

SOVIET CIVIL DEFENSE

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The Soviet Union is no longer as enigmatic and mysterious as it appeared to Sir Winston Churchill, but there are many activities which Moscow still prefers to keep secret. The implementation of the civil defense program is one of these activities, but fortunately, because of the need to train and instruct large numbers of Soviet citizens, considerable publicity is given to Soviet Civil Defense theory, training, organization, and operational concepts. The following brief description of the Soviet Civil Defense program is based on the many publications issued in connection with the program.

Background:

Because the Soviet leaders have always believed war to be at least a strong possibility, they have been interested in civil defense since the early 1920's and have at various times embarked on extensive civil defense training and construction programs. For example, between 1935 and 1959 six mass civil defense training programs were instituted. During World War II, when training was compulsory, 137 million persons are said to have passed a 28 hour civil defense course.* During the Second World War the Soviet

*House of Representatives, Fifth Report by the Committee on Government Operations, "Civil Defense in Western Europe and the Soviet Union," April 27, 1959, pp. 40, 96-98.

population participated on a large scale in civil defense and also had considerable experience of shelter life.

The importance of civil defense as a factor contributing to Soviet war readiness has been stressed by the top marshals of the Soviet Union and has been discussed by the Ministers of Defense at Party Congresses.*

Basic Soviet Civil Defense Theory:

1. Soviet manuals state that civil defense must protect the population against all types of weapons: conventional, chemical, bacteriological, and nuclear. The threat of the so-called ABC weapons, which are termed "means of mass destruction," has been especially stressed since 1954.**
2. Civil defense must provide important industrial, administrative, and other vital installations with the ability to continue their operations "under condition of attack from the air."*** (This concept may be changed as a result of

*Pravda, March 20, 1957; Voennye Znaniia, No. 1, p. 4 and No. 2, p. 22, 1957; Soviet Patriot, February 13, 1958.

**Fifth Report of the Committee on Government Operations, p. 98.

***I. P. Miroshnikov, G. N. Zapolskii, Zashchita naseleniia ot sovremennykh sredstv porazheniia (Defense of the Population against Modern Means of Attack), Dosaaf, Moscow, 1958, pp. 81-82.

Khrushchev's "new look" in Soviet military strategy.)*

3. The civil defense system must be based on the mass participation of a trained population and must be able to deal quickly with the damage and casualties resulting from an attack.**

Organization:

Soviet Civil Defense organization works through the national, territorial, and local administrations and the economic institutes. The small full-time professional staff, which was headed until recently by a First Deputy Minister of Internal Affairs (MVD), develops operational and organizational systems, and conducts research. Full-time staffs at the Republic, Territory, regional, district, and city levels direct the work of formations and groups organized on the bases of existing services and volunteer teams. The formation of civil defense units according to a prescribed table of organization is compulsory for all Republics, provinces, counties, cities, districts, factories,

*Pravda, January 15, 1960.

**Miroshnikov, Zapolskii, op. cit., p. 82.

collective and state farms, large institutions, and large public buildings and apartment houses.* In a Soviet city there are eleven different civil defense services (medical, shelter, decontamination and so on**) which are headed by the mayor and a civil defense staff. This organization is duplicated on the district level and in large industrial installations.*** On the lowest level, in apartment houses and farms, there are the so-called volunteer Self-Defense Groups, each containing eight specialized teams (for medical, shelter, fire fighting, and other duties). A group of about 48 persons is organized for every 500 residents or more.**** The units in urban centers are to be supplemented by special rural formations and military or militarized units which come to the assistance of the cities following an attack.*****

According to a West German writer, Khrushchev is said to have claimed that 22 million persons, or 10 per cent of

*Ibid.

**Fifth Report of the Committee on Government Operations, p. 53.

***Ibid.

****Ibid. pp. 56-57.

*****Ibid. pp. 49-50.

the entire population, now serve in civil defense formations.*

This may be a goal rather than an actuality.

Training:

The Soviet authorities have been insisting on the importance of training the entire Soviet population in civil defense so as to reduce casualties and soften the shock caused by an attack and for the purpose of mobilizing the adult population to perform civil defense tasks in case of need.** Since 1955 three compulsory training programs for all persons over 16 years of age have been instituted. In 1955 there was a 10-hour program, in 1956-1958 a 22-hour program, and in 1959 a 14-hour program which stressed practical civil defense work.*** Upon the completion of the latter in 1960 a new 18-hour program is to go into effect to stress practical work in post-attack operations,**** and to be completed during 1961. The training programs familiarize the population with the nature of modern weapons and their effects, teach them to use individual means

*Herbert Schellhammer, "Die Problematik des Luftschutzes in Atomzeitalter," Werkkunde, No. 3, March 1959, p. 145.

