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THE SOVIET CIVIL DEFENSE PROGRAM

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## THE SOVIET CIVIL DEFENSE PROGRAM

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For the past six months Soviet civil defense has become the subject of public discussion in the United States with a great deal of conflicting information being published about it. Following President Kennedy's announcement of plans to accelerate and expand the United States civil defense and shelter construction program, the Soviet Union has done its best to cast doubts on the value of the U.S. effort as well as to deny the existence of a similar civil defense program in the Soviet Union.

Denials of this sort have been widely reported in the Western press. In most instances they took the form of informal statements by such Soviet personalities as Mrs. Khrushchev, Ambassador Menshikov and recently by the Secretary of the

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Union of Architects Sharov, all of whom said that since the Soviet Union was not preparing for war it did not build shelters. Significantly none of these statements were ever published in the Soviet press and were made at a time when the Soviet Union had not only resumed nuclear testing but kept insisting that it could destroy the United States.

In addition, the Soviet Minister of Defense Marshal Malinovsky published an interview in Pravda on January 24, 1962, in which he sought to reply to a statement on Soviet strategic power made by Defense Secretary McNamara to the Senate Armed Services Committee. Speaking of the U.S. civil defense program, Malinovsky accused Western capitalists of promoting civil defense merely in order to make profits from shelters which he warned would be coffins in the face of thermonuclear weapons with yields of "hundreds or more millions of tons of TNT."

Malinovsky did not say that the Soviet Union was not building shelters or did not have an active civil defense program. But by casting doubts on the value of the U.S. program he gave the impression that the Soviet Union had no interest in a similar effort. There is some doubt that Malinovsky was quite candid when he made this statement. Only a few months earlier he had told the 22nd Congress of the Communist Party of the

Soviet Union on October 24, 1961 that because of the ever present danger of war "...we are forced to prepare our armed forces, the country and the entire people to withstand the aggressor, mainly under conditions of a nuclear war."

Public uncertainties about the character and state of a Soviet civil defense program have been further heightened by the failure of many Western travelers, newsmen and other observers to see any evidence of civil defense and shelter activities in the Soviet Union or to hear such activities mentioned in conversations with Soviet citizens.

In actuality the Soviet Union has been engaged for the past twelve years or more in an active, integrated, comprehensive and centrally directed civil defense program. The fact that it is not easily noticed by foreign visitors is due as much to Soviet secrecy, as to the erroneous image that most observers have of the Soviet program and to their lack of familiarity with structural characteristics of Soviet shelter. Most travelers think of civil defense in Western terms: i.e., great deal of public discussion, massive use of public information media, and a large-scale annual public fallout shelter construction program. The Soviet program does not meet these characteristics and, like many other Soviet activities cannot be easily ascertained by casual observations. Actually, unlike our

present crash effort the Soviet program is a relatively routine effort designed to steadily improve Soviet civil defense capability at a rather modest annual rate. Since it is entirely a public program of long standing not tied to any international crisis and with many compulsory features, it does not require the massive use of public information media and it is not the subject of public or social discussion or the cause of popular excitement. The Soviet shelter program does not give priority to large public fallout shelters and the annual rate of shelter construction is relatively small, although its cumulative effect is considerable.

Since the Soviet authorities do not post signs indicating the location of shelters and publish no information on the total amount of ready shelter space, the problem of identifying such shelters is somewhat akin to an attempt to find private shelters in this country where many owners seek to hide their existence from their neighbors. Yet a person who is familiar with Soviet shelter design has little difficulty in observing and identifying existing Soviet shelters. For example, during my month long trip through the Soviet Union in 1960, I observed numerous shelters in all the nine cities I visited in Northern, Central, Southern and Asiatic Russia and I had no difficulty in obtaining confirmation of my identifications from Soviet citizens from

all walks of life. Other qualified travelers had similar experiences.

In contrast to the Soviet denials of the existence of a Soviet civil defense and shelter program made for foreign consumption, the Soviet authorities tell their own people quite a different story. In addition to hundreds of manuals published in hundreds of thousands of copies in all the languages spoken in the Soviet Union, which deal with a vast variety of subjects from fallout to how to protect cattle or decontaminate vehicles, there is a great deal of discussion of special local civil defense activities in specialized papers and magazine.

