report weapons effects and damage assessment information to chief monitoring stations. At these stations information is summarized and forwarded to the warning centers, which then collect and relay the information to NATO control centers and to the German federal level of government for use by the German military and the federal agencies. The advantage of this system is that the higher levels of government and the military have a much better chance of obtaining a rapid and accurate assessment of the situation--an assessment that might be considerably delayed and distorted if it were sent through the governmental chain.

The Concept of Public Self-Protection

Public self-protection is regarded as the most important element in German civil defense. Without it, aid from all other sources is believed to be of little value. Individuals must rely on themselves, possibly for a long period of time, and cannot depend on receiving outside aid. It is believed that, for a time, individuals may be required to provide for their own rescue, medical care, food, water, shelter, and fire fighting. Training programs in the necessary skills and preparations to effect self-protection are currently being given to the population through an extensive quasi-government organization called the Civil Defense Association. Under proposed legislation, these training programs would become compulsory.

Protective Shelter Concept

The German concept of shelter for the population, as stated in their proposed laws and government publications, centers primarily on home shelter. Under this concept, home shelter will be complemented by shelter in places of employment, hospitals, hotels, and schools. In addition, public shelters will be constructed where large groups of people normally gather, such as business districts. All cities of over 50,000 population are considered potential target areas, as are cities located near military installations. In these areas, blast protection must be built into all shelters.

Strength of Civil Defense Forces

Under the conditions of war or natural disaster, normal city forces are considered inadequate to cope with the situation. The Germans therefore plan to augment these forces by separate organizations acting under the control of local and land governments. As part of this plan, all city governments will form a ward-block-district organization that will incorporate a 19-man fire rescue squad for every 5,000 inhabitants. Civil Defense Corps units under the direction of the mayor will also be available. The strength of the Corps in each city will be approximately

1 percent of the population. The land will have available supralocal units of the Civil Defense Corps, in addition to the land police and its reserves. The strength of these supralocal forces is planned to be 0.5 percent of the land population initially, with a higher final strength.

Flexibility of Emergency Operations

A great deal of flexibility is built into the German concept of emergency operations. At the time of attack, only a small part of the total civil defense operational capability is committed to particular tasks. At the local level, the self-protection squads, Civil Defense Corps, local forces, and normal city forces are not committed and remain available for deployment as the situation dictates. These forces may be supplemented by Civil Defense Corps, supralocal forces, predesignated military units, and land police, if local resources are insufficient. Flexibility is also reflected in the relocation concept, under which relatively small segments of the population, located in potentially dangerous areas (i.e., centers of large cities, near military targets), may be relocated to prepared receiving areas 10-30 miles away. The availability of this option under the proper conditions of strategic warning could save many lives by removing people from areas where even the best shelter may not afford sufficient protection against blast and fire.

Predesignated Authority Relationships

Woven throughout the German concept of operations is the realization that well-defined, predesignated authority relationships must be established as part of peacetime planning. Thus, under the proposed legislation, the authority of each federal agency and of the federal government will be established, as will the control systems through which these agencies will operate. The relationship between federal, land, and local governments in an emergency will also be defined. Private citizens and industrial enterprises will be given assigned responsibilities to perform in an emergency.

III GERMAN CIVIL DEFENSE CONCEPT OF EMERGENCY OPERATIONS

German officials foresee the possibility of any one of the following threats: conventional warfare, limited or tactical nuclear warfare, or thermonuclear war. Since all of these must be anticipated, the entire spectrum of possible threats has been taken into account in emergency operations planning. Realistically, it is expected that Germany would become a battlefield because of its strategic geographic position. This expectation plays a part in all civil defense planning.

The government believes that there are effective countermeasures to these potential wartime threats, as stated in a government publication:*

... feasible measures exist for the protection of the population against atomic and other modern attack weapons. Consequently it would be irresponsible to resign ourselves to fate and abandon any form of protection. To take advantage of every possibility for protection will enhance the chances of survival.

In response to this belief, the German government has initiated a program to prepare the nation to meet the range of possible threats. The role of civil defense is detailed in the legislation establishing the Agency for Civil Defense, the principal government civil defense organization. It states that civil defense must protect the lives and health of the population, places of employment, and important facilities and goods (including cultural objects) against the dangers of air attack. Following attack, civil defense must provide assistance to the population. Although a great deal of self-help and individual training is anticipated, existing law assigns direct responsibility for the protection of the people to the federal government. To fulfill this responsibility, the federal government has developed an integrated concept of emergency operations, which is divided into two parts:

1. The intelligence system that includes the means of warning the nation, monitoring direct effects, and communicating among the operational levels of the government.
2. The survival system that includes the means of protecting the public and conducting emergency operations at various levels of government.

* "Der Luftschutzhilfsdienst," Bundesamt für Zivilen Bevölkerungsschutz, Bad Godesberg, 1961.

The Intelligence System

The German federal government recognizes the need for a nationwide emergency intelligence system, and it has assumed the responsibility for developing, implementing, and operating the system. This system will be described under the separate topics of The Warning System and The Weapons Effect and Damage Assessment System.

The Warning System

The warning system in the FRG is schematically represented in Figure 1. As shown at the top of the figure, information concerning impending attack is collected by three NATO Sector Operating Centers (SOCs) from radar installations and from NATO operational units.

The three SOCs, from which the warning centers receive attack information, are maintained by British and American forces as an integral part of the NATO warning system. They are located at NATO military installations and are fully operational. At each SOC, a civilian FRG attaché acts as liaison between NATO and German civil defense. The attaché duty station is in the military operations room; however, the attaché reports directly to FRG civil defense authorities all information relating to threatened regions of Germany.

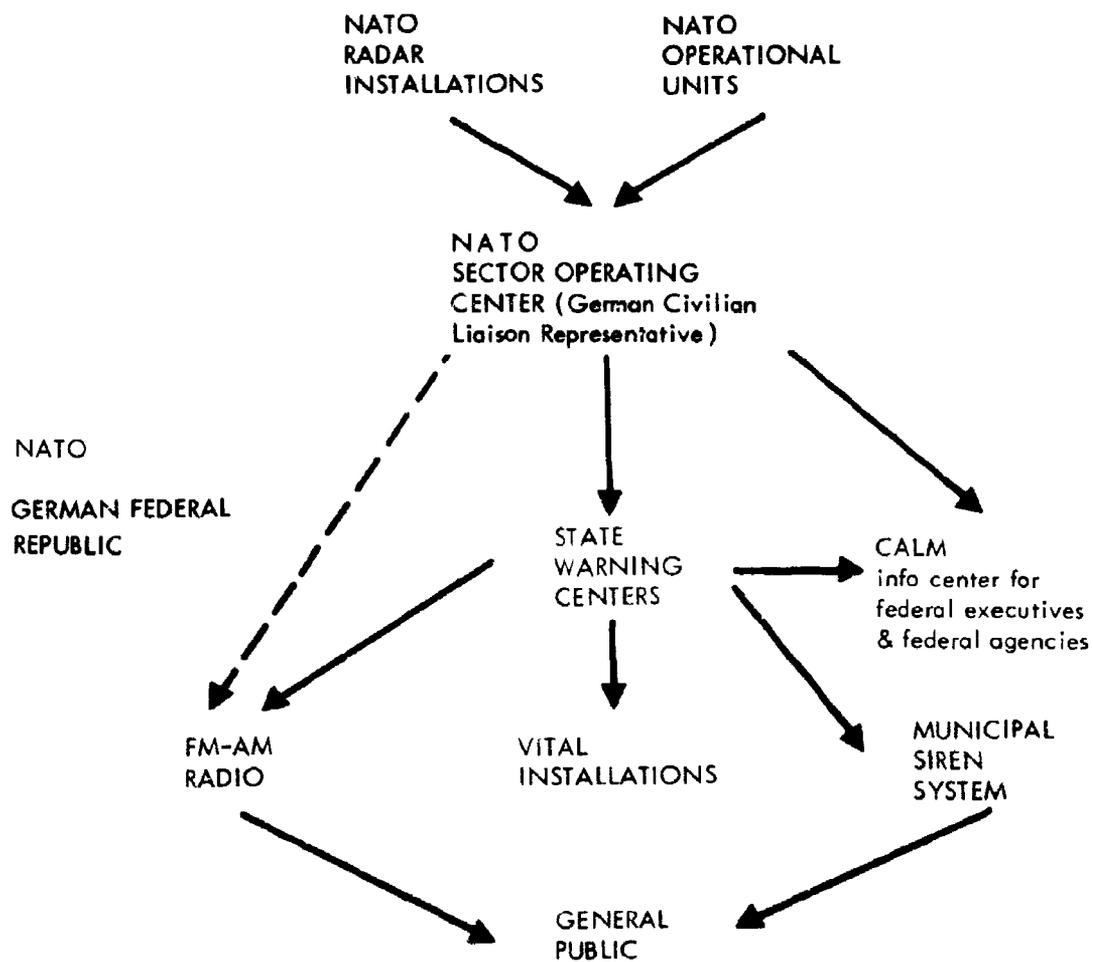
CALM (Central Atomic and Air Situation Reporting Center) is an FRG operations center whose sole mission is to collect air attack, damage assessment, and chemical, radiological, and biological information from all sources and to report this information to federal executives and departments. CALM is alerted and informed by both the German civilian liaison representative at the SOC and the warning centers.

Organizationally, the nucleus of the German warning system is the federally operated warning center (one in each land). These centers are manned at all times, and each is staffed with 24 full-time federal employees, working on a 3-shift per day basis, and with 170 volunteer workers who can be called in as required. All warning centers are fully equipped and operational. The centers are 17.5 meters underground with 3.5-meter thick walls and ceiling. They have their own water wells, oil storage tanks, and heating units, diesel generators for electric power, and food, medical supplies, etc. The warning centers can be operated for a period of four weeks without outside assistance.

The warning centers are connected to the SOC by special telephone circuits and by radio. On the basis of information relayed from the SOCs, a continuous plot is made of aircraft movements associated with a possible attack and possible missile threats. An evaluation of these data serves as a basis for a decision by the warning center to warn the public of an impending emergency. In making this decision, the warning center commander has independent authority to act. The warning centers in Länder that are contiguous to NATO countries, i.e., France, Denmark, Holland,

Figure 1

THE GERMAN CIVIL DEFENSE WARNING SYSTEM



Luxemburg, and Belgium, are also linked by communications to these countries to exchange RADEF information

Once the decision to warn the public has been made at the warning center, there are three means of accomplishing the task: by activating sirens throughout the land; by using a special one-way telephone device that is located at all vital installations; or by broadcasting over conventional AM and FM radio networks.

