



## ARCHIVED - Archiving Content

### Archived Content

Information identified as archived is provided for reference, research or recordkeeping purposes. It is not subject to the Government of Canada Web Standards and has not been altered or updated since it was archived. Please contact us to request a format other than those available.

## ARCHIVÉE - Contenu archivé

### Contenu archivé

L'information dont il est indiqué qu'elle est archivée est fournie à des fins de référence, de recherche ou de tenue de documents. Elle n'est pas assujettie aux normes Web du gouvernement du Canada et elle n'a pas été modifiée ou mise à jour depuis son archivage. Pour obtenir cette information dans un autre format, veuillez communiquer avec nous.

This document is archival in nature and is intended for those who wish to consult archival documents made available from the collection of Public Safety Canada.

Some of these documents are available in only one official language. Translation, to be provided by Public Safety Canada, is available upon request.

Le présent document a une valeur archivistique et fait partie des documents d'archives rendus disponibles par Sécurité publique Canada à ceux qui souhaitent consulter ces documents issus de sa collection.

Certains de ces documents ne sont disponibles que dans une langue officielle. Sécurité publique Canada fournira une traduction sur demande.

August 1961

# EMO

**NATIONAL DIGEST**

*Re-Entry*

*Fallout*

*Shelter or Evacuate*

*Civil Defence in the U.K.*

**EMERGENCY MEASURES ORGANIZATION**

# THE EMO NATIONAL DIGEST

Published by the Emergency Measures Organization of the Privy Council Office

VOL. 1 No. 4

AUGUST 1961

## TABLE OF CONTENTS

Re-Entry Operations into a Damaged Area .....	<i>Directorate of Survival Operations and Plans</i>
Fallout .....	<i>Dr. G. M. Shrum</i>
Evacuation .....	<i>E. W. Laver</i>
Civil Defence in the U.K. ....	<i>A Reprint</i>
Protection Against Fallout .....	<i>Lt. Col. J. W. Bailey</i>
Shelter or Evacuate .....	<i>R. F. Walker</i>

---

The EMO NATIONAL DIGEST is published bi-monthly to provide current information on a broad range of subjects dealing with civil emergency planning. The magazine is published in English and French and may be obtained by writing to the Emergency Measures Organization, Privy Council Office, East Block, Ottawa.

In addition to publishing articles which reflect Canadian Government policy the Digest may also publish articles by private individuals on subjects of current interest to the emergency measures programme. The views of these contributors are not necessarily subscribed to by the Federal Government.

Director: *R. B. Curry.*

Editor: *A. B. Stirling.*

## HIGHLIGHTS

*A* NUMBER of articles appearing in this fourth issue of the EMO NATIONAL DIGEST are of particular interest.

The first is the feature article dealing with re-entry operations into a damaged area. Prepared by the Directorate of Survival Operations and Plans, the paper examines a number of the many problems connected with this major Army responsibility and emphasizes the essential requirement for large volunteer civilian assistance if all who would need rescue in a damaged area are to be saved.

In the June issue, the EMO NATIONAL DIGEST published extracts from the Soviet Union's civil defence manual, "Defence Against Agents of Mass Destruction" (1959). This issue of the magazine moves to the United Kingdom and a review of current civil defence planning.

Another item of particular interest to those connected with civil emergency planning is the article on evacuation which summarizes the federal government's policy in this area.

The October issue of the EMO NATIONAL DIGEST will feature a review of the problems encountered and lessons learned during Exercise TOCSIN 1961.

# NATIONAL SURVIVAL: RE-ENTRY OPERATIONS INTO A DAMAGED AREA

*The following paper has been prepared for the EMO National Digest by  
the Directorate of Survival Operations and Plans, DND Army.*

## Aim

**T**HE aim of re-entry operations into a damaged area is to save lives.

## Planning

In any consideration of the situation that would exist following a nuclear attack, and of the many different activities that would be essential following an attack, it is convenient to think of the post-attack period in three phases:

- (a) The life-saving phase. In this period life-saving operations would be of paramount importance with others being accorded lower priorities. This phase would likely be of very short duration, possibly three or four days at the most.
- (b) The survival-of-the-nation phase. This would follow immediately after the life-saving phase and would last somewhat longer. It would be during this phase that the many other high priority tasks would have to be carried out. Arrangements made and activities permitted during this phase would be those concerned with ensuring the continued existence, on an austere basis, of those utilities and other organizations essential to their continued survival.
- (c) The restoration phase. This phase would gradually emerge from the survival-of-the-nation phase. It would go on until the nation had been restored to what would become the normal situation in the country for a good many years after the attack.

This article will consider the army's activities in the life-saving phase only and will not discuss such other responsibilities as might devolve upon the army in later phases.

In studying the problems of re-entry the conclusion has been reached that to delay operational planning until after the event of an attack would be a serious mistake.

The disruption to communication that would result from a nuclear attack would make it extremely difficult for a higher commander to influence the actions of his units effectively for some time—up to several hours. During this time, control must be decentralized down to units of even a few men, because it is in this period that vigorous action is most necessary by those units on the immediate periphery of the damaged area.

By means of a "standing operational plan", previously rehearsed, units must be constantly ready to commence operations with little in the way of orders from higher command. The standing operational plan must include variations and modifications to meet all foreseen contingencies.

## Target Area Headquarters

A headquarters is necessary for each probable target area. The Target Area Commander is to be designated in each case in peacetime so that he may become completely familiar with his tasks. He will have a successor designated to replace him at an alternative headquarters located sufficiently far away that one strike will not eliminate both. The Target Area HQ and its alternative are to be situated as close to the target as safety will permit—possibly 20 to 45 miles from the centre of the target area.

Privy Council Order 656 of 1959, the Civil Defence Order, gave the army the responsibility for the control of traffic and movement of people within areas damaged by nuclear explosion and within seriously contaminated areas. Studies of disasters have shown that large numbers of people tend to converge on the scene and that if traffic control is not established in the area adjacent to the damage area, the situation is likely to become chaotic. Experience suggests that, under certain circumstances, traffic control should be established as far out as forty miles from the disaster. It is important that the movement of homeless survivors, and of re-entry forces and welfare, medical and other agencies, with direct responsibilities in the disaster area, should be facilitated. For this reason, the army must have authority to control movement and traffic and to direct police forces to a distance of some forty miles from the centre of the stricken city. This control would be exercised through the Target Area HQ which would coordinate movements with the other agencies concerned. It is not necessary to extend the army's control of physical resources beyond the area of immediate damage and there is no intention of doing so.

The Target Area HQ will plan and conduct re-entry operations and will be responsible for coordinating them with the necessary provincial and municipal authorities. It will be manned in peacetime by a skeleton staff of Regulars who will be responsible for collecting and maintaining the necessary data on which to base re-entry operations. Such data must include: population densities and their variations, types of con-

struction, fire hazards and fire breaks, municipal utilities, obstacles to movement, availability of routes, and civilian officials and their normal locations. All those departments and agencies with emergency responsibilities in the damaged area would be invited to maintain representatives at the Target Area HQ in emergency. Information on the damage, fire and radiation situation will be available there and it is from there that the fire and police services can most readily be directed. Co-operation between re-entry forces and other agencies with responsibilities in the damaged area such as health and welfare can best be arranged there. It and the emergency location of the municipal government should be located as close together as is practicable.

