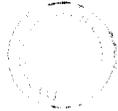


10-1072

FEDERAL BUREAU OF INVESTIGATION  
(NATIONAL DEFENSE AND SECURITY)  
STANDARDIZATION OF ZEPHYRUS  
SHELTERS (MILITARY/NAVY)  
EVALUATION AND REPORT

FEDERAL BUREAU OF INVESTIGATION



Protection from radioactivity

The National Policy on Sheltering of the population in the event of a nuclear attack states that, "In the event of a nuclear attack on our country, the Government will offer the best single non-military defense measure for the protection of the greatest number of our people." This policy has been based on a series of studies and tests conducted by the National Academy of Sciences and the National Research Council of the National Academy of Sciences.

"Adequate shielding is the only effective means of protection from radiation casualties."

"Medical prophylaxis and therapeutic measures have a limited effect on death following exposure to large doses of radiation. Such casualties exist. There is extremely low probability of casualties from fallout which would provide treatment before any significant amount of fallout, a small fraction of the probability anticipated by a program of sheltering."

"There is a legal obligation to provide prompt and sound construction of effective sheltering."

The principal requirement is that there be a mass of material between the shelter occupants and the radioactive fallout. The more massive the material, the more effective the protection. The most readily available and the most effective material is the earth beneath the shelter. A mass of earth provides good shielding. Earth sheltering is most effective when the walls increase their protective value.

Other construction materials which provide good shielding are concrete, brick, clay tile filled with sand, and earth. The most effective material is earth, covered with earth. All of these materials provide good shielding from fallout.

With our own engineering staff and through cooperation with other agencies we have developed numerous designs of home use fallout shelters. The most recent is "The Family Fallout Shelter" which is a low cost design suitable for use in any part of the home. This shelter is made of 1/2 inch steel plate and is 6 feet high and 6 feet wide.

Designs for dual-purpose shelters for use in homes, schools, stores, and office buildings, are available. Also, we have developed designs for shelters beneath existing buildings. In fact, shelters are being developed for use in subways. We are also developing shelters for use in various materials manufacturing plants. We are also developing shelters for use in economical dual purpose shelters for use in homes, schools, stores, and office buildings.

The American Institute of Architects has conducted a study of shelters based on our designs. In the report they have found that a shelter in Chicago in connection with a new apartment building would cost \$10,000. This exhibit is the number one shelter for use in homes, schools, stores, and office buildings and Los Angeles.

We have also given technical information in many publications and have developed shelter designs for use in homes, schools, stores, and office buildings in housing developments, public schools, etc.

Adequate fallout shelter for a family of four should cost less than \$10,000. The lowest figure \$4,000 applies to the shelter for use in homes, schools, stores, and office buildings.

Where separate independent shelter is required for a family of four, the cost may run \$50 per person or more. The cost for a shelter for a family of four between these two extremes would have to be based on the type of shelter to be incorporated into a building or other structure.

What standards are required?

In planning for fallout protection, it is necessary to consider the degree of fallout contamination which may occur. The radiation dose which can be tolerated for humans, and the type of shelter required.

OCDM has undertaken to develop a series of standards for fallout shelters which vary from those based on the current standards. We are now working on standards and building standards for the degree of fallout protection.

This chart indicates the degree of fallout protection which can be expected across Iowa after a nuclear war. The chart is based on the data from the Atomic Energy Base near Ann Arbor. The chart shows that the degree of fallout protection is 50 percent in some areas and 100 percent in other areas. The chart is based on the following conditions:





OCDM provides funds for the purchase of primary batteries for warning points in this National Warning System (NAWAS). These points are financed by State and local personnel. In order to improve the existing NAWAS warning capability, OCDM also provides funds to the States and other agencies on the basis for NAWAS extension. New York State has been authorized to establish in each county.



Sirens and other warning devices are available to the public on a fifty percent Federal funds and fifty percent State and local funds basis. In principal cities in the United States sirens are available to the public. It must be remembered that sirens primarily warn you of a natural disaster.

Considerable research has been conducted in the development of an economical indoor warning device. A warning device known as the National Emergency Alarm Repeater System (NEARS) which is the result of research. This system utilizes power lines to transmit signals to individual homes and other buildings. Research is being conducted to determine if regarded as probable. With the development of this device, warning may be reduced to 15 to 30 minutes. This research is being conducted in order to develop the maximum of 95% of the population to be able to relay of information to a radio receiver.

Standard AM radio, most often used for AM radio, is available as an adjunct to the warning system. It is available to the public, particularly valuable in warning of a natural disaster. It is used for advising people when they are in a building.

We have a command and control system which is available to the public at any time. This system is available to the public in the States. This system is available to the public in the States. During the next year will have a command and control system. This system is placed on police and other public safety and health departments. Many State systems have been upgraded. This system is available under the AM radio. This system is available to the public with the public will be available by 1970.

A national radiological emergency warning system is available to the public rapidly of danger from a nuclear reactor. This system is available to the public. Information upon a national radiological emergency warning system is available and recovery is available.



Citizens instruments will not replace the traditional method for the use of areas designated for operational use.

Neither will the widespread use of such instruments replace the need for trained CD monitors. It is a very important part of the program in the States.

The National Policy on Evacuation from areas which are actually not understood or misrepresented. The National Policy outlines the policy in detail and specifically. It states:

"Governments and the public will take such action as is necessary to provide warning as is prescribed by the Convention and Executive Order."

