



YOUR SURVIVAL IN AN H-BOMB WAR IF YOU DO NOT LIVE IN A TARGET AREA

H-Bombs, on exploding, create a huge ball of fire that may be more than three miles wide. When this searing heat comes into contact with the ground, many thousands of tons of earth, structures and other material are pulverized into dust, and this dust is carried to very great heights. This dust becomes "radioactive". This means it gives off dangerous rays which, if they come into prolonged contact with the body, will cause sickness or even death.

The dust particles are of varying sizes. The larger and heavier particles soon fall to the ground. They may coat the ground with a grayish dust which is extremely dangerous to living creatures. This dust is known as "fall-out". More often than not, its presence cannot be detected without instruments.



The smaller and lighter particles may be carried by the wind for many miles before they fall to the ground. These particles may remain dangerous for several days and the area

which they "contaminate" may extend two hundred miles downwind from the explosion and may cover a cigar-shaped area up to forty miles in width. Anyone who lives in this area, whether in a town, a village or a rural community, is in danger. It should be remembered that enemy aircraft may be shot down anywhere over Canada and that H-Bomb explosions may result.

No area is safe from "fallout" and it would be extremely dangerous to leave home unless told to do so by civil defence authorities. Unless the area in which you live has been organized for evacuation, the only safe thing to do is to stay where you are and take refuge indoors.

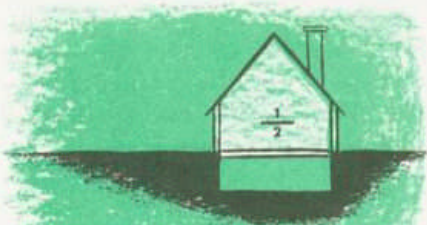
To give protection against "fallout" outside the area of blast damage, the actual strength of a shelter is not important. The degree of protection against radioactivity depends on the mass of material in the walls and roof. How the material is held together is not important. Actual tests have indicated that, on the ground floor of an ordinary frame house, a person would receive only one-half of the "out-of-doors" dose. In the basement, only one-tenth of the "out-of-doors" dose would be received.

A greater degree of protection will be afforded by brick or stone houses. It is estimated that the dose on the ground floor of a brick house, will be one-sixth of the outside dose and in the basement, one-twentieth to one-fiftieth.

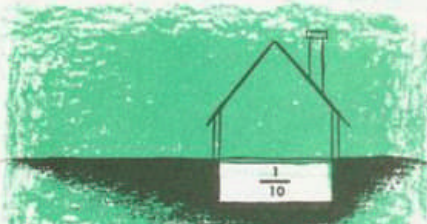
Radioactive fallout can be dangerous for livestock as well as humans and a farmer should keep his stock under cover while the fallout is taking place. This means that someone should stay in the barn with the stock during the entire period in order to avoid travelling back and forth from house to barn for feeding and watering. A safe place similar to the basement refuge should be built in the barn for this reason.

DECONTAMINATION

Radioactivity will, as the scientists say, "decay". This means it will gradually lose its strength until it is no longer a serious problem. Scientists have calculated that seven hours



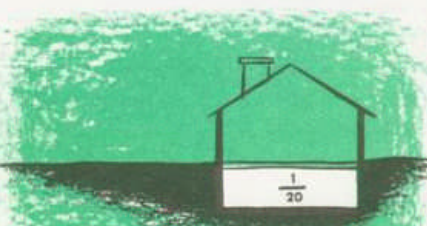
FRAME HOUSE — GROUND FLOOR



FRAME HOUSE — BASEMENT



BRICK HOUSE — GROUND FLOOR



BRICK HOUSE — BASEMENT

after the burst, radioactivity is only one-tenth of its original intensity. The radioactivity will continue to decay at this rate. However, radioactive contamination can also be lessened by a number of methods. One of the best is flushing down with water from a hose or other source. Care must be taken, however, to see that the water carried off does not contaminate rivers or other sources of drinking water. It will normally be better to stay in refuge for 48 hours, although, on civil defence instruction, you could come out for a few minutes at a time after seven hours.

On grease-coated machinery such as cars or farming implements, water will not do. These implements can only be cleaned with a "steam-jenny". Failing this, it may be necessary to wait for the radioactivity to decay by itself. A vacuum cleaner will pick up dry dust satisfactorily, but the dust in the bag must be destroyed by burying it in the ground.

Contaminated clothing should also be disposed of by burying. In some cases it can be made safe by washing, but it is not advisable to use a washing machine. A bulldozer can be used to clean the surface of the ground and push contaminated materials aside where they can be covered with fresh earth.



When working in areas of contamination, particularly if the area is dusty, it is wise to wear some protection for the eyes, nose and mouth. Tight-fitting goggles and some form of respirator—or even a wet cloth covering the nostrils, will help. It is also wise to wear special clothing when working in such areas. Cotton coveralls, cotton or canvas bootees taped around the trouser leg, gloves, and a tight-fitting head covering like a surgeon's cap are useful. After working in a dangerous area, such clothing should be destroyed.

Personal decontamination is a matter of washing. This means scrubbing the whole body with a detergent and water—with particular attention to the hair. If the hair is oily, it may require several washings.

KNOW THE DANGERS

. . . AND KNOW WHAT TO DO

When an H-Bomb goes off, four major dangers occur. They are:

THE DANGER	WHAT TO DO
 FLASH	Don't look up. Turn your head away.
 BLAST AND HEAT	
 IMMEDIATE RADIATION	Take shelter if in the open.
 RESIDUAL RADIATION OR FALLOUT	Take refuge indoors.

Flash, blast and heat and immediate radiation occur when the bomb goes off and last only for a few seconds. Their effects are felt only within a circle twelve miles from the blast.

During the few seconds of the explosion, these dangers cause by far the majority of casualties in an H-Bomb attack. They cause secondary effects such as fires, and intense radioactivity in the blast area.

Residual radiation occurs when materials become radioactive—that is, when they are made to give off dangerous rays. The area of the burst may remain dangerous for long periods—possibly years. Radioactive fallout is a form of residual radiation.

THE PROBLEM

H-Bombs are by far the most destructive weapons ever invented by man. One of the larger bombs would completely destroy almost any city in Canada. Their secondary effects could cause damage over thousands of square miles of countryside.

We cannot hope to give 100% protection against the H-Bomb. What we can do is to provide a plan under which the vast majority of our people would survive and would live to build again.

THE WARNING

ALERT—Once the international situation deteriorates to the imminence or actuality of war, the ALERT will be sounded. This signal is a steady note on civil defence sirens. It will last from three to five minutes and may be repeated as often as necessary. It is the signal to turn on the radio and listen for "official" civil defence instructions.



TAKE COVER—When enemy aircraft are close to the target area, TAKE COVER will be sounded. This signal—a rising and falling siren note—means that attack may take place at any minute. It is the signal to take cover immediately.

"SHELTER" OR "REFUGE"

The term "shelter" denotes protection against blast, heat and radiation. The term "refuge" means protection against radiation only.

WHERE TO OBTAIN INFORMATION

There should be a civil defence organization in your community. Its wardens will help you. If there is no civil defence organization in your area, ask your mayor or reeve why this is so. Make sure your community is prepared if disaster should strike.



PRODUCED BY
INFORMATION SERVICES DIVISION
DEPARTMENT OF NATIONAL HEALTH AND WELFARE
FOR CIVIL DEFENCE
BY AUTHORITY OF THE MINISTER
THE HON. PAUL MARTIN
OTTAWA
1957