**A.V. Bibergal, V.I. Margulis, Atomnyi vzryv i nekotorye voprosy protivootamnoi zashchity (Atomic Explosives and Some Problems of Anti-atomic Defense) Medgiz, Moscow, 1958, pp. 4-5; Soviet Patriot, February 11-14, 1958.

***Fifth Report of the Committee on Government Operations, pp. 99-100.

****Soviet Patriot, October 21, November 7, 1959.

of protection and how to behave in shelters, and instruct them in first aid, fire fighting, decontamination and, in rural areas, veterinary assistance to farm animals.*

All training is conducted in small groups after work at places of employment, or in apartment houses and farms.** According to Soviet press reports the training has been uneven, lagging especially in rural areas, and at times has been only perfunctory, but constant efforts are made to improve its quality and to check on its effectiveness.***

Means of Protection:

Khrushchev has claimed that the Soviet Union, because of its size and its greater dispersal of population and industry, is less vulnerable to attack than western countries.**** Soviet city planners have recommended measures to reduce population density in large cities, and civil defense requirements are to be incorporated in the development of new urban districts or centers. Among other means to protect the population against

*Fifth Report of the Committee on Government Operations, pp. 101-102.

**Fifth Report of the Committee on Government Operations, p. 103.

***Ibid., p. 106; Soviet Patriot, July 1, 1959; September 16, 1959; November 30, 1959.

****Pravda, January 15, 1960.

are (1) individual measures, (2) collective measures, (3) evacuation.

Individual Measures:

Soviet Civil Defense theory and training emphasize the use of gas masks and protective clothing against the effects of CBR agents, in case an attack finds people in the open, in inadequate shelters, or obliged to leave the shelters before it is safe to do so. While no gas masks have been issued to the general public, the latter is receiving training in their use. People have to test gas masks in gas chambers and some are made to wear them on exercise hikes or during working hours.* At present gas masks and protective clothing are being issued only to civil defense formations while the general public are to receive theirs, as well as individual chemical warfare decontamination kits, only when the Soviet government receives what it considers strategic warning of a possible attack.**

*Voennye Znaniia, No. 8, 1959.

**Miroshnikov, Zapolskii, op. cit., p. 266; M. Gvozdev, V. Iakovkin, Atomnoe oruzhie i protivootominaia zashchita, (Atomic Weapons and Anti-atomic Defense), 2nd Edition, Dosaaf, Moscow, 1958, p. 183.

Shelters:

While the Soviet population made use of a variety of shelters during the Second World War, a few of these are suitable for present conditions. According to Soviet Civil Defense literature the requirements of a modern Soviet shelter are:*

a. That it have a fire resistant roof and be capable of withstanding the thermal radiation of a nuclear explosion.

b. That the roof be below the surface of the earth and provide a sufficient attenuation factor for prompt and fallout radiation. Soviet standards on permissible radiation levels are on the whole similar to those of the West: 50 roentgens is considered to be the limit of permissible immediate doses; 100 roentgens is an outside permissible cumulative dose over a relatively short period of time.

c. That the roof be capable of withstanding the collapse of the building above, the attenuated blast wave of a nuclear explosion, and direct hits by small or medium-caliber high explosive and incendiary bombs.

d. That it have at least one emergency exit with a tunnel, located so as not to be buried under debris.

*L.F. Supron, F.P. Zverev. Meditsinskoe obespechenie naseleniia v usloviakh primeneniia szedstv massovogo porazheniia (Medical Protection of the Population under Conditions of Use of Means of Mass Destruction), Gosizdat BSSR, Minsk, 1959, p. 307.

e. That permanent shelters in likely target areas be capable of hermetical sealing against seepage of CBR agents and of the blast wave, and be equipped to allow relatively long-term occupancy.

Soviet manuals describe a wide variety of shelters:

(a) heavy detached shelters, (b) detached shelters, (c) subways, (d) basement shelters, and (e) field and emergency shelters.