For example the recent issues of the newspaper Soviet Patriot carried in October 1961, fourteen separate articles reporting on local civil defense training in fourteen cities; the November issues carried twenty-five reports on twenty-four cities; the December issues contained sixteen reports in fourteen cities; the January 1962 issues published thirty-one such activity reports in thirty cities and by mid-February there were over twenty-two reports mentioning fifteen cities. These numbers are typical of the reports on civil defense carried each month by this newspaper for the past seven years.

Despite official Soviet silence about shelters this newspaper and some Soviet magazines occasionally cite exercises involving the use of shelters and publish sometimes photographs of these

air raid and nuclear shelters. The reports include descriptions of exercises and shelters in Moscow. The most recent reports in my possession which cite the existence of shelters mention their use in exercises held in Tadjana in Uzbek Republic (Soviet Patriot, November 28, 1961), in a large Moscow factory (Vesnyye Znaniia, No. 12, December 1961) and in a farm near Stepanakert, Azerbaijan Republic (Soviet Patriot, January 14, 1962). Furthermore, as I shall mention later, the published and broadcast instructions and reports to Soviet citizens, far from denying the value of civil defense or of shelters, emphasize their importance and reliability.

Thus after studying all the available information for the past three years, including a trip to the Soviet Union, I have come to the conclusion that the Soviet Union has been and, according to the latest information continues to be engaged in an active and extensive civil defense program. Although, because of Soviet secrecy there is uncertainty about the size of the Soviet civil defense organization, the number of citizens trained, the total shelter capacity and the precise civil defense budget, it is possible to ascertain the character of the Soviet civil defense doctrine, the methods of its implementation and to make some reasonable guesses about its scope and cumulative capability.

I will now outline and describe the key features of the Soviet civil defense program and especially of those aspects which deal with the defense against radioactive as well as



chemical and bacteriological agents. As you will see the Soviet authorities take the possible use of chemical and bacteriological weapons in war very seriously and make considerable investments in providing protection against their effects.

Soviet interest in civil defense is of long standing. This is due to a number of factors.

(1) The threat of war has been a perennial pre-occupation of Soviet leaders since they have always believed conflict to be a basic aspect of international relations. Although Khrushchev has now publicly amended the Leninist thesis of the "fatalistic inevitability of war," he has not excluded the possibility of the occurrence of war and the Party Program adopted last October still states that the danger of war will persist as long as imperialism survives in the world.

(2) If war were to occur, the Soviet leaders say, neither side would be constrained by moral considerations from using nuclear as well as chemical and bacteriological weapons, which the Soviet usually call "weapons of mass destruction." Khrushchev has not only asserted that "the logic of war" requires the employment of all available types of weapons, but he wrote in 1959 that:

We share the concern of the scientists who justly point out that the employment of these [chemical

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and bacteriological] weapons could have no less terrible consequences than the employment of atomic and hydrogen weapons. [Message to the Pugwash Conference, August, 1959.]

(3) Civil defense, as the Soviet military leaders and Ministers of Defense have repeatedly pointed out, is an integral part of the Soviet defense capability and the Soviet marshals have publicly endorsed it as being of "exceptionally great importance for strengthening the defense capability of the country."

(4) Finally, although the Soviet authorities do not say so publicly, civil defense, by strengthening the over-all power of the Soviet Union may contribute to the Soviet deterrence capability and to the attainment of Soviet foreign policy goals.

The Soviet authorities take full advantage of the centralized and totalitarian character of the Soviet system in order to implement the civil defense program on a compulsory basis at all levels of the country.

Soviet civil defense doctrine contains the following basic concepts:

(1) Civil defense must protect the population and the economy against nuclear, as well as chemical and bacteriological

weapons, and must facilitate the rapid recovery of disaster areas. The protection to be provided consists of individual means, primarily designed to protect each person against chemical and bacteriological agents and direct body contact with radioactive elements, and of collective means, i.e., shelters, with priority being given to the safeguarding of the more valuable elements of the population, such as industrial workers, administrative, Party and military personnel and other groups deemed important to the state.