From the warning center, every siren in the land can be sounded by pressing one button. Normal telephone circuits are used to trigger sirens in this system. The warning center commander may sound the sirens in only a given region of the land, if he believes that a threat exists only in that area. If desired, an individual mayor may be asked to trigger his city's sirens. The need for the ability to alert only a selected region of the land reflects the requirement to warn against conventional warfare, as well as nuclear war.

Three distinct siren signals are used, each for a period of one minute: (1) air-raid alert is a continuous warbling tone; (2) chemical, biological, or radiological alert is an interrupted (12 seconds on--12 seconds off) warbling tone; (3) all-clear signal is a single (no warbling) tone. A law requires the testing of the siren system semi-annually throughout the FRG. All tests are preceded by a one-minute, all-clear signal to distinguish the tests from a real alert. To ensure public recognition of these signals, every household, public building, employment establishment, etc., has been sent a copy of a poster describing the siren alert signals and their meanings. Present planning calls for the installation of approximately 55,000 electric sirens and 500 compressed air sirens. Compressed air sirens have the advantage that they are not dependent on electric power and are 20 times as effective as electric sirens.

In addition to sirens, there are warning devices using one-way telephones with radio backup that will be located in vital government and industrial facilities, such as the seats of local and state government, federal agencies, industrial plants, hospitals, railroad communications centers, and police stations. There will be a total of 25,000-30,000 of these devices installed when the system is complete. When the warning center commander decides to alert these facilities, he activates the system, and a loudspeaker attached to each telephone buzzes. The receiving party turns a knob and receives a voice message through the loudspeaker attached to the telephone. Simultaneously, a special radio (VHF) located at these vital installations receives an identical message, thus providing a redundant communication channel in the event of telephone failure. At the seats of local government, mayors are instructed to sound their sirens manually within five seconds after the telephone/radio alert, if the sirens are not activated automatically from the warning center. This telephone/radio warning and communications system was developed by Siemens, Mix, and Genest under the sponsorship of the German Ministry of Interior.

In addition to sirens and the special telephone/radio alert system, the warning centers can warn the public by means of conventional AM and FM radio, through which they have the capability to broadcast directly. There are 156 directional radio stations, each with a UKW (ultra short-wave) transmitter covering an area with a radius greater than 20 miles. Eighty-nine of these stations belong to the German Postal Service and are shared by the warning service. The remaining transmitters belong to the warning service. The 156 UKW transmitters are used only for emergency warning, never for regular broadcasts. The emergency transmitters were positioned by special teams, which have tested radio reception in all valleys and other difficult spots to ensure that every village and community has radio coverage. In a time of tension these transmitters will be manned by designated four-man teams to prevent sabotage.

As a further means of assuring that warning is received by the public, the FRG representatives at the SOC may broadcast directly over the conventional radio network in the event that the warning center does not respond.

The warning system just described is operational and essentially complete, except for the installation of a number of the telephone/radio devices.

The Weapons Effects and Damage Assessment System

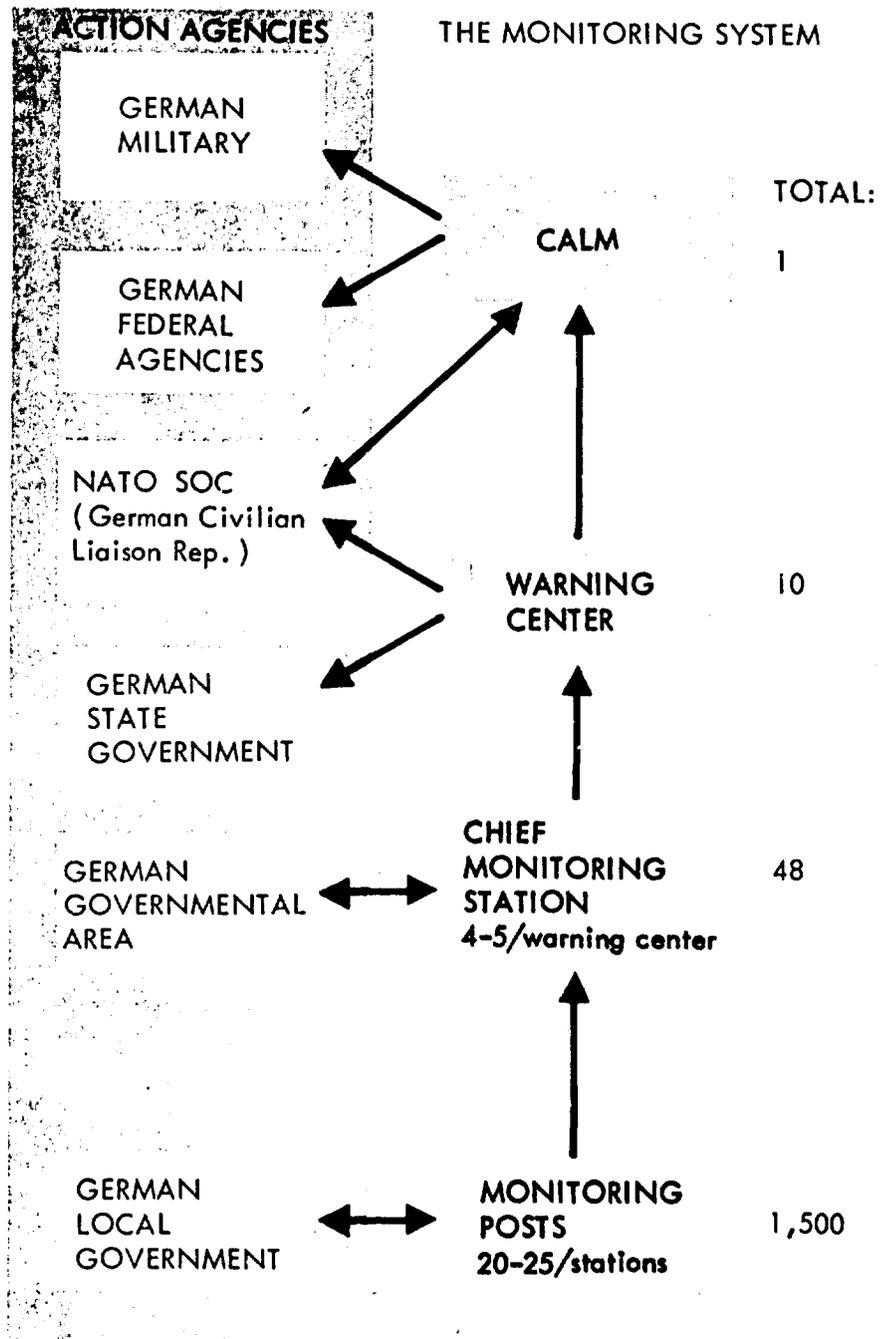
As part of the activation of the civil defense system, a network of monitoring stations for registering weapons effects and making damage assessment becomes totally manned and operational. Under the German concept of emergency operations, this network is separate from the direction and control system of the local, state, and federal governments except for the interchange of information. The functions performed by the system include nuclear detonation (nudet) reporting; radiological, biological, and chemical reporting; and damage assessment reporting.

Figure 2 indicates the elements of the monitoring system and their tie to the various action agencies of the German government and of NATO. Information is acquired at monitoring posts located throughout the länder, at 10-15 kilometer (6-8 mile) intervals. There are a total of 1,500 monitoring posts, each manned by a post leader and three other men. A single telephone line connects each of the monitoring posts with its chief monitoring station, except for a few remote posts that report by radio. Monitoring posts can also communicate with nearby local governments.

There are a total of 48 chief monitoring stations, four or five of which are located in each land. The function of the chief monitoring station is to filter the information gathered from the 20-25 monitoring posts that report to the station. The filtering process consists of the elimination of duplicate, ambiguous, and inaccurate information. The chief monitoring stations are manned in wartime by 2 full-time staff members and 19 volunteers. A station communicates with the warning center

Figure 2

WEAPONS EFFECTS AND DAMAGE ASSESSMENT



by two telephone lines plus two-way radio equipment. Stations may also communicate with their governmental area governments.

The warning centers previously described as part of the warning system are also an essential part of the Weapons Effects and Damage Assessment System. The function of the warning center in the monitoring system is to filter and summarize incoming reports and to forward the information to CALM, the SOCs (NATO), and the Länder government. Each warning center has telephone lines, plus voice radio communication with adjacent warning centers with CALM, and with each of the SOCs. At the present time the monitoring system is operational and essentially complete.

RADEF Instrumentation

A thorough review of the RADEF equipment used for German civil defense was not possible, but a number of features of their equipment were noted that would be of interest to U.S. equipment designers.

The 10 warning centers and 48 chief monitoring stations will be equipped with fully automatic radiation detection equipment. This equipment is remote-reading, has automatic range selection, and an automatic warning feature that triggers an alarm when the radiation level reaches a given level. When the warning level is reached (currently set at 10 milliroentgen/hour), the 1,500 monitoring posts are alerted to activate their equipment. The equipment has 6 scale ranges, a maximum direct reading of 500r/hr, and operates from a 24-volt battery. It is manufactured by Herfurth, Hamburg-Altona, Beerenweg.

The 1,500 monitoring posts are equipped with a radiation intensity meter that has an accuracy of ± 10 percent operating in the temperature range -30°C to $+50^{\circ}\text{C}$. The sensor is a Geiger-Müller tube (no ion chamber instruments are made for civil defense use). These instruments are equipped with a remote-reading probe with the amplifier located at the end of the probe so that there is no delay in response. There are 5 scale ranges with a maximum reading of 500r/hr.* A special feature of the device is that the batteries are housed in a separate container connected to the meter by a lead wire. This arrangement makes it possible to place the batteries in a pocket for warmth while still operating the meter--an important factor in a cold climate, since battery life is diminished by use at low temperatures. Judging from its housing and general construction, this instrument appeared more rugged, compact, and probably considerably less subject to malfunction than equivalent U.S. civil defense instruments. Its construction seemed to be roughly comparable to U.S. military field service standards. Although the instruments are undoubtedly more costly

* To avoid the misreading of the instrument, when the user shifts to a new scale, only the scale he is reading appears in the instrument reading window.

to produce, they were chosen by the German government to preclude high maintenance requirements after distribution to the field. The instrument observed was identified as a "Radiometer X500 manufactured by Graitz-Raytronik GmbH, 599 Altena/Westfalen."*

The Germans recognize the limitation imposed by the maximum direct reading of 500r/hr. For this reason, a cadmium sulfide scintillation detector for higher radiation levels is currently under development. A combined phosphate glass personal dose badge and identification tag is also under development.