### **Organization for Control**

It has become quite clear that the army would be faced with two major problems immediately following an attack on this country:

- (a) Controlling movement and other activity in the area of operations, and
- (b) Finding adequate manpower and bringing it to bear on the rescue task.

### **Deployment of Forces**

Before considering the details of the system of control that should be organized it is necessary to review the situation in which the armed forces would find themselves when the attack occurred.

It is felt that two situations should be considered:

- (a) The first would occur if no strategic warning had been received, or if it had been thought unwise to re-deploy the armed forces in a time of tension. In this situation, plans must provide for re-entry using the forces as they existed immediately after the attack.
- (b) The second would occur if strategic warning had been received and re-deployment had been authorized. In this case it might have been possible to move Regular forces from distant locations, or from inside target areas, to assembly area at an effective range from probable targets. In this situation permission might also have been given to call out the Militia and concentrate units at pre-selected assembly areas. These circumstances would have enabled almost all the military forces to be used effectively in the re-entry battle. It should be relatively simple to plan the employment of forces under these conditions.

While plans must be made for both situations, the problems involved in the first would probably be the more difficult. The discussion in this article will be limited to those problems.

### **Division of Target Areas into Sectors**

From a study of the topography of our probable target cities it is apparent that the blast and thermal effects of a nuclear attack would tend to divide a city into areas, between which movement would be difficult. In addition, most target areas are too large for one headquarters to control in detail. It is therefore necessary to divide the target area into sectors, each with its own headquarters to control rescue operations in detail. These headquarters will be static in nature and located on the periphery of the target area. In the event of attack they will be manned by existing Regular personnel on other establishments or Militia designated and trained for the purpose.

Each sector should have at least one main road leading through it. After a thorough study of the route clearance problem it was concluded that, for maximum effectiveness, only one route could be cleared in each sector. The maximum number of routes that could be cleared in cities was found in general to be four. In small target cities there should be at least two sectors, since certain locations of ground zero or unusual winds might knock out a single sector or render it ineffective. The second should therefore be provided and act as an alternative if necessary.

### **Warning of Attack**

It is expected that, in the event of attack, the National Survival Attack Warning System would sound the "Alert" on the sirens. The purpose of the alert would be to warn the people to listen to the radio for further instructions. As attack became more imminent the "Take Cover" would be sounded and all should take the best cover available to them. The Nuclear Detonation and Fallout Reporting System would report the location of the burst and this would be broadcast over the radio together with a prediction of fallout as appropriate.

Those who survive among the civil police, Militia, or Regular Army caught in the target area when an attack occurred could assist and provide leadership, as individuals, in immediate rescue and control functions. They would make their way later to assembly areas or would join forces already engaged in re-entry operations. They would thus play very important roles in the re-entry operation, but could not be considered as an integral part of the initial control organization or allotted key parts in the initial phases of re-entry.

### **Warden Service**

Following a nuclear attack it might be some hours before re-entry forces could bring assistance to certain neighbourhoods in which there would be fires, and people needing help. There would also be many uninjured survivors and they must get to work to bring immediate help to the injured and to keep minor fires from spreading. Local organization in advance is

essential if municipalities are to be prepared so that maximum results can be achieved. This organization must involve the provision of a service which has intimate knowledge of the neighbourhood and daily contact with it. The warden service was conceived for this purpose. Before an attack its duties would include the education and organization of the families in every neighbourhood. After an attack, wardens would provide the example and leadership required and assist the bewildered and injured people seeking medical care and welfare facilities.

The warden service has other duties not directly concerned with re-entry operations and might be said to form the broad base of survival operations. It is important that authorities realize the necessity of providing a warden service as part of Canada's plan for national survival.

### **Effect on Population**

Evidence available from natural and man-made disasters in the past indicates that the dominant mode of behaviour is a kind of passive disorganization, i.e., people do not panic or become aggressive. Experience has shown that, while some survivors will attempt to leave the damaged area as quickly as possible, many others will remain behind and help their neighbours who need rescue and first aid.

It is vitally necessary to control movement of persons and vehicles out of and into the area of operations. Early and effective control is the only means of preventing chaos and ensuring the free passage of essential incoming and outgoing traffic. The warden should be very useful for the initial guidance of the survivors in his area of responsibility but, for overall control, a much more comprehensive system with adequate communications is required.

Control and direction must be assumed by the army at the earliest possible moment. In towns and villages around each target area there must be enough Provost units, Regular or Militia, to supplement the control posts originally manned by the civil police because the civil police will have a multitude of other tasks of their own to perform by this time.

### **Volunteer Assistance**

Civilians who volunteer at the time of the emergency will be employed in both rescue units and in support units. In most cases they will not be needed after a period of about 48 hours, since any rescue tasks remaining will require technicians and heavy equipment. In most cases this can be carried out by the armed forces. All civilians who volunteer their assistance in the re-entry into the damaged area will be directed by military units and will receive the same logistic support as soldiers. This will include such items as food, personal radiation dosimeters, medical treatment, special clothing, decontamination, transport, and quarters where necessary.

### **Manpower Potential**

The following assumptions have been used in estimating the numbers of people who would be available for rescue duties in re-entry operations:

- (a) Rescue operations, to be effective, must be undertaken at once and must be completed within some 48 hours.
- (b) While persons living within 20 miles of the centre of the target would be employed, they could not be counted on for key tasks in re-entry immediately after the attack.
- (c) Those living more than 100 to 150 miles away have not been considered at this time because of the time needed to get them to the scene of operations.
- (d) Rescuers would be males, 16 to 60 years of age and about 20% of these would be available for rescue duties.
- (e) Females would be employed in support units.
- (f) About 25% of downwind area might be subject to fallout and therefore probably unable to provide rescuers.
- (g) It is expected that rescuers will work about 24-36 hours in the first 48-hour period. Reliefs would be necessary to allow for their decontamination and feeding and for short rest periods outside of the area contaminated by radioactive materials.

The present army organization for survival operations was designed some years ago when the army was in support of civil defence. While it was adequate at that time, it has been necessary to revise army plans if the army is to be able to fulfill its changed responsibilities in re-entry operations. Rescue forces are being reorganized now through the formation of rescue units known as Mobile Survival Columns, each with a military cadre element of 120 which could, in the event of an emergency, absorb about 380 civilian volunteers. The arms and services needed to support these rescue units are being organized on a similar basis and, under the control of Sector HQ, allotted in accordance with the likely needs of the situation. The numbers necessary to provide the supporting arms and services for one Mobile Survival Column (MSC) have been estimated, on the average, to be 300 men.