A. Heavy Detached Shelters:

Only deep underground shelters, according to Soviet sources, can survive near the ground zero of a nuclear explosion.* They are built as tunnels with reinforced concrete walls and have space for upward of 150 persons, filter-ventilators, steel air-tight double doors, food and water storage, toilet facilities, communication equipment, and possibly chemical air purifiers and bottled oxygen.**

Another type is similiar to a World War II bunker with very thick reinforced concrete walls and roof, designed to

*Ibid., pp. 308-309.

**Ibid., p. 308; M.E. Levin, G.H. Malinin etc., Zashchita ot sredstv massovogo porazhenia (Defense against Means of Mass Destruction), Uchpedgiz, Moscow, 1958, p. 95.

withstand probably 200 to 300 psi.* Such shelters may be two stories high and are equipped similarly to the deep underground shelters.

B. Detached Shelters:

A detached shelter frequently described in Soviet literature is the so-called "layer" type or "pit" type. This shelter has a roof of one or more thick slabs of reinforced concrete covered with a layer of earth, which may be several feet thick, and supported by concrete or brick pillars or internal walls which will divide the shelter into compartments.** Such shelters are partially or completely underground and will probably withstand in excess of 100 psi. They will also be equipped with double doors, filter ventilation units, toilets, water and so on. These shelters may have space for from 150 to several thousand persons.***

C. Subways:

Some Soviet leaders, notably Kozlov, as well as Soviet Civil Defense manuals indicate that the Soviet Union intends to

*V.D. Moskalev, V.P. Sinitsin, A.S. Tetrychnyi, Uchebnoe Posobie o MPVO (Training Manual for the Local Anti-Air Defense), Dosaaf, Moscow, 1957, p. 63.

**Ibid., Supron, Zverev, op. cit., p. 307; Fifth Report of the Committee on Government Operations, p. 67.

***Miroshnikov, Zapolskii, op. cit., p. 133; Gvozdev, Iakovkin, op. cit., pp. 170-171.

use the subways as shelters.* There are subways in operation in Moscow and Leningrad, and this year the Kiev subway will begin operations. These subway systems are fairly deep and the Moscow one could shelter, on the lower platforms and in the tunnels from one to two million persons or 20 to 40 per cent of the city's inhabitants.**

D. Basement Shelters:

The Soviet basement shelter is a special area of the basement of an apartment house or public building built and is designed to meet the basic Soviet specifications for an air raid shelter. It has a roof of reinforced concrete supported by steel or reinforced concrete beams capable of withstanding the collapse of the building above and it is fireproof.*** It is completely underground and capable of being hermetically sealed. Its basic equipment will include air-tight double metal doors of the bulkhead type, a filter ventilation unit, one or more emergency tunnels, toilets, water, heating, and

*The Times-Picayune, New Orleans, August 13, 1959; Los Angeles Times, July 26, 1959; Lebedeva edit., Szedstva i sposoby protivovozdushnoioborony naseleniia (Means and Methods of Air Defense of the Population), Dosaaf, Moscow, 1958, p. 17; Uchebno-metodicheskoe posobie po provedniiu trenirovok i priemu norm 'gotov k PVO' I-i stupeni.

**Fifth Report of the Committee on Government Operations, pp. 93-95.

***Ibid., p. 68; Levin et. al., op. cit., pp. 93-93; Supron, Zverev, op. cit., pp. 301-307; Mirosnikov, Zapolskii, op. cit., pp. 140-144.

telephones storage batteries, and possibly bottled oxygen.* Depending on the building, it may occupy the entire basement or only part of it. It is divided by interior walls into compartments. The recommended capacity of such a shelter is 100-150 persons. It may be designed for over 10 psi and up to 100 psi, and according to Soviet manuals it is expected to survive the blast "at some distance" from ground zero.**

E. Field and Emergency Shelters:

These shelters are mostly of the fallout type and are usually less permanent. They are to be built by the population when the Soviet government announces a "threatening situation" alert, i.e. that there is strategic warning of an enemy attack.*** They consist of various types of earth-covered trenches, dugouts or galleries, and tunnels in mountain sides, and they have walls made of precast

*Gvozdev, Iakovkin, op. cit., pp. 170-171; Miroshnikov, Zapolskii, op. cit., p. 143; Uchebno-metodicheskoe posobie po provedeniiu trenirovok i priemu norm 'gotov k PVO' I-i stupeni, Dosaaf, Moscow 1959, p. 33.