In addition to radiation-intensity measuring instruments, a device is under study for measuring the location and yield of a nuclear detonation. This device will be located at each monitoring post and station. Its general shape resembles a kettle drum with four apertures. The drum contains light-sensitive paper. The size of the weapon will be determined by measuring pressure. Using triangulation, reports from two or more stations can be analyzed to locate the burst and estimate its yield. The principle shortcoming of the device is its inability to register multiple bursts.

The Survival System

Once the warning has been sounded and communications have been established, the German system for the survival of the population is called into action. In this report, the discussion of the survival system includes the following subjects: protective shelter for the population, the German concept of relocation, and the conduct of emergency operations at the local and land levels of government. Within these topics, the German concept of public and private shelter will also be explored, as will the German use of regular government and special civil defense forces.

Protective Shelter for the Population

Because of the geographic location of Germany, the country would probably become an immediate combat zone in the event of a European conflict. Indeed, it might well be overrun by an invading army and then be fought over by a liberating army. Government planners fear that the reaction of the people in the event of war would be to flee to the West. The effects of such a mass flight would be to hamper military operations and cause overwhelming welfare problems. For this reason, the Germans have adopted the NATO "stay at home" policy and plan to take measures to carry it out. Each individual must have special permission to leave his home city after an emergency is declared. Traffic control posts will be set up on all roads, railroads, and at airports to ensure compliance.

* "Handbuch der ABC-Schutztechnik," Verlag Ziviler Luftschutz, Dr. Ebeling KG Koblenz-Neuendorf, Hochstrasse 20-26.

The Germans believe that the "stay at home" policy imposes a strong obligation for a far-reaching shelter system. Ideally, each German should be provided a shelter space at home, at his place of work and, in the event he is caught in a public place, available contingency shelter.* This is undoubtedly a concept carried over from World War II, when everyone was assigned a shelter space within 100 meters (110 yards). During the war, public shelter was available at major road junctions, railway stations, automobile tunnels, schools, factories, apartment houses, hospitals, hotels, etc. The Germans cite with pride the fact that although a city such as Stuttgart sustained 500 air raids, which leveled the center of the city, only 3 percent of the city population was killed (nationally, a total of 1 percent of the population was lost).

As part of the concept of shelter for the populace,[†] the Germans have defined two categories of protection:

Basic - Provides protection against fallout, falling debris, fire, and biological and chemical agents. The structure must provide a protection factor of 100 against radiation and must have sufficient structural strength within the shelter to sustain the collapse of the building housing the shelter. Escape tunnels extending from the building are also prescribed so that if the building collapses, shelter occupants will not be trapped.

Reinforced - Provides basic protection and protection against blast and initial radiation. The shelter must be able to withstand 45 psi blast pressure and provide a protection factor of 600 from radiation. To guard against fire effects, the shelter must be airtight and supplied with air filters.

At the present time, compulsory legislation is under consideration to force the owners of new buildings to provide shelter. Shelter construction will be required in all new homes, apartment buildings, hospitals, hotels, kindergartens, factories, etc. The shelters must be large enough to accommodate the occupants of the home or apartment, the capacity of the hospital, the staff of an office building or department store, etc.

German Civil Defense officials believe that all communities over 50,000 population should be required to build shelters with reinforced protection in all new buildings. In all communities under 50,000, only basic protection should be required, unless the community is near a probable target area. The legislation, however, indicates that only basic protection will be legally required, except for specifically named communities.

* Legislation before the German Parliament covers only compulsory shelter in new buildings and incentives for building shelter in existing buildings (see Chapter IV).

† The shelter requirements stated here are those specified in the proposed legislation before the German Parliament; they do not represent an existing mandatory requirement.

All shelters will be required to have at least a 14-day supply of food and water. Public shelters must allow 7.5 sq ft/person, including ventilation equipment and sanitary and living space.

Studies are under way for the construction of public shelter in subways. This is a significant subject, since Berlin and Hamourg have subways, and Munich, Cologne, and Frankfurt are considering the construction of subways. Because of the large program in many German cities for the construction of underground garages, public shelters are either being built in these facilities or are under consideration.

The German Concept of Evacuation

German civil defense planners appreciate the need for a complete shelter system. They also realize that in a city-directed attack, survival will be difficult near ground zero, regardless of the strength of shelter construction. For this reason, they have an alternative plan, called relocation, for evacuating selected areas. German planners consider shelter and limited evacuation as alternative and compatible survival tactics. If the situation presents itself, responsible officials will have the flexibility to take advantage of even a relatively short period of time. These plans are believed to be particularly appropriate where there are heavy population concentrations, such as the Ruhr Valley or other industrial centers.

The evacuation plan calls for the movement of people living in areas where grave danger is expected. Their move would be a relatively short distance (25-50 miles) to prepared areas where shelter and other welfare provisions would be available, including medical supplies, food, and emergency kitchen facilities. It is believed that, as a rule, a community can accommodate the same number of refugees as there are residents.* In the land of Baden-Württemberg, eleven probable target cities have been designated from which half of the population may be evacuated from the center of the city to designated areas on the outskirts of the city and nearby villages.

As part of these provisional plans, automobile routes have been selected. The German railroads have set up train schedules that provide for a fast shuttle service and have reserved certain rail lines for the exclusive use of evacuation during an emergency. All evacuation plans must be coordinated with the military, although the operation is the responsibility of land civil defense. It is planned that special units of the Civil Defense Corps (described later) and the land police will control relocation activity.

* This ratio varies by region. In some parts of Germany, the ratio of residents to refugees could exceed 1:2, in other areas, 1:1 is the maximum.

The Germans realize that there are many problems involved in any form of evacuation. On the one hand, the population is told to "stay at home," yet extensive plans are made for evacuation. It is difficult to explain contingency plans to the general public. During evacuation, families are torn apart, since fathers must stay behind in fire-fighting teams while their families are relocated. Old people are unwilling to leave their homes, even though they face grave danger. Traffic control and evacuation must be coordinated with the military to prevent congestion and confusion. It is a great shock to the rural or suburban communities to receive refugees. In spite of these difficulties, the German authorities will continue to develop plans, hoping that a period of tension will allow time to carry the plans to completion. In any event, the facilities in the receiving areas can be used to support postattack evacuation and refugee care, if this is found necessary.

Emergency Operations at the Local Level

The following explanation of emergency operations at the local level contains a description of the concept of self-help for the general public and a review of the emergency organization, which the German government plans to establish for each community.

Self-protection is regarded by German civil defense planners as the major element in the protection of the civilian population; without it, all aid from other sources, including rescue activities, will have little value.* It is assumed that rescue missions to aid individuals will be subject to long delays in areas where there is extensive destruction or radiation. Furthermore, highly organized activity may be effective only at points where there are population concentrations. For these reasons, individuals must rely upon themselves, possibly for a long period of time, without counting upon outside help.

Within the German concept of operations,[†] each citizen would be obligated to assume a civil defense function. At a minimum, this would include furnishing protective equipment and survival supplies such as food, water, medical supplies, and blackout curtains; cleaning up combustible materials (see Appendix A); making himself available for emergency duties; and undergoing training for self-protection.[‡] The extent of training and other self-protection provisions will be discussed under proposed legislation.

Figure 3 is an organization chart showing the civil defense emergency organization for a city of 100,000 population. The organization for larger or smaller cities is scaled up or down from the organization indicated in the figure.

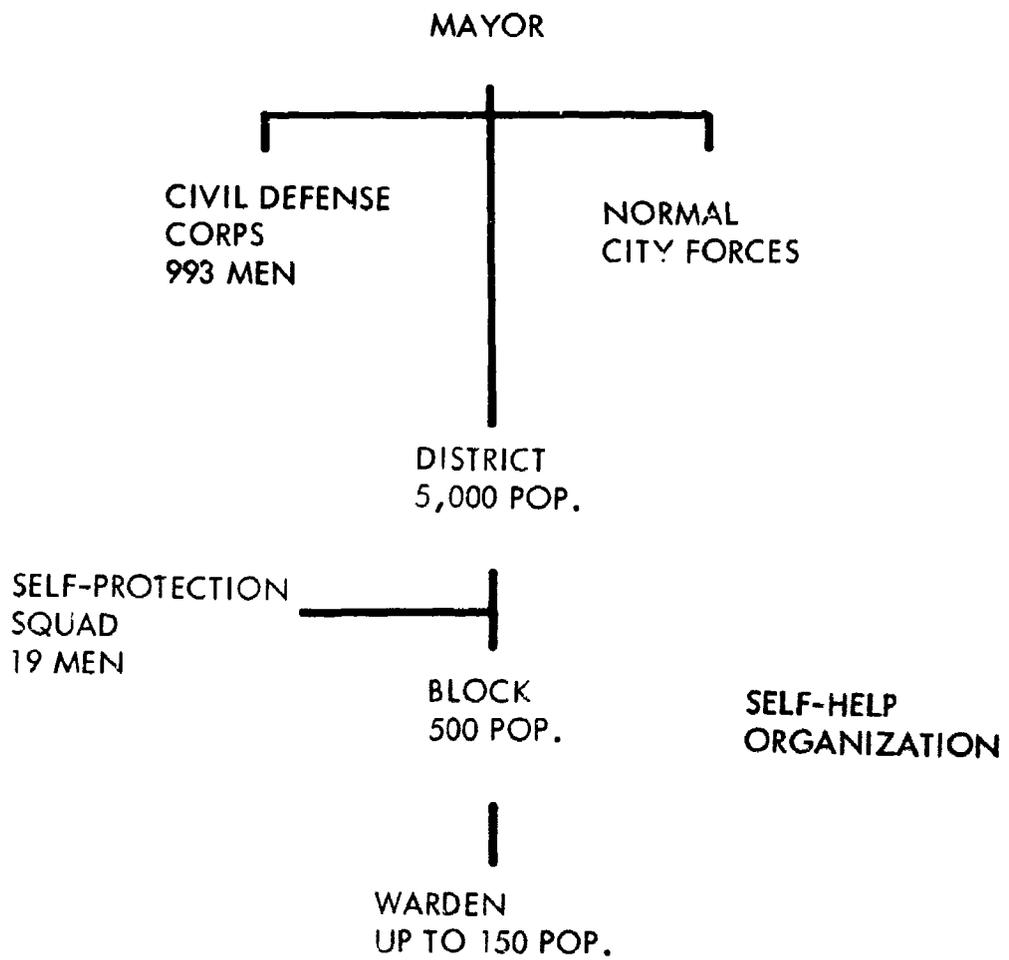
* "Draft of a Law on Self-Protection of the Civilian Population," Memorandum IV/897, Bonn, January 14, 1963, pp. 26-27.