Study of rescue work in peacetime disasters and in the Second World War indicates that the main need, particularly in the initial stages of rescue, is for rescuers rather than complicated equipment. Study has also shown that volunteers in large numbers have always converged on the disaster area from outside, both in peace and war, ready to assist in rescue operations. These convergers are motivated in various ways. There are the anxious who have friends or relatives in the damaged areas and who are coming in to find out if

they survived and to attempt to assist them. Then there are the helpers who come in, knowing that help is needed, to do their part. There are in addition the curious, who come simply to find out what has happened. Again, we have the returners who possibly had left the scene of the disaster shortly before it occurred or immediately after. Finally there are the exploiters who normally show up in the hope that they may gain in some way from doing so. Whatever their motivation may be, it has been proved time and again that if the authorities adopt a negative attitude toward the convergers and simply try to disperse them, their efforts will be unsuccessful. If, however, the authorities adopt a positive attitude toward the convergers and organize them and put them to work, a great deal of useful work can be accomplished in a short time. It is believed that Canadians will react in a similar manner and that many will volunteer in the emergency. Planning has been based on the assumption that convergers and volunteers will follow the normal pattern and that we should therefore provide the organization and leadership necessary to take immediate advantage of their presence.

Each Regular Force Garrison outside of target areas has been assessed to estimate how many columns of 500 all ranks and how many military command cadres could be provided for the nearest target area.

Approval has been granted to raising additional Militia units in the areas around our likely target cities and close to them. It is desirable that these Militia units should be raised in as many of the towns as possible in the area 20 to 100 or 150 miles from likely target areas. This plan may well require certain adjustments and relocation of Militia units as well as the organization of new units, and will be developed and adjusted as time goes on. The detailed planning to achieve this expansion has been started by army Commands and Areas.

This system will permit the use of the greater part of the manpower available for rescue. It can be further expanded, perhaps, by several means such as going farther afield but the limit is being approached.

### Supporting Arms and Services

In the case of supporting arms and services similar methods are being adopted to those used for the provision of rescue units. The object is to form certain purely military units from the Regular Army and many cadres from both Regular and Militia units. The cadres would form the basis of the command elements and would provide communications personnel and those other specialists not readily available from civilian sources. By planning in peacetime with municipal authorities and commercial organizations it should be possible to arrange for the support of re-entry operations required in an emergency. There are considerable resources in transport, engineering and many other types of equipment available from civilian

resources for this work. The problem is to arrange for a planning and control organization to see that these resources may be employed to the best advantage in an emergency.

Mobile Survival Columns will be organized into Mobile Survival Groups for control and logistic support. The number of columns in a group will vary from one to four depending on the area and the task; with the average number being three. Each of these groups will have support units allotted to it, the support units being built of sub-sections or "bricks" with one subsection for each column in the group. Group Headquarters will provide the Sector Headquarters, or in the case of large target areas, the Sub-Sector Headquarters. The following support units are needed:

- a. *Reconnaissance element*—to establish limits and degrees of damage, fires, and radioactive contamination.
- b. *A Composition Squadron, Royal Canadian Engineers*—to provide men and equipment for rescue tasks beyond the capability of MSCs; route clearance and fresh water supply.
- c. *Signal Section, Royal Canadian Corps of Signals*—to provide communications within the group.
- d. *A Transport Company, Royal Canadian Army Service Corps*—to provide transport and food for Mobile Survival Columns.
- e. *A Field Medical Company, Royal Canadian Army Medical Corps*—to decontaminate and sort the casualties and commence medical treatment for the rescued and for Mobile Survival Column personnel.
- f. *A Decontamination Company, Royal Canadian Ordnance Corps*—to provide for the decontamination of the rescue workers, the rescued, refugees, and vehicles as necessary.
- g. *Recovery Platoon, Royal Canadian Electrical and Mechanical Engineers*—to provide for urgent recovery of vehicles and crucial repairs to vehicles and equipment.
- h. *Police Platoon, Canadian Provost Corps*—to provide a means of control of traffic and refugees.

### Capability

A careful analysis of the rescue problem has indicated that without the provision of an efficient means of employing civilian volunteers in large numbers and an expansion of the Militia, the army can rescue only a small proportion of those needing rescue. These proposed plans are estimated to increase this capability several times and should make it possible to rescue virtually all of those who could be considered to be rescuable.

\* \* \*



## FALLOUT

*Dr. G. M. Shrum, Head of the Department of Physics, University of British Columbia, discusses the nature of fallout and expresses his opinion regarding the value of fallout shelters.*

**D**URING the past few years there has been so much fiction and propaganda written and unleashed upon the subject of fallout that one hesitates even to present any views or scientific facts lest one be accused of adding to the confusion surrounding the subject. The recent laudable attempts of our Government to encourage the construction of fallout shelters seem to have intensified the controversy.

I am probably less concerned about this anti-shelter campaign than most people. I remember well in World War I how the Germans built many deep underground shelters for their troops. Canadians just couldn't be bothered digging these deep dug-outs and instead relied upon a few sheets of corrugated iron and some sand-bags. We were fully aware that deep shelters would save lives and, in fact, when German dug-outs were captured, we used them even though the entrances and trench systems had been designed for fire coming from the opposite direction. Although none of us were very brave we did like to maintain the myth that we were tough enough to stand up to anything the Germans could send over and that only the faint-hearted would spend their time burrowing underground. I am wondering if a great number of people are not, foolishly perhaps, taking the same attitude towards fallout shelters. Russian propaganda about annihilating us and the rantings of fellow-travellers only tend to make us put on a show of toughness similar to that shown by our World War I troops.

The fact of the matter is that fallout shelters like dug-outs will save lives. It doesn't matter where a bomb bursts there will always be a surrounding area where there will be no casualties except from fallout, and fallout shelters will protect those who have them. Since the fallout radiation decays rapidly, a few hours in a shelter may make all the difference between life and death. The first strike by an enemy would be aimed at missile and bomber bases rather than at population centres. The latter may then be in the area where the

only danger would be from fallout, a danger which could be overcome by shelters.

We must bear in mind that the prime function of the Russian propaganda is to weaken our will and capacity to resist their plans for world conquest. They may do this by trying to frighten us or to lull us into a false sense of security. They actually seem to be trying both methods. If they can convince us that we have no defence against their weapons then they should be able to persuade us to capitulate. It is a hideous but nevertheless a rational policy course for the U.S.S.R. to threaten to attack the West with nuclear weapons in the belief we could feel so defenceless that we would accept whatever minor or major aggression they have in store, rather than risk nuclear attack. Fallout shelters will strengthen our capability and determination to resist and therefore the Communist line is to oppose them everywhere except behind the Iron Curtain.

One cannot discuss the subject without considering the fallout from the bomb tests. Many very sincere people have been frightened by fantastic stories about the hazards from these tests. It is probably significant that those individuals and organizations which have been most active in spreading alarm about these dangers are also the ones which are opposing most vigorously any shelter program. As we shall see, the hazards from bomb tests are almost negligible whereas the radiation from a nuclear war would impose a very real threat to human life if adequate precautions were not taken.

That fallout shelters are not the only target for enemy propaganda is obvious from the very clever way in which our people have been confused over the question of atomic testing. The radiation from the fallout from tests is actually insignificant in comparison with the radiation we receive from cosmic rays, X-rays, radioactive materials in our bodies and in rocks and surrounding materials. The fallout and consequently the radiation one would receive in the immediate vicinity of a nuclear explosion is many thousands of

times greater and it is for this that shelters are required—not for the fallout from tests.