(2) There must be a large civil defense organization which functions on all levels and which is largely organized on the basis of the civilian administrative and economic structure.

(3) The population must be fully trained so as to reduce casualties and improve the country's capability to deal with the effects of an attack.

The Soviet Union has a large, centrally-controlled civil defense organization, which is recruited on a compulsory basis and which operates on all levels, from a federal administration in the Ministry of Defense down to regions, cities, boroughs, villages, factories and finally large public and apartment buildings. Except for permanent full-time staffs, organized on all levels down to city boroughs, most of the civil defense workers are recruited on a part-time basis, and are organized

into specialized teams and units which deal with such operations as shelter control, warning, rescue, medical aid, fire-fighting, decontamination, food distribution, veterinary services and so on. While the precise size of the Soviet civil defense organization is not known, Khrushchev has told some foreign visitors that it had 22 million trained members and being further expanded. Included in this number is presumably a large part of the vast body of municipal, economic and industrial service personnel who have various civil defense functions.

According to available reports and photographs, it appears to be fully equipped with a large variety of simple as well as mobile and heavy equipment including gas masks, heavy protective clothing, radiation, chemical and bacteriological detection instruments, mobile showers, laundries, and bacteriological decontamination chambers, indicator signs and so on.

The compulsory training of the adult population in individual and collective means of protection against nuclear, chemical and bacteriological weapons was instituted in 1955. The training includes men 16 to 60 and women 16 to 55, with special training being given to school children. Since 1955 the Soviets have instituted a series of four courses totaling at present 64 hours of training, the last 32 of which include extensive practical work and exercises. The training is the

responsibility of the largest para-military voluntary society in the Soviet Union called DOSAAF which has about 30 million members and which works in close cooperation with the Soviet Red Cross (27 million members) and the Young Communist League (19 million members) and operate under the supervision of the Communist Party and of the Ministry of Defense.

The training takes place in small study groups at places of work or residence with priority being given to factory workers, and members of DOSAAF. The trainees learn about nuclear weapon effects and the characteristics and effects of some twelve chemical agents with emphasis on nerve gases (tabun and sarin) and some eighteen bacteriological agents. These agents are primarily lethal or epidemic causing types. The population receives training in the use of gas masks, protective clothing and individual decontamination packets which are designed to remove liquid vesicants and are reported to contain atropine Syrettes, amylnitrite ampules and other antidotes. They are taught how to respond to various warning signals, how to behave in shelters, first aid, fire-fighting, decontamination, the the use of dosimeters, radiation meters and chemical detector kits, protection of food, water and fodder, how to behave in contaminated or quarantined areas, how to treat wounded or contaminated farm animals and so on. The complexity of the

current course in first aid is illustrated for example by such training requirements as knowing how to give first aid to a casualty with a spinal injury or with a shoulder wound with arterial bleeding and evacuating such persons by means of various carries from an area contaminated by chemical agents or from upper floor of a building with a partly destroyed staircase. In the training, wide use is made of visual aids, films, charts and slides and the population is supposed to learn how to operate shelter equipment by exercises held in existing shelters.

The training has not as yet been extended to the entire population and appears to be lagging in rural areas, but according to hundreds of articles and photographs reporting local training activities from all parts of the Soviet Union and on many farms, it appears to be fairly extensive. The quality of the training is uneven but efforts are constantly made to improve it. Although local Soviet authorities publish all sort of extravagant claims about the number of persons trained, it is likely that some 50 million Soviet citizens have been exposed to the training so far. The cost of this popular training program has been estimated at 100 to 200 million dollars per year.

It is significant that Mrs. Khrushchev's and Marshal Malinovsky's denials of the value of civil defense, have in no way affected the actual Soviet interest in and implementation of the current civil defense program. The 5th Plenum of the Central Committee of DOSAAF, which met on December 21, 1961, issued an official resolution stating that:

At the present time the most urgent task of DOSAAF is the training of the entire population of the country in measures of anti-atomic, anti-chemical and anti-bacteriological defense....