† Ibid.

‡ Ibid.

Figure 3

CIVIL DEFENSE EMERGENCY ORGANIZATION



The civil defense organization from the district level down is called the "self-help organization." It is manned by personnel designated and trained under the Self-Protection Program. At the lowest level, a warden is designated for a group of private dwellings or apartment house(s). A block chief is assigned for every residential grouping containing 500 people. A district chief is appointed for each area containing 5,000 people, and has under his control a self-protection squad consisting of 19 men:

- 1 - squad leader
- 6 - pumper unit
- 6 - rescue unit
- 6 - units composed of aides with special skills

The equipment issued to the squad consists of a portable power water pump, rescue apparatus, first aid equipment, and RADEF equipment.

The total number of men that will be needed to man the self-help organization throughout Germany is estimated at:

Wardens	1,000,000
Block chiefs	80,000
District chiefs	6,200
Squad leaders	6,200
Squad members	111,600
Assistants	<u>180,000</u>
Total	1,384,000

In addition to the self-help organization, the local civil defense organization will contain a specially trained Civil Defense Corps.* It is the conviction of German civil defense planners that military or paramilitary units with their own command structure are needed for civil defense emergencies. These units will be assisted by volunteer groups, such as the German Red Cross, which will perform large independent tasks in the event of a civil defense emergency. Local police and fire services are also vital contributors to survival efforts, but they are not believed to be adequate by themselves for civil disasters or wartime requirements.

Civil Defense Corps local forces are organized with specially trained units for fire fighting, medical care, rescue, communications, ABC,[†] reconnaissance, veterinary services, and shelter assistance. The standard that

* Under the present voluntary system, this force is called the Luftschutzhilfsdienst; under the compulsory system (described later), the Luftschutzhilfsdienst will be transformed into the Zivilschutzkorps. In this discussion, the voluntary and compulsory systems are not identified separately, since in operation they would perform the same function.

† Atomic-Biological-Chemical warfare specialists.

has been set for the total strength of these units is approximately 1 percent of the total population. Table 1 lists the various units and their strengths as established for a city of 100,000 population. The equipment provided to members of these units is prescribed. In Figure 4, various items of their mobile equipment is pictured.

At the time of warning, units of the Civil Defense Corps and the key officials of city government move to prepared locations (i.e., Emergency Operating Centers) on the outskirts of the city. All normal fire-fighting units remain at their regular duty stations and do not evacuate. It has been the German experience that if a fire-fighting unit is moved out of the city, it cannot return because its way is blocked by debris. It is believed important to start fire fighting during and immediately after attack. In the event of local water supply failure, water can be pumped from rivers and ponds that shall be constructed in parks for fire-fighting purposes.

The concept of emergency operations that will be employed with the local organization is direct and logical. If a block chief or warden cannot cope with a given emergency with the men at his disposal, he contacts the district chief who may deploy his self-protection squad or ask another block chief to assist. If the district chief cannot cope with the situation, he contacts the mayor who may deploy units of his normal city forces or units of the civil defense local forces or, alternatively, he may ask another district chief to provide assistance. If all these measures fail, he may request assistance from the state governmental area within which he is located.

Emergency Operations at the State and National Level

The mission of the state government in wartime is to assist communities that are overwhelmed by direct weapons effects; to carry out and control evacuation movements; and to support military operations by clearing roads, guarding military routes against refugees, and providing the military with food and housing. To fulfill this mission, the state government has within its direct control the state police and certain units of the Civil Defense Corps. The territorial forces of the Army will also play a large role in assisting the state to perform its mission. The state uses its normal geographic subdivisions, called governmental areas, to exercise direct control over emergency operations. Designated units of the Civil Defense Corps and the state police are assigned to each of the governmental areas for deployment.

Civil Defense Corps. The units of the Civil Defense Corps assigned to the land are called "mobile columns" or "supra-local forces." The total strength of these units is equal to 0.5 percent of the state population. These units are equipped with mobile and high capacity fire-fighting, rescue, and medical equipment. The types of units are identical to those found in the local civil defense unit (including an ABC unit),

Table 1

PROJECTED COMPOSITION OF CIVIL DEFENSE CORPS LOCAL FORCES
 City of 100,000 Population

<u>Number of Units</u>	<u>Type of Unit</u>	<u>Unit Strength</u>	<u>Total Strength</u>
2	Fire fighting	88	176
5	Fire fighting (light--fast moving)	3	15
1	Rescue and recovery	131	131
2	Rescue and recovery (light--fast moving)	6	12
1	Debris clearance	36	36
1	Ambulance	26	26
1	Medical	110	110
1	Veterinary	26	26
1	ABC unit	121	121
2	Mobile RADEF team (light--fast moving)	5	10
1	Observation post (with RADEF)	8	8
2	Reconnaissance (without RADEF)	7	14
5	Message center	7	35
2	Medical (first aid)	41	82
1	Headquarters	60	60
1	Communications	53	53
Total			915*

* An added water pumping unit is planned, but the strength of this unit has not been fixed. It may be assumed, however, that the total strength will be increased to approximately 1,000 men.

Source: German Office of Civil Defense.

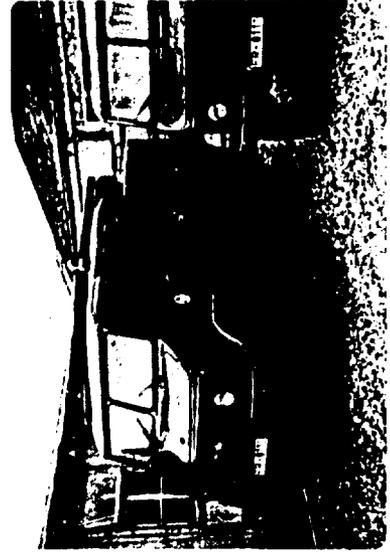
Figure 4
CIVIL DEFENSE CORPS MOBILE EQUIPMENT



FIREFIGHTING TANK TRUCKS



ENGINEER EQUIPMENT TRUCKS
COMMAND VEHICLE



RESCUE AND RECOVERY TRUCK



KITCHEN TRUCK

except for the addition of refugee control units. The mission of the refugee control units, which will be equipped with motorcycles, field kitchens, communications equipment, food stores, etc., is to receive and advise refugees and provide them with temporary housing, clothing, laundry, food, and other survival needs.

Land Police. Possibly, the most effective force available to the land government is the land police. In each land there is an Alert Police Force. All policemen in Germany spend three to four years in this standby force, whose members live in barracks and undergo rigorous training to act as a unit, as well as to perform as individuals. After this training, they become regular land or municipal police. In time of war, the major task of the police will be to control refugee movement, thus assisting refugee control units of the Civil Defense Corps. In the land of Baden-Württemberg, a recent authorization was granted to augment the land police with a police reserve, increasing its strength by 50 percent over a two-year period. This reserve force will be given an initial two-week police training course, with an additional 14-day training session annually.

The police communications network consists of radio and land lines, and extends to practically all communities in the land. It is through this network that local communities call for assistance. In the event that a fixed station is destroyed, mobile relay stations are used.

If the land government is confronted by an emergency with which it cannot cope, the federal government--under a proposed change to the basic law (constitution)--can assume direct control over the land. At that time, the land police forces will come under the control of the federal government.

Territorial Forces. In addition to the German military units assigned to NATO, the German military has a national territorial force with the assigned mission, during war, of keeping roads open; protecting bridges, power plants, and communications facilities; and countering possible airborne drops behind battle lines. In peacetime, it has the role of land procurement, logistic support, reserve training, and recruitment. These forces are organized on a geographic basis by military districts that correspond to one or more länder, and by territorial defense headquarters that correspond in jurisdiction to governmental areas. It is at the governmental area level that liaison is maintained between civil and military authorities. In an emergency, military units may be dispatched to assist the civil population. Only in extreme cases, however, will the military actually control civil activity.

Hospitals and Medical Stockpiles. An extensive program has been developed for enlarging and safeguarding hospital capacity as part of civil defense planning at the state level, since the government has concluded that currently available hospitals and medical supplies will not

be sufficient to care for civilian and military casualties in time of war. Three measures are planned. The first is to provide for the enlargement of existing hospitals by directing them to maintain supplies and equipment enabling them to care for mass casualties. The second is to provide alternative locations for existing hospitals in probable target areas. (If strategic warning is given, these endangered hospitals will be relocated to prepared locations.) The third is to build auxiliary hospitals in existing and new buildings outside of probable target areas.