**Fifth Report of the Committee on Government Operations, p. 77.

***Ibid., p. 73.

concrete, wood, metal sheeting, and other handy materials.*

These shelters are to be built in both cities and rural areas, but especially the latter, and are designed to hold from 25 to 60 persons.** They may have heating and a simple ventilation system, but no running water. They may or may not have metal doors. For the most part they do not appear to be designed for long-term occupancy. Shelters of this type can be built in one day or less provided the necessary material is available.*** If the shelters cannot be hermetically sealed, the people using them are instructed to wear their gas masks during an attack. One-family shelters may also be built in suburbs at the cost of the families concerned.

Shelter Habitability:

Concerning the habitability of Soviet shelters the following remarks can be made. First, in most instances Soviet shelters provide at least about 1.6 cubic meters (or 56.5 cubic feet) per person or 5 to 8 sq. feet of floor area.****

*Supron, Zverev, op. cit., pp. 310-312; Miroshnikov, Zapolskii, op. cit., pp. 144-158.

**Gvozdev, Iakovkin, op. cit., pp. 174-176; Supron, Zverev, op. cit., p. 314.

***P.M. Kerillov, Dosaafitsu o MPVO (To the Dosaaf Member about Local Anti-Air Defense), Dosaaf, Moscow, 1956, p. 45.

****Fifth Report of the Committee on Government Operations, p. 93.

Soviet citizens, of course, are more used to crowded and austere conditions than Westerners. Shelters will have benches, and those designed for longer-term occupancy, including dugouts, may have double-decker bunks (18 inches wide) so that part of the occupants can sleep on them. Second, the shelter will have at least one five-man civil defense shelter team for each 150 persons. The team will operate the machinery, maintain order, and so on.* Third, only the detached shelters under the direct control of an institution or of the Civil Defense may be pre-stocked with food. In the case of basement shelters the population is instructed to take along food and drinking water for several days. Additional drinking water is to be stored in these shelters.** No other arrangement seems possible under Soviet conditions. Fourth, the standard filter-ventilation system is hand or electrically operated, it has a hardened air intake, a blast inhibitor, a dust and fallout filter, and from one to three chemical cannister filters. Its capacity, depending on the number of filters used, is 100 to 300 cubic

*Ibid., p. 96.

**Miroshnikov, Zapolskii, op. cit., p. 266; Levin, et. al., op. cit., p. 112.

meters per hour (say 3500 to 10,600 cubic feet per hour) but considerably more if the air flow is allowed to bypass the chemical filters.* Fifth, the shelters will have first-aid material, fire fighting equipment, simple digging and repair tools, batteries, flashlights or lanterns, a radio loud-speaker, and a telephone. Sixth, in case of an attack, persons in shelters are not allowed to leave until they have received instructions from the chief of the civil defense shelter team.** Seventh, the Soviet shelters are designed to give little to moderate protection against blast, but good protection against thermal and fallout radiation. For the most part the population is expected to be able to leave them in two to seven days, and the Russians do not contemplate the fourteen- to ninety-day shelter occupancy planned for the West. Eight, since Soviet permanent shelters are fire and gas proof, they are expected to survive large surface fires resulting from an attack. Ninth, the population, as part of the compulsory training program, receives instructions in shelter discipline: no smoking or loud talking, no unnecessary moving about, no use of water or food without

*Moskalev, Sinitsin, Tertychnyi, op. cit., p. 69; Supron, Zverev, op. cit., pp. 304-305.

**Miroshnikov, Zapolskii, op. cit., p. 269.

permission, etc.

Evacuation:

In 1958 Soviet literature for the first time began to mention evacuation of the urban population in conjunction with the "threatening situation" alert.* The present plan calls for the evacuation of the nonessential city population to rural areas.** Also to be evacuated to suburban areas are various civil defense formations.*** It is likely that key elite elements in industry, the party, and the administration will also be evacuated to shelters outside the cities. Nevertheless the authorities at present still appear to plan to leave a part of the "productive" element of the population in the cities.

Pre-Attack Measures:

In addition to the measures already described, which are to be taken in a "threatening situation" alert, Soviet Civil Defense plans to undertake in co-operation with the entire

*Miroshnikov, Zapolskii, op. cit., pp. 83-89; Gvozdev, Iakovkin, op. cit., p. 159, 237; Voennye Znaniia, No. 11, 1958.