Just to put this matter of fallout from nuclear tests in perspective I should like to quote the following from an authoritative publication of the American Association for the Advancement of Science. These figures deal with the estimated skeletal dose for man.

<i>Source of Radiation</i>	<i>Average Skeletal Dose Rate in mrem/year</i>
Potassium in body .....	10
Radium in body .....	24
Lead in body .....	8
Strontium from fallout .....	3 (1957)
	12 (1975)
Caesium .....	0.5
Cosmic Rays .....	45
Gamma Rays (fallout) .....	0.5
Medical X-rays .....	75
	<hr/>
Total .....	196 (1957)

Thus it will be noted that the increase in radiation due to fallout is only about 2% of the natural radiation we would receive if there had never been an atomic explosion.

The gonad\* dose rates for man are even relatively much smaller.

<i>Source of Radiation</i>	<i>Average gonadal Dose Rate in mrem/year</i>
Potassium in body .....	20
Caesium—fallout .....	1 (1957)
Cosmic Rays .....	30
Gamma rays from natural radioactivity .....	45
Gamma rays from fallout .....	0.5
Medical X-rays .....	140
	<hr/>
Total .....	236 (1957)

Thus fallout contributes to the reproductive organs considerably less than 1% of the natural radiation. It should be noted that Strontium 90 about which we hear so much does not have a genetic effect. It is concentrated in the bones. One should bear in mind, too, that many people who live at high altitudes (e.g. Denver) are exposed to much higher natural radiation than that given in the tables. In fact, in Kerala, South India, some 100,000 people live in the Monazite sand area where the natural radiation from Thorium and Uranium is more than twenty times that given in the

\* Undifferentiated germ gland, serving both as ovary and spermary.

tables. Still no one has yet been able to detect any radiation effects in these people.

The question of man's exposure to fallout from tests has been discussed by large numbers of scientists and laymen, often with conflicting conclusions. It is important to point out, however, that this conflict does not pertain to the estimated dose rates given in the above tables. The disagreement has focussed almost entirely upon the estimates of biological damage which might be expected from the very small contribution which fallout makes to the large amount of natural radiation to which we have always been exposed. Unfortunately, this increase in radiation is so small that up to the present it has been beyond the ability of biological scientists to measure the increase in toxicity and hazard. Unfortunately, there are many persons who are not prepared to wait for the biological scientists to gather enough scientific information to make reliable estimates on any increase in the hazards to man. Instead they base their objections upon moral and political implications of unknown biological hazards. This moral and political approach is beyond the purview of science. \* \* \*

*The following announcements have recently appeared in the United States press—*

### **Regional Control Centers:**

President Kennedy has given the go-ahead for construction of the Nation's first regional federal underground command post in Denton, Tex., for OCDM Region 5. OCDM Director Frank B. Ellis has termed the facility "a milestone of U.S. Civil defense progress." In announcing the President's go-ahead signal, Director Ellis paid tribute to the work done by Vice-President Johnson, Senator Frank Yarborough and Congressman Frank Ikard to make the vital nonmilitary defense project a reality. (Omaha World-Herald 6/9 p. 2, OCDM releases SR 860 and 890)

The House of Representatives June 7 approved funds for a \$2.4 million underground control center for OCDM Region 1 at Harvard, Mass. The new center would be the second of its kind in the Nation. Henry Brown, Region 1 information officer, told the Worcester (Mass.) Gazette that plans call for construction "of a two-story underground building with a small upper or above-ground structure." Brown said that while a definite site for the building has not been selected, "it won't be where we are located now. This building is not suitable for a site. In fact, we're considering a move to another temporary headquarters in Acton". (Worcester (Mass.) Gazette 6/5 p. 1 WD-167-01)

# EVACUATION

*The following short article outlining the federal government's evacuation policy, has been prepared by E. W. Laver, Survival Planning Officer with the federal Emergency Measures Organization.*

**T**HERE is evidence that the changes in evacuation policy which have taken place in recent years have left doubt in the minds of many as to the exact nature of the present policy. It is the purpose of this article to briefly review the background and define the current evacuation policy of the federal government.

## Background

From 1954 until September, 1959, the basis of the policy which served as a guide for survival planning was; "the development and testing of plans for the orderly evacuation at short notice of the main urban areas in Canada, should the possibility of attack on such areas by nuclear weapons appear to be imminent."

Thus, for the more likely target areas, a broad evacuation plan was adopted comprised of two phases of evacuation:

- (a) The pre-attack evacuation of priority groups based upon strategic warning of attack;
- (b) The planned compulsory evacuation of the remaining population.

However, since surprise would be such a decisive factor in the success of nuclear attack on this continent, and because of the risk of accidental war, it became increasingly questionable whether evacuation planning should continue to be based upon the probability of a substantial amount of advance attack warning, strategic or otherwise.

Accordingly, in November, 1959, the Dominion Government issued a policy statement on evacuation and shelters which altered the policy for evacuation of the more likely target areas. This statement can be summarized as follows:

- (a) Major Canadian cities are potential targets;
- (b) There may be some random explosions of nuclear weapons;
- (c) There would be widespread danger from radioactive fallout;
- (d) Some segments of the population of the more likely target areas may wish to evacuate;
- (e) Because of the possibility of voluntary evacuation from the more likely target areas, plans should be made to arrange for the possible movement of people;
- (f) As the threat from missiles increases and warning time decreases, fewer people will be



able to attempt voluntary pre-attack evacuation;

- (g) The government does not propose to make evacuation compulsory; and
- (h) The government recommends a fallout shelter programme.

## The Pre-attack Situation

If a nuclear attack upon North America were to include direct attack on Canada, major cities, industrial centres, ports and seats of government, such as Calgary, Edmonton, Halifax, Hamilton, London, Montreal, Niagara Falls, Ottawa, Quebec City, St. John's, Nfld., Saint John, N.B., Toronto, Windsor, Winnipeg, Vancouver, and Victoria could be considered as the more likely target areas. For such areas traffic plans to facilitate voluntary pre-attack evacuation should be developed. This type of evacuation would involve the controlled movement of people within the target area and along allotted evacuation routes to assigned reception communities. Planning must be co-ordinated by Provincial authorities.

For areas other than the more likely target areas there is no way of estimating in advance what the fallout situation will be or where random detonations might take place. Accordingly, for these areas the population should "stay put" and take shelter in their communities if the need arises.

## The Post-attack Situation

It may be useful to describe two types of evacuation which might occur, during the post-attack period. They are:

- (a) Post-attack evacuation from damaged areas;
- (b) Post-attack remedial evacuation of seriously contaminated, but undamaged areas.

## Post-attack Evacuation of Damaged Areas

If an area is attacked, many survivors will try to move away from the damaged area. It would be impossible to try to have such people conform to a plan. Nevertheless the Army, in establishing its control over damaged areas, will attempt to channel any such survivors to the nearest reception towns or improvised welfare centres created around the area. Reception communities in the vicinity of attacked areas will be expected to have reception plans for this class of evacuee. For this type of evacuation, considerable emphasis must be placed upon flexibility of local reception plans and improvisation as the situation arises.