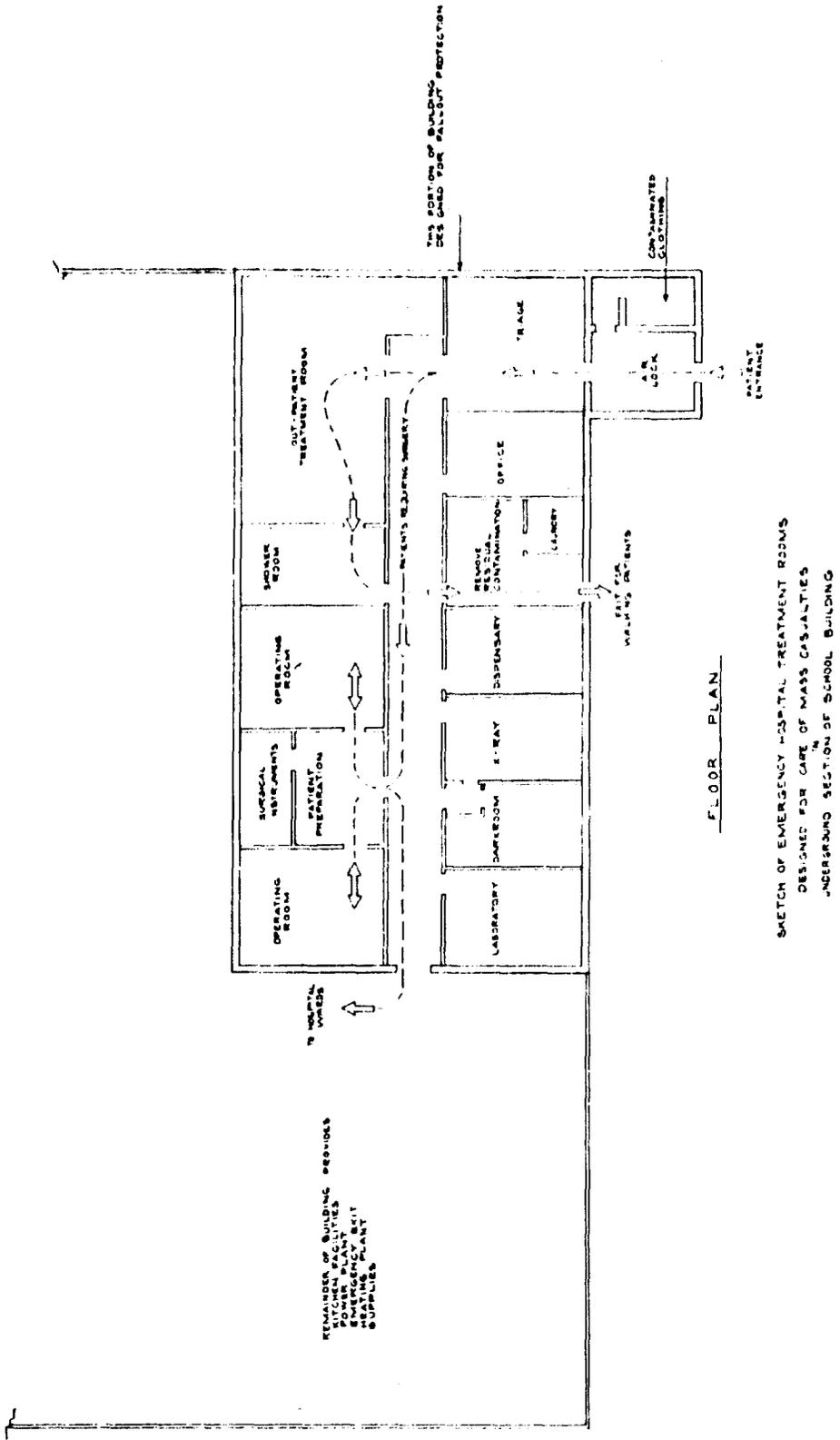
The objective of the auxiliary hospital program is to pre-position and install equipment and supplies within selected buildings, located outside probable target areas, so that the buildings can be converted into hospitals within a few hours. The hospital staffs would activate their installations prior to an attack, if possible. In Baden-Württemberg, 625 auxiliary hospitals are being planned or built, each of which has, or will have, a capacity of 200 beds--a total of 125,000 beds.

Auxiliary hospitals are organized into groups of two to four. By means of this grouping, medical supplies can be shared; administration and control is facilitated (administrative personnel are reduced); and the need for transportation of the injured is reduced. A complement of 64 personnel is required for each 200-bed hospital unit.

Because there is a great deal of school construction under way in Germany (68 of the 77 communities in the county of Freiburg im Briesgau are building new schools), the building of emergency hospitals in a number of these schools has been successful. Figure 5 is a sketch of the plan for one of these installations. All the medical treatment rooms are provided with fallout protection, and with blast protection sufficient to protect them should the building collapse. The floor plan is such that incoming patients can be given a preliminary diagnosis similar to that in the U.S. triage concept. After this diagnosis, patients are given outpatient care or surgical treatment in operating rooms, depending upon the extent of their injuries. Hospital wards are set up in the remainder of the school building and adjacent buildings.

In Baden-Württemberg (7.7 million population), there are five large medical stockpiles valued at 20 million DM (\$5 million) stored in 1,500 square meters (16,000 sq ft) of floor space. These stores contain drugs, dressings, blood, and medical and surgical equipment, which are continually replenished by rotating stocks of perishable items.

Figure 5
 FLOOR PLAN OF EMERGENCY HOSPITAL TREATMENT ROOMS



SKETCH OF EMERGENCY HOSPITAL TREATMENT ROOMS
 DESIGNED FOR CARE OF MASS CASUALTIES
 UNDERGROUND SECTION OF SCHOOL BUILDING

IV THE ADMINISTRATION AND LEGAL BASIS OF GERMAN CIVIL DEFENSE

The general structure for administrating the German civil defense system and the legal framework upon which the concept of emergency operations is based are described in this section.

Administrative Structure

The basic law establishing civil defense in Germany,* states that the protection of the population from the effects of hostile action is the responsibility of the federal government. Tasks that cannot be accomplished by the federal government will be performed by state and local governments on behalf of the federal government. The law also establishes the Agency for Civil Defense, the warning and monitoring system, and the volunteer Civil Defense Corps.

The organization primarily charged with the responsibility for building an operational capability is the German Federal Ministry of Interior. The Agency for Civil Defense, a subordinate authority of the Ministry, is responsible for the technical aspects of the program as well as for its administration. Various federal agencies of the German government have civil defense responsibilities that are coordinated with the Ministry of Interior. (See Appendix B.)

The Germans think of their civil defense program as consisting of two major tasks. These are categorized as "self-help" and "official assistance." Self-help includes training and organizing the populace so that the people can provide, in large measure, for their own protection. It also covers the organizing and training of industrial personnel, as well as defense preparations within government agencies, which, in Germany, include the railroads and principal means of communications. Official assistance includes the development and operation of the warning service, the formation and training of the Civil Defense Corps, shelter construction, the protection of cultural objects, and the stockpiling of critical materials and supplies.

* "First Law Concerning Measures for the Protection of the Civilian Population," October 9, 1957 (Bundesgesetzblatt I, p. 1696).

The Agency for Civil Defense is organized as indicated in Figure 6. Its principal tasks include:

1. Research and development in the field of direct weapons effects, shelter construction, medical and veterinary c and electronic devices.
2. Technical support and administration of the program through offices located in each state capital and in 500 major cities throughout Germany.
3. Development and operation of the warning and communications network for civil defense. This includes the operation of 10 warning centers, 50 chief monitoring stations, and 156 radio transmitters.
4. Organization, planning, and supervision of public education programs through the Civil Defense Association.
5. Liaison with medical and welfare organizations, such as the Red Cross.
6. Organization and training of the Civil Defense Corps and coordination of its activities with the military and the police.

Undoubtedly the most interesting feature of the German Civil Defense administrative structure is the Civil Defense Association (BLSV), an autonomous organization chartered under public law and supported by public funds. Its mission is to educate the people regarding the danger of air attack, advise them on protective measures, and organize and train volunteers for the self-protection of the population. This quasi-government organization, therefore, is almost exclusively charged with the critical task of public education and organizing the extensive self-help program, which is the basic element of the German civil defense system.

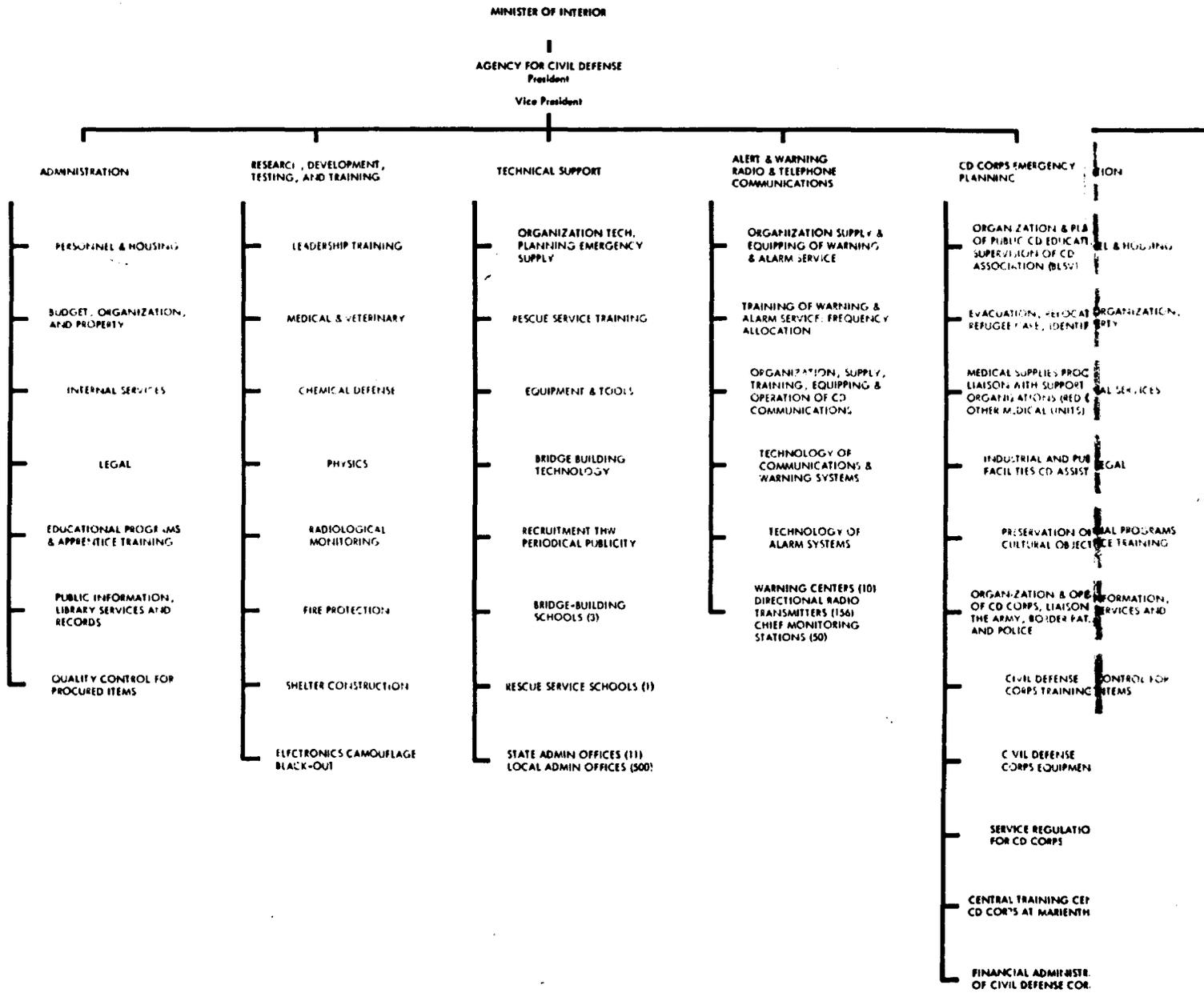
To fulfill these responsibilities, the BLSV currently has a network of offices staffed by salaried officials and volunteer workers. The headquarters of the association is located in Cologne, with field offices throughout Germany. There are:

- 10 - state headquarters
- 33 - governmental area offices
- 425 - county offices
- 1,323 - local offices
- 2,444 - offices in communal groups
- 23,163 - communal offices

There are also a federal BLSV school, 10 state schools, and 120 training centers. Over 200,000 volunteers are enrolled as volunteer workers.