Together with the civil defense staffs and other organization, it is essential to achieve that the population be well trained in ways of using handy means for rescue work and simple shelters for the purpose of self-protection against atomic, chemical and bacteriological weapons, and that the population knows well the methods and means of self-protection in radioactively contaminated areas. [Soviet Patriot, December 24, 1961.]

The resolution called for an intensification and expansion of the training of the population during 1962. According to Soviet reports numerous regional and local DOSAAF conferences were held throughout the Soviet Union during January and February of this year, which discussed ways and means of expanding and improving civil defense training of the population.

The emphasis of the Soviet civil defense authorities on individual means of protection is significant. The available Soviet gas masks are of good quality and appear to be effective against most of all known chemical agents. They have been

manufactured for a number of years in various sizes and the trainees often test them in gas chambers. According to manuals the Soviet Union has also manufactured gas masks for cows and horses and the population is taught how to prepare in an emergency home made masks for itself and for farm animals. According to available information gas masks have been distributed to civil defense personnel and for training purposes (possibly some 30 million masks issued) but have not been issued to the general public which will receive them only when the authorities believe that a real danger of war exists. Presumably the Soviets are stockpiling gas masks.

Protective clothing of plastic or rubberized material including gloves, boots and hoods has also been issued to civil defense personnel and for training purposes (possibly some 5 million suits distributed). The population will not be issued such clothing but receives instruction in how to sew such clothing at home. The population is receiving training in the use of chemical detector kits and dosimeters but these are issued only to civil defense personnel since the public character of the Soviet shelter systems does not necessitate wider distribution to the general population. Individual decontamination packets are used in training and the trainees are said to be shown the use of atropine Syrettes. These too



will be issued to the general public only in an emergency. Despite these restrictions on the distribution of individual means of protection, it is fairly evident that the Soviet authorities have made, and according to available Soviet reports continue to make, a considerable investment of money and raw materials in the production of such items.

The Soviet authorities have stressed the need for shelters as the only effective means of defense against nuclear, chemical and bacteriological weapons. The Soviet shelter construction program was initiated in 1949 or 1950 and emphasized public rather than private or family shelters. Permanent shelters are built in peace time only in the cities, with priority being given to industrial, governmental and Party facilities, which are to be supplemented by simple fallout shelters which will be built in an emergency in the rural areas.

According to Soviet design and specifications, all permanent urban shelters must provide varying degrees of protection against blast and a high degree of protection against collapsing building, radiation, fire, chemical and bacteriological agents. Present types of available shelters vary from a limited number of very deep or heavy large shelters designed to withstand in excess 300 psi for the select elements of the elite, to large detached industrial and public shelters designed for 100 to

150 psi and with space for 100 to several thousand persons, subways and basement shelters designed for 10 to 100 psi with space for 100 to 300 persons under apartment and public buildings.

The permanent shelters have roofs of reinforced concrete, they are compartmented, airtight, with double steel doors edged with rubber and are provided with elaborate, large and fairly expensive ventilation units equipped with dust filters and triple filter canisters to filter out chemical and bacteriological agents. In addition, they are equipped with bunks, light, heating, water, toilets and at least in some cases bottled oxygen. Food is stored in most or all but apartment house shelters, where the population is instructed to bring their own supply when taking cover. Control is maintained by trained civil defense shelter teams who will tell people when to leave and what to do. The deep subways (in Moscow, Leningrad and Kiev) are equipped with heavy concealed doors at the entrances to the station platforms. The Moscow subway system has been estimated as having sufficient space in the tunnels for at least 20 percent of that city's population. Lack of cooling equipment and food in some of the shelters is likely to limit occupancy time.