## Post-attack Remedial Evacuation of Seriously Contaminated Areas

Greater emphasis should be placed upon planning for evacuation of persons from areas which become seriously contaminated with fallout. In such areas it would be necessary to move people who:

- (a) Do not have access to local shelter providing adequate protection;
- (b) Have adequate shelter but who would be unable to resume normal outdoor activities for a long period.

There is no way of predicting in advance with any certainty where these areas would be. Hence any community might be required to move part or all of its population. Such movement could not take place until provincial authorities, in consultation with the Army and municipal officials, had determined which areas required remedial evacuation, what routes could be used and safe areas for reception of those to be evacuated. This may take 48 hours or longer to work out. Once remedial evacuation is ordered, it must be carried out effectively and quickly to minimize the effects of exposure during movement.

Therefore every community or area must have a basic remedial evacuation plan. Provincial authorities, working closely with Army Officials, would be responsible for the overall co-ordination of remedial evacuation and the allotment of routes and reception areas.

## CONCLUSION

In summary therefore, the evacuation policy of the federal government is as follows:

- (a) The more likely target areas should prepare plans which will facilitate the movement and control of persons who choose to undertake pre-attack voluntary evacuation;
- (b) Communities which are not in the more likely target areas should prepare local plans for remedial evacuation in the event that fallout

conditions make it unsafe to remain in the area;

- (c) All communities should have a plan for the reception of evacuees from damaged or seriously contaminated areas;
- (d) Provincial authorities should develop a reception plan for evacuees from the more likely target areas based upon assigned evacuee loads in the adjacent communities which are least likely to be seriously affected by fallout.

\* \* \*

Mr. Reginald Wellesley Westwood, M.B.I., F.I.C.D., F.R.S.A., A.I.B.P., A.R.P.S., A.M.I.W., A.A.A.

Mr. Westwood, who is the Survival Planning and Intelligence Officer to the Metropolitan Toronto Civil Defence Organization, has been awarded the Fellowship of the Institute of Civil Defence of Great Britain.

He was examined and awarded the Associate Fellowship early in 1960.

Upon the submission of a thesis on Personal Survival and Operations and Control Room Procedures to the examining board of the Institute, and on the subsequent acceptance of the thesis, the Institute Committee has conferred the honour of the Fellowship of the Institute upon him. He is one of the very few in the Civil Defence and Emergency Measures Organization of both Canada and the United States to hold this singular distinction.

Mr. Westwood has graduated from the Arnprior Civil Defence College in several specialized facets of Emergency Measures.

Since 1956 when he was appointed to the position of Instructor with the Ontario E.M.O. and during the past five years with Metro Toronto Mr. Westwood has addressed some 500 audiences on these subjects so vital to the wellbeing of the people should Canada ever be attacked by nuclear weapons.

Mr. Westwood is a man of varied interests and most versatile in his activities. He has held a Bishop's licence as Lay Reader in various Dioceses since 1942, his present licence being granted by the Bishop of Huron, and he is a chorister of some 35 years standing. He is a Fellow of the Royal Society of Arts, and an Associate of the Institute of British Photographers, and Associate of the Royal Photographic Society, an Associate Member of the Institute of Welding Engineers, and an Associate of the Advertising Association of Great Britain.

As a hobby he is President of the Metropolitan Toronto Society of Amateur Artists, he being an accomplished draughtsman and artist, and he has spent some 36 years on the Amateur stage as operatic and dramatic actor and producer.

Mr. Westwood was commissioned in the British Army in February 1938 and served overseas in France, Africa and Italy during World War II.

# CIVIL DEFENCE ORGANIZATION IN THE U.K.

*The following article describes the current Civil Defence Organization in the United Kingdom.*

## Organization of Civil Defence Corps

**T**HE Civil Defence Corps is a voluntary civilian organization raised and trained by Corps Authorities which are, generally speaking, counties and county boroughs (in Scotland, counties and large burghs). Each Corps Authority raises a division of the Corps. The potential resources of manpower available to individual Corps Authorities for recruitment vary considerably. A division of the Civil Defence Corps is, therefore, not of fixed size.

Local divisions of the Civil Defence Corps in England and Wales (except for London) are divided into the following sections:

Headquarters, Warden, Rescue, Ambulance and First Aid, Welfare.

In London, the local divisions organized by the City of London and the Metropolitan Boroughs include Headquarters, Warden and Welfare Sections. The London County Council administers centrally the Rescue and Ambulance and First Aid Sections. The London County Council and the Metropolitan Boroughs share responsibility for the Welfare Section, the division of duties being on the broad basis of the peace-time functions of the respective authorities.

In Scotland, each local division is composed of four sections, namely:

Headquarters, Warden, Rescue and Welfare.

## Organization of Divisions

In England and Wales, each local division of the Corps is composed of the five sections shown in succeeding paragraphs.

*Headquarters Section.* The Headquarters Section, which staffs control centres, is divided into three sub-sections:

- (a) Intelligence and Operations Sub-Section—whose function is to analyse and record information and to prepare necessary instructions etc., at the controller's direction.
- (b) Signal Sub-Section—responsible for providing and maintaining communications (including wireless, field cable laying and despatch riders).
- (c) Scientific and Reconnaissance Sub-Section—whose primary task is to advise controllers about scientific and technical aspects of nu-

clear warfare (particularly as regards radioactive fall-out) and also on biological and chemical warfare as may be necessary. It is also responsible for the provision of staff for plotting and interpreting information about radioactive fall-out, and the provision of reconnaissance parties.

*Warden Section.* The wardens are the link between the civil defence services and the public to whom they will give leadership and guidance before, during and after attack. They are responsible for local reconnaissance and reporting, for the organization of domestic "self-help" parties and for the local control of life-saving civil defence services deployed within the warden post area. They have special responsibilities for measuring and reporting the degree of radioactivity of fall-out and for the control of the public.

*Rescue Section.* This section is responsible for rescue work and first aid in connection with rescue operations, emergency work on demolition and debris clearance. Each party carries manpack equipment; heavier equipment is carried in a special vehicle.

*Ambulance and First Aid Section.* This section is built up on the normal peace-time ambulance service provided by county and county borough councils. The basic units of the section are the Ambulance Detachment and the First Aid Party and their duties are:

- (a) *Ambulance Detachment:* the evacuation of casualties to Forward Medical Aid Units and to hospitals.
- (b) *First Aid Party:* to render first aid, to place seriously injured casualties on stretchers and to organize their removal to the ambulance loading points.

In addition a certain number of ambulances will be retained for the work of the peace-time service.

*Welfare Section.* The Welfare Section will be concerned with the care of those rendered homeless as a result of war conditions or deprived of normal facilities for cooking, sanitation, etc. These duties will include work in connection with evacuation, rest centres for the homeless, billeting, emergency feeding, emergency sanitation, distribution of clothing, first aid, nursing the sick, information centres, etc.

In Scotland the functions of the Headquarters, Warden, Rescue and Welfare sections are similar to those in England and Wales. There is no separate ambulance and first aid section. The ambulance func-

tion is carried out by the Scottish Ambulance Service and the first aid function by the Warden Section. The latter has an element not found in England and Wales, namely, the casualty warden who is the specialist in first aid in the Section.