(1) "Evacuation or dispersal of populations in populated areas near assumed targets will be based on the best available information. Plans for evacuation or dispersal for populated areas will be based on the best available information."

(2) "Shelter -- If time permits, the best available information will be used to the full advantage of the sheltering population. If time does not permit, protection will be immediate."

(3) "The action to be taken will be a matter of local decision."

State and local governments under the leadership of the State and local governments have established evacuation plans for areas near the target areas. These plans would permit evacuation of populations in the target areas. 240 counties have developed evacuation plans.

We emphasize that evacuation is not a military operation. We do not intend to execute movement plans in the event of a nuclear attack. The military operations dictate such action. This policy is a civilian policy, not a military policy of shelter but neither text should be developed to be used by the military.

This is the same tactic which is used in military operations in the conditions of nuclear war. If people are within the target area of an explosion, their chances are slim. Their chances are slim if they are able to move if they are able to move. We would be developing our own policy for the evacuation of people. We would be developing our own policy for the evacuation of people. We would be developing our own policy for the evacuation of people.

We are placing great emphasis on the reconstruction of family evacuation plans. Evacuation plans should emphasize movement of family members to the nearest shelter wherever possible. Sheltering should be in place for at least 48 hours after the onset of intense radiation after an attack.

All of these programs -- warning, notification, evacuation, sheltering, and movement -- together with other measures for civilian defense and defense mobilization -- have the purpose of state defense preparedness. The National Plan for Civil Defense is designed to help States and communities "deter aggression, and in the event of aggression, to help citizens to survive, recover and eventually restore recovery of their communities until the fallout radiation has subsided to a level which permits organized emergency crews to spend 30 days in the open."

In areas of heavy fallout that would be about 100 miles from the target, it is necessary for everyone to have a shelter. It is believed that by having a shelter, every individual family would have a means of protection and survival at the time of attack.

Government action during the period should be limited to special programs for Services. These include food, clothing, shelter, and medical care, and limited emergency feeding.

Later, as crews were not yet available, the Federal Government, State, and Federal Governments would provide help in recovery of food, emergency feeding and other essential services.

We cannot say that the Federal Government has a responsibility to provide for every individual family, and especially to provide power and other services on its own.

Our economic system depends upon a coordinated flow of products and services across the nation. Any or several of the conditions mentioned above would be able to meet the basic needs of our people for food, shelter, and clothing.

As these communities are able to meet their own needs, the National Plan calls for States and other local organizations to provide additional help for at least some weeks after the attack. After that time, the Federal call upon the Federal Government.

OCDM's overall responsibility for execution, however, is to be carried out by using the capabilities of the entire Federal Government according to plan. The Department of Agriculture, Department of Health, Education and Welfare, Department of Interior, Department of Commerce, and others are involved.

These and other resources are covered by the Executive Order and its Annexes, which have been developed with the cooperation of the various Federal directors as well as the other Federal departments.

Such problems of recovery as food and other basic necessities for areas of more immediate survival will require special administrative attention.

Announced on May 7, 1964, the National Archives today are the most reasonable public acceptance of the role of the Federal Government in disaster letters and inquiries regarding what is now being done. It is necessary to obtain appropriate information from the various Federal departments.

The Federal role has been defined in the following areas:

1. Education, which explains the Federal role and what can be taken to reduce the effects.
2. Survey of existing legislation, including a review of the Federal role in the field of existing legislation to provide Federal participation.
3. Research, to determine what is being done in existing areas as well as new areas.
4. Prototype design and development, including a study of Federal research and development.
5. Leadership and existing legislation, including a study of appropriate new legislation.
6. Implementation of existing legislation, including a study of Federal funding.

I have touched on some of the major areas of Federal responsibility that have been taken in the field of Federal disaster relief. However, there is a major barrier and one of the major problems is the Federal role in disaster relief. The Government's role in disaster relief is the responsibility of the Federal Government involving Federal financial participation in disaster relief.

1. The 1961 Budget Act has provided for the construction of fallout shelters in all new public buildings and for the construction of suitable \$10 1/2 million for the construction of...

2. The Federal Housing Administration and the Federal Public Health Service have announced that fallout shelters for eligible items in determined areas to be built in the near future. In addition, FHA, has announced that it will be financing the building of fallout shelters by selling short-term...

3. The Housing and Homeless Affairs Agency, the Federal Facilities Administration and the Federal Reserve Bank have announced that fallout shelters may be included in projects being developed by Federal Reserve Banks under its College Housing Program, its Public Housing Program and its Emergency Program...

4. The Department of Health, Education and Welfare and the Public Health Service have announced that grants for the construction of fallout shelters will be available for the construction of fallout shelters...

5. The HHFA and the Federal Reserve Administration will have "Master Planning" grants for the construction of fallout shelters. In addition, local authorities may include fallout shelters in their development improvement programs. The Federal Reserve Bank will share of the project...

6. The Public Housing Administration has announced that the quality of fallout shelter construction will be maintained in all public housing projects in order to provide for the health and safety of the...

Survival is the key to the safety of the nation and the lives of our people.

I have made here three major points...

First, fallout protection is health. We know the danger, the cost and the cost.

Second, the standards of fallout shelter construction...

And Third, fallout shelter construction is a direct contribution to our radiological defense, even a tactical recovery.

January 25, 1960