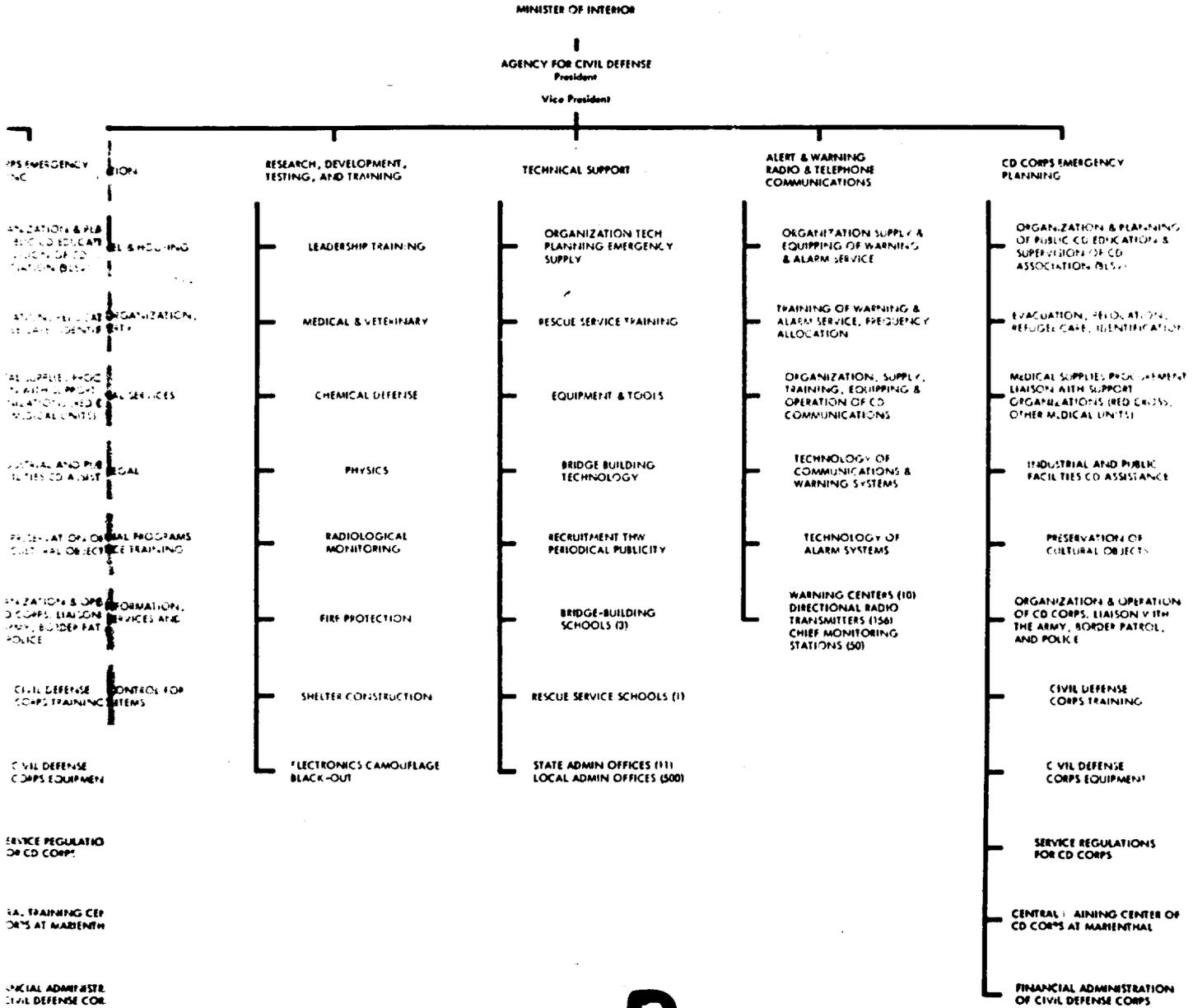
Figure 6

ORGANIZATION OF THE AGENCY FOR CIVIL DEFENSE



A

ORGANIZATION OF THE AGENCY FOR CIVIL DEFENSE



B

Proposed Civil Defense Legislation

There are now before the German legislature ten proposed laws covering all facets of the personal and economic life of the nation. These laws would make compulsory, public courses in self-protection, construction of private and public shelter, service in a Civil Defense Corps, industrial preparedness, etc. The laws would also establish that federal power be employed in an emergency. The major reason for the enactment of some of these laws has been the failure of the public to offer its services voluntarily and to make the preparations that German civil defense planners believe are necessary to build an adequate system. Other laws are necessary to establish the civil defense obligations of citizens and the various agencies of the federal government. It is also believed that in an actual emergency, the government must possess extraordinary power to preserve order and conduct effective emergency operations. Each of these laws is described below.

Proposed Changes in the Basic Law (German Constitution)

It is stated in the proposed changes that the present constitution does not deal adequately with emergency conditions, which include an attack upon the country. The drafters of the proposed law believe that a strengthening and centralization of government power is required; otherwise, responsible officials may neglect to take necessary action or they may be forced to extend their power unlawfully.

The changes would make possible the following actions after a state of extreme danger is declared:

1. Directives may be issued by the federal government that restrict freedom of the press (i.e., censorship); the right of assembly; the right to form associations and societies; and freedom of movement throughout the country.
2. Directives may be issued by the federal government that touch upon the free choice of place of work and establish an obligation for all German citizens to render service in an emergency.
3. Persons may be deprived of the writ of habeas corpus for a period not exceeding one week.
4. The federal government may regulate the administration and finances of the federal and l ander governments for the duration of an emergency.
5. The federal government may employ the federal and l ander police, as well as the Armed Forces, for police missions throughout Germany.

6. The federal government may issue directives to l nder agencies concerning emergency measures and may further delegate the authority to issue directives to l nder agencies or officials designated by the federal government

Shelter Construction Law*

The German Chancellor has presented to the legislature (Bundestag) a law to make the construction of protective shelter in private and public buildings compulsory. This law requires that shelters be constructed in all new homes, apartment buildings, office buildings, hospitals, hotels, kindergartens, factories, etc. The shelter must be large enough to accommodate the occupants of the home or apartment, the capacity of the hospital, and the staff of an office building or department store (not including customers). Basic and--in special communities--reinforced protection, as previously defined, would be made compulsory. The cost of basic protection--estimated at 360 DM (\$90) per person--must be paid by the new building owner; however, he would be able to deduct, for 10 years, 10 percent per year of this cost from his taxable income. The cost of reinforced protection (exceeding the cost of basic protection) would be paid by the federal government. This additional cost is estimated at 600 DM (\$150) per person.

Under the new law, there is no requirement for shelters to be built in existing structures. If a building owner should modify an existing structure to provide basic protection, he would have to pay the entire initial cost. To encourage shelter construction in existing buildings, however, the owner would be reimbursed with one-third of the cost of basic protection. If reinforced protection is required, the additional cost exceeding that of basic protection would be borne by the federal government. The cost of incorporating basic protection into existing structures is estimated at 400 DM (\$100) per person. The additional cost, over and above basic protection, to obtain reinforced protection is estimated at 1,050 DM (\$262) per person. Exclusive of the direct reimbursement to be provided the owner of an existing building, a tax benefit is also added. For ten years the owner would be able to deduct 10 percent per year of the initial basic shelter construction cost from his taxable income.

In those communities that have been designated as reception areas for relocated people, private building owners may be required to receive relocated people. The total cost of the extra construction necessary to shelter relocated people would be borne by the federal government. In no

* "Draft Law Concerning Structural Measures for the Protection of the Civilian Population," German Federal Parliament, Memorandum IV/896, January 14, 1963.

case would a building owner be ordered to shelter more than a total of three times the normal occupants of the building.

This law also prescribes that certain industrial facilities, including dams, atomic power stations, munitions factories, and public utilities, must be constructed or altered in order to make them less vulnerable to attack and to provide protection for the employees. The total cost for this protection would be borne by the federal government.

Since it is postulated that only a few minutes may be available between warning and attack, the law states that public shelter must be built in public places where large groups of people gather. Existing structures, such as underground garages and subways, are to be used as much as possible for this purpose; they are to be stocked with a 30-day supply of food and water. The total cost of the construction of these shelters and the initial cost of stocking the shelter would be paid by the federal government. Communities must furnish the land without cost, however, and maintain the shelter and its supplies.

Self-Protection Law*

Efforts have been made since 1951 to educate the general public to the hazards of thermonuclear war and to the preparations they must make to counter the hazards. The Civil Defense Association has set up an extensive network of offices, recruited almost 200,000 volunteers to assist in self-protection work, and informed over 3 million citizens about self-protection through exhibits, meetings, "self-protection weeks," and similar events. But despite all these efforts, it has been shown that effective self-protection of the civilian population cannot be achieved on a voluntary basis. Therefore, the new law would make preparations and training compulsory for all citizens. Specifically, it would make necessary the following actions:

1. Individual responsibility. Each individual must protect himself and the members of his household against the effects of offensive weapons. He must lend assistance to his neighbors if they cannot themselves avert an immediate danger threatening their lives. Every person should take cover without delay in a shelter, a basement, or other suitable area in the event of a public alert. All persons between the ages of 16 and 65 must attend training sessions. The basic training course consists of 10 hours of instruction. For those persons required to perform special tasks, up to 50 hours of instruction may be prescribed. All persons who receive training must attend refresher courses not to exceed

* "Draft of a Law on Self-Protection of the Civilian Population," German Federal Parliament, Memorandum IV/897, January 14, 1963.