### **Pre-attack disposition of civil defence forces**

A proportion of the Section strengths (with the exception of the Warden and Welfare Sections) raised in Sub-regions and certain other densely populated districts will be stationed at operational bases for use in mobile columns after attack. The remaining strengths will comprise "home cover" forces.

## **OTHER SERVICES**

### **The Industrial Civil Defence Service**

Industrial and commercial concerns employing 200 persons or more, including the public utility undertakings and Government Departments, have been invited to form in their premises industrial civil defence units comprising Headquarters, Warden, Rescue, First Aid and Fire Guard Sections. The duties of the Headquarters, Warden and Rescue Sections are much the same as those of the corresponding Sections of the Civil Defence Corps. The first Aid Section provides static first aid points and first aid parties, and the Fire Guard Section mans fire points and the smaller powered appliances. Each industrial civil defence unit has its own control post, and where a number of units form an industrial group there is a group control post. Industrial group control posts and control posts in large factories generally have the status of warden posts. Smaller units normally form part of a warden post area.

### **The Police**

In war the Police will continue to be responsible for the maintenance of law and order, the control of traffic, the control of aliens, and giving general assistance and guidance to members of the public. They will also be responsible for certain additional war-time tasks, such as:

- (a) Taking special measures to maintain internal security.
- (b) Assisting in the control of the evacuation of the civil population.
- (c) Reconnaissance of roads immediately after an attack to determine the extent of debris and radiation.
- (d) Assisting in the control of the homeless.
- (e) Assisting in public control in the fall-out areas, and in operations in the highly radio-

active area surrounding the axis of the radioactive plume (Zone Z).

About one third of the strength of the police forces in the country will be in police mobile columns. These columns will be at places away from areas likely to be attacked and they will be available for the reinforcement of local forces or for special tasks. Each column will consist of about 120 police officers organized into small parties.

### **The Fire Service**

In war, the fire brigades maintained by local authorities would be brought under central control and formed into a National Fire Service, which would be greatly expanded by the mobilization of certain R.A.F. reservists who have been trained in fire-fighting, and by the mobilization of such members of the Auxiliary Fire Service (a volunteer organization trained in peacetime by the regular brigades) as were available for whole-time service. Large number of additional fire-fighting appliances would also be provided. A proportion of the personnel and appliances of this service would remain in existing fire stations and would be available to deal with fires arising from normal causes, but the greater part of its resources would be organized into large mobile fire-fighting formations. These formations would be located outside main built-up areas, but would be immediately available to operate wherever required.

### **The Hospital Service**

Hospital treatment of casualties will be undertaken by a reorganized and greatly expanded hospital service. In addition, the hospitals will provide Forward Medical Aid Units, whose functions will be to sort the casualties brought to them, to give emergency and supportive treatment to the seriously injured, to hold those who cannot or need not be sent on to hospital, and to treat any lightly injured who arrive. A Forward Medical Aid Unit (F.A.M.U.) is staffed by 4 doctors, 4 trained nurses and 36 nursing auxiliaries, together with vehicles and administrative staff.

### **The Armed Forces**

All units of the Regular and Territorial Armies will have been trained to work under conditions of thermo-nuclear attack and will have had training in:

- (a) Radiological survey.
- (b) Light Rescue.
- (c) First Aid.

Military District Headquarters will set up joint headquarters with Regions and Scottish Zones so that all available military and other units of the armed forces can be deployed in support of civil defence operations.

## CHAIN OF CIVIL DEFENCE CONTROL

### REPORTING AND CONTROL ENGLAND AND WALES

REGION  
SUB-REGION  
OR  
GROUP  
AREA  
SUB-AREA  
SECTOR POST  
WARDEN POST

#### Notes (England and Wales)

- (a) Not all level of controls will be needed in every part of the country (e.g. Sub-area controls will not always be required).
- (b) Normally, warden posts report to the Sector Post; where no Sector Post is established they will report to the next higher level of control (Sub-area control or Area control, as the case may be).
- (c) Mobile controls may replace static controls from Sector Post to Group level. The general levels of deployment of mobile controls will be at Sub-area or Sector Post level.

## REPORTING AND CONTROL

### SCOTLAND

ZONE  
GROUP  
AREA  
SUB-AREA  
SECTOR POST  
WARDEN POST

#### Notes (Scotland)

- (a) Not all levels of control will be needed in every part of the country, e.g., Sub-area controls will be omitted in most cases.
- (b) Normally, warden posts report to the Sector Post; where no Sector Post is established they will report to the next higher level of control (Sub-area control or Area control, as the case may be).
- (c) Mobile controls may replace static controls from Sector Post to Group level. The general levels of deployment of mobile controls will be at Area or Sub-area level and at Sector Post level.

\* \* \*

## FIRST AID IMPORTANT TO SURVIVAL

### One Person in Every Family Should be Trained

First aid is immediate and temporary care given to the victim of an accident or sudden illness until a doctor is available. In a civil defence emergency, the period of waiting for a doctor could last hours or days.

Many people study first aid in order to help others. However, training is of great value to the student himself. It enables him to give proper immediate care to himself or to direct others if he cannot help himself.

First aid training also helps to develop safety consciousness, sharpens the desire for safety, and focuses attention on specific ways to avoid injury.

Knowledge of first aid is recognized as an important aspect of emergency measures or civil defence. In case of disaster, with medical and hospital service curtailed, everyone must rely largely upon himself for a time, caring for his own injuries and for those of others. First aid training is a civic responsibility.

Constant medical research brings with it changes that affect first aid advice. This makes it doubly important that persons who have taken first aid instruction keep their knowledge current by enrolling in periodic refresher courses.

At least one member of every household should take a first aid course, and take it now. All but the very young children in every home should know:

1. How to stop serious bleeding
2. How to prevent suffocation
3. How to treat bad burns
4. What to do to prevent and treat shock
5. How to handle broken bones
6. How to move injured people properly

READ:—

*Fundamentals of First Aid and Home Nursing* which can be obtained from:— St. John Ambulance or Canadian Red Cross.

# PROTECTION AGAINST FALLOUT

*In the following article, Lt. Col. J. W. Bailey discusses the problem of protection against fallout gamma radiation. A regular officer of the Royal Canadian Engineers, Col. Bailey was the first Commanding Officer of the Canadian Army's No. 1 Radiation Detection Unit. He is currently on secondment to the Federal Emergency Measures Organization.*

**W**ELL over ten years ago, some of us were familiar with the term "fallout". We knew that an atomic explosion, particularly a low airburst or surface burst, would result in the radioactive contamination of the ground. Some readers will no doubt recall that in the early 1950's various army and civil defence exercises were held for the purpose of studying the effects of residual nuclear radiation in the post-attack period. During these exercises our principal concern was with the radioactive debris that was alleged to have fallen back over a few square miles of land in or near the general target area.

The successful development of a fusion reaction in 1952 heralded the beginning of the thermonuclear age, an age in which weapons with energy yields of unprecedented magnitude have greatly increased the complexity of all defensive measures. It was not until 1954 however, that scientists began to realize that the extent of the fallout hazard had exceeded all their predictions. The unfortunate episode involving the Marshall Islanders and the Japanese fishermen marked the early stages of man's experience with the distribution of fallout from explosions in the megaton range.