**Ibid.

***Supron, Zverev, op. cit., p. 18.

population, extensive prophylactic measures in the areas of fire, epidemic prevention, the safeguarding of supplies and water, blackout and a variety of other measures designed to reduce the vulnerability of the cities and of the country as a whole to attacks.*

Post-Attack Operations:

The present Soviet Civil Defense plan calls for large-scale rescue and evacuation operations in the disaster zone immediately after the attack in order to give prompt aid to the casualties and limit the damage.** The disaster area is to be reconnoitered by teams equipped with radiological and chemical detection equipment of which the Soviets have a considerable variety.*** Following this, first-aid, fire-fighting rescue, and decontamination teams move in. Manpower will be provided by surviving civil defense formations, special rural and military formations, and civil defense units from other cities, as well as mobilized citizens who

*Miroshnikov, Zapolskii, op. cit., pp. 91-112.

**Supron, Zverev, op. cit., p. 276; Miroshnikov, Zapolskii, op. cit., p. 187.

***Supron, Zverev, op. cit., pp. 336-382; Levin et. al., op. cit., pp. 117-134.

who happen to be at hand.* Only regular Civil Defense units will have radiological equipment but self-defense groups will have chemical detection kits. Rescued persons will be evacuated to uncontaminated areas where mobile or stationary decontamination and medical units will take care of them. Food and other essential supplies are to be provided by special civil defense services. Casualties are to be repeatedly sorted out and evacuated by stages to permanent or temporary hospitals where they will receive the required medical help.** In the meantime large-scale fire fighting, decontamination, and repair work will continue in the disaster area.

It is evident that the system will be effective only in the zone of partial destruction. In the zone closer to ground zero the intensity of the destruction, the high rate of radiation, and the probable firestorm will prevent the timely rescue of persons not adequately sheltered. Those in surviving shelters are apparently expected to be able to wait until the rescuers reach them.

*Miroshnikov, Zapolskii, op. cit., pp. 82, 187-188; I.P. Miroshnikov MPVO v selskoi mestnosti (Civil Defense in Rural Areas), Dosaaf, Moscow, 1959, p. 71.

**Supron, Zverev, op. cit., passim.

In rural areas the people are instructed to protect their water supply, stocks of fodder and grain, and other foodstuffs from chemical or bacteriological contamination and to disperse and protect the cattle.*

Conclusion:

There is little information from open Soviet sources on the question of shelter availability. Some indication of Soviet activity in shelter construction appears in Soviet press discussions of civil defense exercises, which occasionally mention the existence of shelters.**The training manuals are most emphatic on the necessity to shelter the population from attack. Judging by the effort made to train the population and various civil defense groups and by the apparent size of the investment in civil defense equipment and shelter, it seems reasonable to conclude that the Soviet Union has been for a number of years and is now engaged in an extensive civil defense program. This is not a crash program and its character appears to undergo changes as Soviet Civil Defense is adjusted to new weapon effects.

*Miroshnikov, MPVO v selskoi mestnosti, passim.

**Soviet Patriot, June 11, 1958; May 20, 1959; July 1, 1959.

Concerning the impact of the Soviet Civil Defense program on the population, it may be said that it has neither greatly reassured nor greatly alarmed the Soviet citizenry.* Since the program has been in effect for a number of years, it does not appear to the Russian people to be connected with any specific crisis, and besides they had considerable experience with such programs before the Second World War. Soviet conditions and methods of operation also have led the population to accept compulsory training courses and so-called "voluntary-compulsory" participation in various schemes instituted by the Soviet authorities. The Soviet citizen knows from experience that he must rely to a considerable degree on self or mutual help in crisis conditions. Consequently the civil defense program is taken by and large as a matter of course and as one more obligation imposed by the authorities on the population. While some Soviet citizens are enthusiastic and others defeatist, the majority are relatively apathetic.** In a time of crisis, however, it is likely that they would

*Travelers' reports to the author; Voennye Znaniia, No. 6, 1958; No. 1, 1959; Soviet Patriot, July 8, 1959; September 27, 1959.

obey orders and respond to their training, for they know that the Soviet authorities are prepared to enforce obedience and ruthlessly to punish any unauthorized or panic-inspired behavior.