5 hours every three years. The law provides for penalties in the event that a person does not fulfill certain of these obligations that affect the public good. A fine of up to 5,000 DM (\$1,250) may be levied for such a violation.

2. Heads of household. The head of every household must acquire and maintain protective equipment including masks, dosimeters, first aid kits, etc. An emergency supply of food and water sufficient to last 14 days must also be maintained.
3. Owners of buildings. The owners of buildings (including homes) must acquire fire-fighting equipment, including fire extinguishers, water containers, and escape tools and devices. Provision must be made for immediate blackout of the building, and the immediate clearing of lofts, attics, and storage rooms in the event of an emergency.
4. Responsibility of mayors. The mayor or chief executive of each community is responsible for organizing and training the self-protection organization of his community.
5. Commercial, industrial, and government institutions. All places of work regularly employing 10 or more persons must provide for self-protection. This includes hospitals, hotels, motels, schools and kindergartens, seagoing vessels, and vessels on inland waterways. The owner of the establishment must provide equipment, supplies, food, a supply of water for fire fighting, fire-fighting equipment, and escape devices and tools for his staff. A properly designated local civil defense chief is to prescribe the strength, organization, equipment, and training of the plant self-protection force. The local civil defense chief is authorized to keep informed of the status of preparations and to demand that shortcomings be corrected.
6. Responsibility of federal agencies. Each ministry in the federal government is solely responsible for the protection of its own resources.

In implementing the provisions of the law, the Civil Defense Association is to provide public information on weapons effects and protective measures; support the local civil defense chief in the organization and training of the community for self-protection; and cooperate in the self-protection training for commercial and industrial establishments.

The cost to each individual for equipment, material supplies, black-out material, and food supplies is estimated at 79 DM (\$20) per person. The cost of training, estimated at 80 million DM (\$20 million) annually, is to be borne by the federal government. The cost to commercial and industrial establishments is estimated at 104 DM (\$26) per employee. The costs of equipment for training and the self-protection squads are to be paid by the federal government.

Law To Regulate the Location of the Population*

The purpose of this law is to provide the legal basis for the "stay at home" policy and the implementation of plans for possible short relocations of those segments of the population that are in greatest danger at the time of attack.

In presenting its substantiation for the proposed law, the German government gave the following justification:

In the event of a war, the fate of the civil population, as well as the effectiveness of the military defense, will depend to a considerable degree upon the way in which individuals conduct themselves in the face of the common danger. If a great proportion of the people at the outbreak of hostilities, or even earlier, leave their homes like refugees in order to seek some imagined security, they will not only expose themselves to incalculable danger, but also endanger the operational freedom of the armed forces and thereby place insoluble problems before the public administration in its efforts to protect the populace from the worst consequences of a war. This applies not only when the employment of nuclear weapons leads to a widespread radioactive fallout over the whole country, but to similar phenomena under all other possible circumstances of a future war.

It is thus one of the main requirements of civil defense and civil emergency planning that in the event of war everyone remains wherever he finds himself and that great movements of people take place when and only when it is urgently required for the protection of the people or for military defense.*

The law provides that all citizens, during a defense emergency, are restricted to journeys within a 6-mile radius of their homes unless especially authorized. It further provides that part of the civil population may be required to participate in a temporary relocation to special reception areas within Germany. The term "relocation" is used rather than "evacuation" to make it clear that mass movement of large groups of people is not intended.

The conduct of relocation operations is the responsibility of land government. The timing of the move, the participants, the security of vacated buildings, the taking of baggage and rations, the use of vehicles and routes, and all other details of the move are to be prescribed by state authorities. Persons participating in the removal may be required

* "Draft of a Law To Regulate Domicile of the Civil Population in a Defense Emergency," German Federal Parliament, Memorandum IV/895, January 14, 1964, p. 14.

to use their own vehicles and to accept additional passengers. The receiving local government units are obligated to take in, provide accommodations, and care for the persons transferred. Protective shelter is to be available at the receiving areas, as provided under the Shelter Construction Law.

The prescribed measures must be prepared for in peacetime. In particular, the places from which the civil population must be removed, the reception areas, the method of transportation, and the lines of communication must be predetermined, so that the means of transport can be available and the rationing and sheltering of personnel planned.

Under this law, the Ministry of Interior is to issue orders for the conduct of relocation exercises (to be no longer than 24 hours' duration) in peacetime. The public may be either requested to participate voluntarily or required to participate.

As part of this emergency planning, arrangements must be made for auxiliary hospitals and the expansion of existing hospitals. Suitable buildings must be prepared, and sufficient stores, medical equipment, and furnishings must be arranged for and maintained.

Within the proposed law, provision is made for the federal government to bear the costs of the initial planning of the action necessary for relocation. This subsidy is to be given to local and state governments as a one-time lump sum. The cost of emergency hospitals and shelter is covered under other programs.

Civil Defense Corps Law*

The basic Civil Defense Law[†] provides for the establishment of a voluntary civil defense corps. As of the fall of 1963, there were 35,000 voluntary members of the corps, organized into supra-local forces, as previously described. But since the response was not considered adequate to meet the civil defense needs of the country, a proposed law has been submitted to the legislature, which would authorize the conscription of men into the Civil Defense Corps.

The members of this Corps are to be selected from those eligible for military service and to be assigned to the Civil Defense Corps instead of to the Army. They are to live in barracks, wear uniforms, and undergo intensive training for four months. At the conclusion of this militia-type training, they are to be assigned to rallying points. Periodic exercises are to be held to ensure readiness. A system of promotion is also

* "Draft of a Law on the Civil Defense Corps in the Event of a War," German Federal Parliament, Memorandum IV/450, June 6, 1962.

† "First Law Concerning Measures for the Protection . . .," op. cit.

to be developed. In general the men will not be over 40 years of age and will probably serve in the Corps for 10 years

It is believed that the number of men that can be recruited and trained for the Corps will depend principally upon the number not required by the Army. It is planned, however, that 15,000 are to be trained at one time in three classes each year, for a total of 45,000 per year. The present upper limit to the Corps after 5 years is 200,000. An estimated 5,000 full-time staff of instructors will be required for the program. To determine the number of men required for the Civil Defense Corps in a particular community, a manpower strength will be established based on a formula developed by the federal government. From this required manpower strength, the number of men in the voluntary civil defense service and other volunteer groups will be deducted. The remaining manpower will be made up by conscripts into the Civil Defense Corps.

In addition to providing for conscription of men for the Civil Defense Corps, the law provides for the draft of civilian specialists in certain categories. To maintain the operation of vital civilian and military facilities in an emergency, skilled technicians will be obligated to remain at their stations. The critical categories include noncombatant service in the military, service in public administration, and in private industrial firms that provide for the needs of the population and the defense effort, such as oil refineries, food processing plants, clothing, electric power, communications, and hospitals.

As part of peacetime planning, critical skills and facilities are to be identified. The men who are assigned to duties must undergo initial training for a maximum of 28 days to prepare them for their service missions under emergency conditions. Retraining or refresher courses are to be restricted to 14 days per year. Individuals are to be given designated locations where they must report at the time of an alert. All men from 18-65 years of age and women from 18-55 are to be subject to this law

Law for Securing Industrial Production*

This law would authorize the federal government to issue decrees to control the industrial economy in time of war or domestic crisis so that the supply of vital goods and services to the civilian population and the armed forces would be ensured. The decrees would contain orders and prohibitions ranging from the procurement of raw materials to the allocation

* "Draft of a Law on Securing Services in the Area of Industrial Economy, and the Circulation of Money and Capital," German Federal Parliament, Memorandum IV/892.

of end products to the user. The law covers all production facilities; services for maintenance, construction, and modification of facilities; the transportation of solid, liquid, and gaseous products by means of pipelines; the administration, displacement, and shutdown of plants; and the utilization and stockpiling of goods. It also requires that state and local governments must implement the provisions of the decrees issued. The total cost of preparing plans and carrying out directives is to be borne by the federal government.

The law also contains the authority for federal control, by decree, of the banking and financial segments of the economy.

Law for Securing Food Supply*

This law would establish an emergency system to provide the civilian population and the Armed Forces (including allied forces stationed on German territory) with food, agricultural supplies, and wood products, in the event of a civil or war emergency. The primary provision of the law establishes the authority for the federal government to issue decrees regarding the control and allocation of agricultural and forestry products in an emergency. It also provides for the storage and stockpiling of products and the establishment of an organization to carry out both planning and emergency functions.

Emergency directives may be issued concerning the cultivation, production, and allocation of agricultural products. Decrees may also be issued on the use of agricultural machines and equipment, fuels, fertilizers, and other resources. The commercial sales of products may be halted for 48 hours in a time of tension to prevent hoarding. Fixed prices, trade profits, and terms of payment and delivery may be established by decree. The administration, maintenance, and shutdown of plants for agricultural and forestry products may also be prescribed by the government.

The law authorizes the federal government to issue regulations on the storage and reserve stocking of food supplies. Federal stockpiles of these supplies would consist primarily of grains and other raw materials requiring food processing. Other food items in the federal reserve, such as canned meat, rice, etc., are limited in quantity and would be of only limited value for mass feeding. The small quantity of these supplies, coupled with the probability of a breakdown in the distribution system in the event of a war, makes necessary well-dispersed stocks that are located close to the users and ready for consumption. For this reason, the law prescribes that food stores and wholesale houses must maintain certain stocks of food, depending on the season of the year and the harvest. The self-protection law complements this legislation by requiring that each householder set aside a 14-day supply of food and water for emergency use.

* "Draft of a Law on Securing Food, Agriculture, Forestry and Wood Supplies," German Federal Parliament, Memorandum IV/893.

The organizations responsible for planning and operating the proposed system of resource control are: there is to be a Federal Office within the Ministry of Food, Agriculture and Forestry; parallel planning groups will be formed at the land level at each of the 33 governmental areas and in each of the 560 rural and city counties. In an emergency, the federal government may delegate to the land governments the authority to issue decrees. The state governments may, in turn, delegate authority to lower jurisdictions. The use of trade associations and institutes for accomplishing specific planning tasks is also envisioned in the law.

The planning task at each level of government consists in determining the location and magnitude of requirements, assessing the possibilities for meeting demands, stocking emergency reserves, and planning a distribution system. Preparation of tables of organization and personnel for the agencies and designation of, at least, a cadre are further planning tasks. The cost of planning and implementing this program would be borne almost totally by the federal government.