Modern nuclear weapons, if detonated on or close to the earth's surface, have the ability to vaporize thousands of tons of dirt, sand, rock or any other type of material. This material, along with dust and debris sucked up by the rapidly rising fireball, eventually becomes what we refer to as fallout. In particulate form, it serves as a carrier for the intensely radioactive products of the fission material used in all atomic or hydrogen weapons. In comparison to the earlier atomic explosions, we find that after a megaton burst the radioactive cloud is much higher, contains more radioactive substances, and also far more extraneous matter to carry these substances back to earth. Thus as the aftermath of a single explosion, significant deposits of radioactive fallout can be expected to cover areas involving thousands of square miles.

Under these circumstances, one does not need to be a scientist to realize that radioactive fallout could produce more casualties than those resulting from blast and fire in the target area itself. Moreover, the radioactive dust and silt are capable of carrying sickness or death to towns, villages and remote settlements that would never be considered by the enemy as worthwhile targets. However, these statements are true only if the

population is unprotected. Defence against fallout radiation is relatively simple but it does require an understanding of the problem and some organization.

The Federal Government will publish shortly EMO Manual No. 1, entitled "An Engineer Looks at Fallout Shelter". This technical publication will enable engineers, architects and other suitably trained personnel to evaluate the protection afforded by buildings and structures against fallout gamma radiation. Municipalities can use the manual to conduct low-cost fallout shelter surveys; to determine the most effective method of public protection and to ascertain the requirements of complete shelter for the population.

Space precludes lengthy discussion of evaluation techniques in these pages. The calculation of shielding from contaminated planes is a specialized problem within the broader field of nuclear engineering. Current methodology is based on theory and experimental data, and represents an attempt to present a simplified "available technology" to deal with what is in fact a highly complicated subject. For instance, the EMO system of building evaluation merely requires data on building construction and dimensions. This information is fed into a streamlined analysis form, the engineer performs a few elementary slide-rule manipulations, and out the other end come two answers—shelter capacity and protection factor. These figures indicate how many people can be sheltered in the building, or in any part of the building, and what protection against gamma radiation will be available to them. The government recommends a protection factor of 100, meaning that a person in such a shelter would be exposed to only one per cent of the outside radiation dose. Many large buildings have protection factors below 100, but the EMO system permits the engineer to recommend economical protective works designed to improve the structure's ability to shield out radiation. In an emergency, the familiar sandbag will have an important role.

Every municipality should draw up its public shelter plan. The amount of work involved is far less than many people believe. For the most part, existing technical staffs are competent to perform building analyses and evaluation. The project could be dealt with as a phased programme, in which case Phase 1 might be a simple stocktaking to ascertain the number of suitable shelter spaces immediately available in existing structures. The results of such a survey, when com-

pared to population statistics, could prove to be a pleasant surprise for the local government concerned. Many buildings inherently afford a reasonable degree of protection. In the event of a sudden nuclear attack it would be a tragedy indeed if we were not properly organized to make the best possible use of the accommodation available to us.

\* \* \*

## CIVIL DEFENCE SHINES AT CRESTON

In many areas of British Columbia Civil Defence is a dead issue, or so poorly supported it might as well be a dead issue. The boosters of Civil Defence maintain long and loud that C.D. isn't designed just for wartime disasters but is more readily aimed at peacetime upsets.

Officials may have a tough time selling this in most communities, but the people in the Creston Valley will undoubtedly long remember the efforts of Civil Defence workers once the present peacetime disaster of floods have been brought under control.

Many may think that all the Creston area people have to do is sit around waiting for the surging water to come over the dykes or recede. However, this is a farfetched idea and a visit to Creston will set this straight.

Right now there is team work of the finest proportions with men from all walks of life in the battle against the rising water.

Provincial Civil Defence co-ordinator J. Lister has established a reporting system and, in conjunction with the army, has set up an adequate communications system which is in touch with all sections of the 50 miles of dyking night and day. An office has been set up on the main street of Creston and it is the nerve centre of this gigantic operation.

Army forces from Chilliwack and Calgary have been moved into the area and the soldiers have been working side by side with farmers and other residents to top and reinforce the miles of dykes. Government departments have also been of tremendous assistance with highways providing dump trucks, forestry providing portable walkie-talkie radios and operators and agriculture providing vehicles for emergency transportation.

As soon as boils (water bubbling through the ground alongside the dykes) are spotted by alert officials, crews are moved in to begin sandbagging operations and keep the trouble spot from becoming a breach in the wall of dirt protecting 50,000 acres of choice farm land.

If this battle against the elements is successful, and we all hope it is, then a great deal of credit must go to the co-operation of all concerned, and special

credit must go to the Civil Defence organization which is controlling the operation and bringing order out of what could very easily have been chaos.

—Cranbrook Courier editorial, 8 June, 1961

\* \* \*

Sir John Hodsall, Senior Civil Defence Advisor to NATO since 1954 has retired after 39 years service to CD. Sir John has probably had a longer continuous connection with civil defence than any other person in the world. His first association was as far back as 1922 when he was appointed to be Secretary of the U.K. Cabinet Committee on Air Raid Precautions.

He was knighted for his distinguished services to CD during the Second World War.

His associations with the programme of civil defence in Canada started in 1948 where his advice and counsel were of great help in starting the programme in Canada. He visited Canada twice. On the first occasion when he was one of the main speakers at the Federation of Mayors Annual Meeting in Calgary, he was made an Honorary Chief of the Sarcee Tribe. On his last visit he officiated at the opening of the Canadian Civil Defence College in Arnprior.

Sir John's influence on the development of civil defence, not only in England, but throughout the whole NATO alliance has been of the highest order. Canadians who have been associated with him over the years will be sorry to see him leave this field but no doubt will feel that he deserves richly the fruits of retirement.

\* \* \*

## Says Shelters Could Protect 90% :

One hundred architects and engineers last week met in Omaha to take what the Omaha World-Herald termed "a graduate course in an ounce of prevention." They were attending a special fallout shelter design workshop at Creighton University Student Center, one of 24 arranged for the Nation's major cities.

The paper reported George Barber, Jr., of Denver, shelter project officer for OCDM Region 6 as saying: "Should we ever get into a nuclear war, the fallout shelter will provide the most protection for the most people at the least cost in time, effort and money." It said Mr. Barber estimated a sufficient number of shelters could protect 90 per cent of the population but noted Civil Defense personnel have to combat fatalistic feelings of many Americans.

(Office of Civil Defence Mobilization, Battle Creek, Michigan)



## SHELTER OR EVACUATE

*R. F. Walker, Emergency Measures Co-ordinator for the City of Ottawa, discusses emergency food and supplies which should be immediately available in every Canadian home.*

**A**T this time of year many of us are checking out our camping and hunting gear and making detailed and elaborate plans for trips into the hinterlands.

I wonder if many of us realize just how important this type of equipment and planning would be should we decide to evacuate our cities in the face of nuclear attack.

In the event of a nuclear attack, you may find yourself in one of two situations. First if you live in a probable target area you may decide to, or you may be advised to, evacuate with your family. You may decide to, or may be instructed to, take cover.

In the second situation, you may be living in an area which will be subjected to "fallout"—the radioactive dust which is carried hundreds of miles downwind following the detonation of a nuclear device.

In either case, whether you evacuate or take refuge in your own home, all utilities and other supplies could be cut off or seriously disrupted for many days, perhaps weeks. During this period, you will require water, food and other essentials in order to survive.

If you decide to evacuate, it will be necessary to have everything packed and ready to move on short notice. If you take shelter, you will be confined for several days and therefore your needs must be stored and checked ahead of time.

In either case, there are essential items which should be stocked and comfort items which may be stocked if space permits.

Essential items are those which you must have in order to survive. Comfort items are those which will help to keep up morale. The recommended list of essential and comfort items for a family in a fallout shelter are included in the Federal Government "Basement Fallout Shelter Booklet" and "Eleven Steps to Survival".

The essential items which should be immediately available for evacuation will have to be hand carried or arranged so that they can be easily transferred to your car or from your car in case it breaks down or has to be abandoned.

Containers which would be suitable are suitcases, strong shopping bags, canvas bags, kit bags, school bags, picnic baskets, and heavy cardboard boxes tied with rope or heavy cord.

There are many types of available food, in normal use, which would provide the satisfactory calory intake and which are easily transported. Naturally consideration will be given to taste preferences, however, the preference must be for the high calory content of food with the minimum of space and weight. Special care must be taken to ensure that small children have easily consumed and digestible foods.

While hot food is always desirable, particularly in winter, all of the food selected should be of a type that can be eaten cold. Frozen, raw meat or fish, sliced thinly will provide sustenance and is not unpalatable.

In all cases the food selected should be in cans, jars or sealed packages which will withstand freezing temperature.

A primus or alcohol burner will be most valuable for the hot drink. Tinned meats, fish or vegetables can be heated by placing the tins on the manifold along side the engine block of a car.

A number of small packages or tins would be better than large containers which cannot be closed or which would spoil before the contents are all consumed.

Water in summer can be carried in any suitable can, jar or even hot water bottle. In winter certain containers might freeze and break, and some reliance may have to be placed on melted snow for drinking and ablutions.

Tinned or powered milk, fruit juices, biscuits and cereals, cheese, tinned meats, baked beans and tinned or dehydrated soups will provide a balanced and healthy diet. Jams, honey, hard candy and chocolate will help to give the small fry a more cheerful outlook on the situation. These latter foods are high sources of energy. Baby food in the small tins is easily carried and easily heated in the tin and can be enjoyed by the hungry parent too.

A few utensils, such as a pot, knife and fork,

spoon, can-opener and paper plates are advisable, toilet tissue also can serve as a hand cleaner and fire starter, and does not take much space.

So much for the inner man. We must also have and immediately available, blankets, heavy outer garments and rain coats. These garments will protect the body from cold and what is more important from fall-out radiation. They can be brushed off or shed if they become contaminated.

Persons under medical treatment should keep a supply of essential medicines always available and a First Aid Kit is also desirable.

There are many other desirable supplies which will make life easier and which will break monotony. A few of these which should be considered if space permits are, reading material, games, lanterns with oil, changes in clothing, sleeping bags and a tent or waterproof sheets.

Perhaps if we took a greater interest in summer camping we could better condition ourselves for an enforced stay in the open after a nuclear attack.

\* \* \*

## DEFINITIONS FOR USE IN CIVIL EMERGENCY PLANNING

### Introduction

The new concept for civil emergency planning which was introduced in 1959 clearly established the responsibility for this planning as a function of government at all levels; federal, provincial and municipal. In addition it has been accepted that this responsibility includes planning not only for the survival of the people (the former civil defence planning) but now also includes planning for the continuity of government.

The evolution of this new concept for civil emergency planning and the assumption of new responsibilities by various government departments and agencies at all levels of government, has introduced a variety of new terms which in many cases are being used incorrectly or loosely by planners. The Emergency Measures Organization will, in due course, provide a glossary of terms for use by all those concerned with civil emergency planning. In the meantime it may be helpful to set down the definitions of some of the more important terms which are currently in use.

### Definitions

It is particularly important that it should be made clear that while "civil defence planning" can be used more or less synonymously with "survival planning", the term civil emergency planning embraces planning for survival and planning for continuity of government. Accordingly these terms are defined as follows:

#### *Civil Emergency Planning—*

Planning undertaken by government departments and delegated agencies at all levels for those emergency

measures which are required for the survival of the population and which will provide for continuity of government during the period of an emergency which may arise out of war or a peacetime disaster.

#### *Survival Planning—*

Planning undertaken by appropriate government departments and delegated agencies at all levels as well as civil groups and individuals which is directed toward the survival of the population in the event of war or a peacetime disaster.

#### *Planning for Continuity of Government—*

Planning undertaken by appropriate government departments and delegated agencies at all levels directed toward the survival and continued effective functioning of those essential elements of government required during the period of an emergency which may arise out of war or a peacetime disaster.

This does not mean that the term "Civil Defence" will disappear. Governments at various levels are redesignating the government civil emergency planning organizations as Emergency Measures Organizations since they deal with both aspects of civil emergency planning, but the emergency services which are organized to execute plans involving the survival of people might quite properly continue to be designated as Civil Defence Services. Therefore these terms are defined as follows:

#### *Emergency Measures Organization—*

An organization created at any level of government to co-ordinate and stimulate the development of civil emergency planning by government departments and delegated agencies and to undertake detailed planning in areas where responsibility may not be specifically allotted to a department or agency.

#### *Civil Defence—*

A function of government and the activities of delegated agencies at all levels dealing with plans, preparations and organization for those emergency measures which are primarily related to the survival of the population during the period of an emergency which may arise from war or a peacetime disaster.

\* \* \*

Today a shelter in every basement should replace the quaint picture of a rifle over the mantel as the symbol of individual security. The idea of a *private shelter* should not be mocked, for it is the best protection available to the individual citizen. In the face of vast forces, it is something meaningful and constructive he can do, exercising his own free choice to defend himself and his family. An adequate shelter is, for the individual citizen, no more than the nuclear age's equivalent of keeping his powder dry.

—St. John's Daily News, Nfld.

# 11 STEPS TO SURVIVAL

- **Know the effects of nuclear explosions.**
- **Know the facts about radioactive fallout.**
- **Know the warning signals and have a battery-powered radio.**
- **Have some shelter to go to.**
- **Have fourteen-days emergency supplies.**
- **Know how to prevent and fight fires.**
- **Know first aid and home nursing.**
- **Know emergency cleanliness.**
- **Know how to get rid of radioactive dust.**
- **Know your municipal emergency plans.**
- **Have a plan for your family (and if you are alone, have your own plan.)**

For a copy of the booklet "11 STEPS TO SURVIVAL" write to your local or provincial civil defence co-ordinators.

OFFICIAL POSTAL FRANK

*R. B. Bryce*

PRIVY COUNCIL OFFICE

*If undelivered return to:*

EMERGENCY MEASURES ORGANIZATION  
Office 420, Daly Building,  
Ottawa, Canada