Law for Safeguarding Transportation*

This law would enable the federal government (1) to issue directives to remove or prevent impediments to the efficient use of transportation; (2) to achieve urgently needed increases in transportation capability; and (3) to effect the more efficient use of traffic routes and transportation installations and equipment. The term "transportation" includes railroads, shipping on the high seas, inland shipping, air traffic, federal waterways, and road traffic. Ordinances may be issued governing:

1. The construction, operation, repair, and use of traffic routes and transport means.
2. The control and limitation of the transport of persons and goods.
3. The administration, relocation, and operation of transportation enterprises and agencies.

This law would authorize the issuance of decrees in a war emergency or during any supply crisis, such as a natural disaster.

The stockpiling of building materials, fuel supplies, spare parts, and tools necessary to permit temporary operation of transport vehicles and installations in the event of a stoppage of supply may be prescribed for transportation enterprises.

In carrying out the provisions of the law, the federal government may delegate the authority it has been granted to field agencies, to l nder governments and agencies, and to lower levels of government.

* "Draft Law for the Safeguarding of Transportation," German Federal Parliament, Memorandum IV/894.

The law also provides for the conduct of test exercises, which may take place for a maximum period of 14 days. Broad powers are granted for requisitioning transportation resources for the duration of these exercises. The costs of the measures prescribed in the law would be borne by the federal government.

Under this law, all critical vehicles would be registered during peacetime in order to determine their availability in an emergency. The owners of private vehicles would be required to deliver their vehicles to the government; they would be reimbursed for the use of the vehicles or for the vehicles themselves, if they should be destroyed.

Law for Safeguarding Water Supply

Provisions for securing necessary supplies of water in an emergency are provided for in a separate proposed law similar to the previous three. The law provides for the drilling of emergency wells to guard against the breakdown of water plants and the distribution system. Reservoirs or ponds are to be built in parks to provide for emergency fire fighting. Emergency means of water purification and the disposal of sewage would be planned in order to prevent disease. Safety measures would also be taken around large dams.

Law for the Issuance of Identification Tags to Children

As a result of World War II, there were 90,000 small children in Germany who were separated from their families. Although 78,000 children were eventually reunited with their families through the Red Cross, it was an extremely difficult task, especially for small children and infants who could not speak. The Fourth Geneva Convention provides for the issuance, to children under 12 years of age, of identification tags specifying the child's name, date of birth, place of birth, responsible parent or guardian, and religion. By means of this law, Germany is considering the obligatory issuance of these tags combined with a film badge. These tags are to be issued free to parents and to be worn only in case of an emergency.

Belgium and Sweden have already adopted this system of identification in compliance with the Geneva Convention.

A P P E N D I X E S

Appendix A

SELF-PROTECTION MEASURES

Appendix A

SELF-PROTECTION MEASURES

The following is a translation of Information Bulletin No. 103, from the Agency for Civil Defense.

Self-Protection as a Basis of Civil Protection

Self-protection is the most fundamental of all civil defense measures. Everyone should take the necessary measures to protect himself and his family. Wholehearted and willing teamwork is, therefore, required of each tenant, so that in case of imminent danger, fast and effective help can be realized by the community under the guidance of a self-protection warden. Cooperative neighborhood assistance is a supplement to self-help.

Home Shelter

Each home should have an airtight and blast-proof shelter or a shelter that protects against radiation, as outlined in the Guide on construction by the Minister of Works. If there are no shelters available, cellars, rooms in damaged buildings, and holes can be used temporarily to provide a certain amount of protection.

The equipment necessary to fit out self-protection shelters in buildings is listed below:

1. Seating and sleeping facilities.
2. Woolen blankets.
3. Emergency lights (in provisional shelters without air conditioning only battery-operated instruments may be used).
4. A tool, such as a spade, shovel, axe, hatchet, crowbar, or heavy hammer, to free oneself and to rescue others who are buried.
5. A radio-receiver (preferably receiver working on battery).

6. Food and water in approximately the following quantities:

<u>Food</u>	<u>Daily Ration</u>	<u>Estimated for</u>	<u>Two-Week Requirement</u>	<u>Durability</u>
Preserved meat	90 g	8 days	720 g	24 months
Corned beef	125 g	6 days	750 g	24 months
Tuna fish	70 g	8 days	560 g	12 months
Margarine	75 g	6 days	450 g	12 months
Processed cheese	125 g	6 days	750 g	12 months
Condensed milk	40 g	14 days	560 g	12 months
Lemon powder	20 g	14 days	280 g	12 months
Marmalade	100 g	8 days	800 g	12 months
Sugar cubes	24 g	14 days	340 g	unlimited
Roasted bread (Zwieback)	160 g	8 days	1,280 g	limited
Crackers	200 g	6 days	1,200 g	
Dried fruits, mixed, or raisins	50 g	8 days	400 g	6 months
Fruit slices	50 g	6 days	300 g	12 months
Bitter chocolate	50 g	8 days	400 g	12 months
Sour drops	50 g	6 days	300 g	12 months
Powdered coffee extract	3.5 g	14 days	50 g	12 months
Tea powder	1.2 g	14 days	16.8 g	12 months
Chewing gum	2 pieces	14 days	28 pieces	unlimited

A supply of drinking water sufficient to last for at least two weeks should be provided. It can be supplemented with fruit juices and sparkling (soda) water. Each person's daily ration should contain 2 liters of liquids. Cutlery should be made of unbreakable material; jars, bottle openers, and cups should be included.

First aid kits for shelters should contain, for five persons, approximately the following items:

- 5 packages field dressing
- 3 bandage packages for burns (35 X 45 cm)
- 1 bandage cloth for burns (80 X 60 mm)
- 2 pieces of gauze (4 X 6 cm and 2 m X 20 cm)
cotton, sterile, in press roll form
- 1 elastic bandage (4.5 m X 8 cm)
- 1 wire splint, 4 parts (4 X 25 X 8 cm), lined with foam rubber
- 1 roll of adhesive plaster (5 m X 2-1/2 cm)
- 1 synthetic fiber bag with linen for wounds (25 X 6 cm)
- 2 triangular towels (90 X 90 X 27.5 cm)
- 1 piece watertight foil
- 1 artery tourniquet
- 3 eye patches, with band
- 12 nickel-plated safety pins
- 1 pair of bandage scissors, straight (14.5 cm)

- 1 surgical tweezers, large (14.5 cm long)
- 1 thermometer in metal case
- 1 antiseptic tampon (1 X 10 cm)
Bladriandrops in glass bottle (10 ccm)
- 20 tablets antieuralgicum
- 1 toilet (container with cover)

In the anteroom or at the most convenient place should be placed: fire extinguishers with nozzles, and water bucket; hand fire extinguishers, as well as water; water to dampen clothing, a quilt to protect against heat and flames when leaving the shelter; a box for contaminated clothing.

Personal Equipment

It is recommended that the following items be used as personal equipment: easily stored clothes, with head covers and solid shoes, face mask, a pair of smoke protection glasses, mittens, a flashlight, and bandages.

Valuables and Personal Items

Valuables and personal items must be available to carry to the shelter, in case of emergency. This should include: money, jewelry, family documents and other important papers (permits, pension plans, and certificates, bank and savings books, insurance policies), and clothing, quilts, towels, and items of personal need.

Security Measures

Every tenant should be informed of the location of the main gas pipe and the valve for the water main. Electricity can be cut off by removing the fuses. Each tenant should cut off these services in the event of an emergency.

Neighborhood Assistance

Arrangements with neighbors for mutual assistance are a vital self-protection measure. Everybody should know where help can be reached when it is needed and where shelters, cellars, and expedient shelters are located.

Appendix B

ASSIGNMENT OF CIVIL DEFENSE RESPONSIBILITIES TO
FEDERAL AGENCIES OF THE GERMAN GOVERNMENT

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ASSIGNMENT OF CIVIL DEFENSE RESPONSIBILITIES TO
FEDERAL AGENCIES OF THE GERMAN GOVERNMENT

Federal Ministry of Interior (Agency for Civil Defense)

Construction and repair of storage and training facilities
Training of the Luftschutzhilfsdienst (Civil Defense Corps)
Procurement of new air raid sirens and reconditioning of old
Maintenance and operation of local warning installations
Construction of shelters to protect radio station transmitters
Support of Civil defense measures undertaken by the Red Cross, etc.
Training of auxiliary nurses
Evacuation planning
Financial assistance for construction of public and private shelters
Financial assistance for reconditioning old air raid shelters
Construction and procurement of equipment for auxiliary hospitals
Stockpiling of medical supplies
Procurement of equipment for self-protection units
Procurement of general air raid protection equipment
Procurement of equipment for the construction of floating bridges
Preservation of cultural objects, e.g., paintings, art treasures
Dissemination of information material on civil defense matters
Training of supervisory civil defense personnel
Coordination of civil defense measures and planning
Collection and evaluation of foreign civil defense publications

Civil defense research

Testing of civil defense material and equipment

Provision of technical advice in civil defense matters

Administration of grants for Bundesluftschutzverband (Civil Defense Association)

Indirect control over the establishment of self-protection units

Cooperation with the Federal Minister for Defense

Federal Ministry for Economics

Establishment of emergency measures to protect public utility installations

Federal Ministry for Food, Agriculture, and Forestry

Dissemination of information to the population concerning voluntary stockpiling of foodstuffs by private households

Procurement and maintenance of food and fodder stocks

Federal Ministry for Traffic and Transportation

Improvement of harbor installations

Procurement of harbor equipment

Construction of emergency roads

Bundesbahn protective measures

Bundesbahn auxiliary tracks

Bundesbahn supplies and fuel

Bundesbahn fire-fighting units

Conversion of barges into auxiliary ferries

Federal Ministry for Post and Telecommunications

Establishment of emergency storage

Construction of shelters in Bundespost buildings

Procurement of telecommunications equipment

Establishment of direct lines between major civil defense agencies

Testing of special telecommunications equipment

Federal Ministry of Housing

Construction of air raid shelters

Erection of test shelters

Source: U.S. Embassy, Bad Godesburg.

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14. KEY WORDS Civil Defense Systems, German Civil Defense, Organization, Command and Control Systems, Civil Defense Legislation	LINK A		LINK B		LINK C	
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