Emergency fallout shelters which will consist mainly of covered trenches, dugouts and hillside tunnels built of

various materials will not be constructed until the government announces a "threatening situation" alert, i.e., when the government has strategic warning of a possible attack. Such shelters will be built by the population at pre-surveyed sites but except for the dugouts will not be equipped for long-term occupancy. According to Soviet sources, shelters of this type can be built in one day. The Soviet authorities have also published designs for family shelters for suburban residents and for fallout shelters for large farm animals.

We cannot be sure of the precise amount of ready shelter space, since the Soviet authorities keep it secret. Published Soviet press reports and photographs have cited the existence of shelters in factories and apartment buildings in some fifteen cities including Moscow. Direct observations are difficult since foreigners cannot freely inspect factories or public buildings, which contain a large part of the Soviet shelter system. In most instances the only observable evidence of basement shelter is provided by rather innocuous looking concrete emergency exits which are easily overlooked by uninitiated travelers. Nevertheless qualified visitors to the Soviet Union have observed evidence of numerous basements and some other types of shelters in Moscow and many other Soviet cities.

There is nothing to indicate that the Soviet shelter construction program is anywhere as large as the annual rate

presently planned in the United States. But since the Soviet Union has been building shelters for a long time (during my trip I saw shelters completed in 1950 and others in 1959); the cumulative Soviet shelter capacity in all types of shelters may be fairly considerable, although at the present time it appears far from sufficient to protect the entire urban population. There are also indications that the Soviet authorities may be discontinuing the construction of basement shelters in apartment buildings and that, in conjunction with the present urban evacuation plans, they may be shifting to larger public shelters and to emergency fallout shelters outside the cities.

As to the Soviet view on the effectiveness of shelters, they are far too elaborate to serve merely as a sop to the population. In contrast to Marshal Malinovsky's description of shelters as coffins, a recent article in the DOSAAF magazine, Military Knowledge, states that:

Basement or detached underground shelters can provide reliable protection of the individual from the effects of a nuclear explosion, if they are equipped with appropriate protective features.  
[Military Knowledge, No. 11, 1961.]

Since 1958 the Soviet authorities have become interested in pre-attack evacuation of cities and have been developing plans to this effect. The current plans call for the organized

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evacuation of at least a part of the residents of larger cities to initial staging areas 10 to 50 miles away and later, if time permits, to quarter the evacuees in the rural area and small towns. A special civil defense transport service and borough and city evacuation committees are said to have been organized. There is no information on whether the staging areas have been provided with fallout shelters, although Soviet publications mention the need for such shelters in an emergency.

In the event of an attack, Soviet civil defense will seek to reduce casualties and damage by large scale first aid, rescue, fire fighting and decontamination operations. In the disaster areas the trained population is expected to practice self-help as well as be available to assist the regular civil defense organization and the special military units.

According to current Soviet doctrine it is not planned to wait in highly contaminated areas until natural decay has eliminated the danger from radiation. Instead the Soviet authorities expect to conduct decontamination operations soon after the attack and to evacuate the survivors to safe areas where they will be cared for by the appropriate civil defense services (medical, hygiene, decontamination, and food and supply services). Areas exposed to bacteriological weapons

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will be quarantined and the population is receiving instructions on how to behave in quarantine.

The available evidence thus indicates that up to the present time at least, the Soviet authorities and the Eastern European satellite states, whose civil defense systems parallel that of the Soviet Union, have taken the need for civil defense seriously and that they pay considerable attention to the possible use of chemical and bacteriological weapons in a future war. They have made substantial investments in training the civil defense organization and the population in methods of dealing with chemical and bacteriological attacks and in procuring various protective equipment against such weapons.

The Soviet authorities have not given any clear explanation for their concern with chemical and bacteriological weapons whose effectiveness they admit is less than that of nuclear weapons, but Soviet publications indicate that the Soviet authorities have also an active research program in developing various methods for preventing or treating the effects of such weapons as well as of radiation.

The Soviet civil defense program, is on the whole a well integrated and comprehensive effort, which takes advantage of the totalitarian and centralized character of the Soviet system although like many other Soviet undertakings it suffers from

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inefficient implementation and public apathy. It is not a crash program and appears to operate on a relatively modest annual budget which, according to a secret report cited by Mr. Frank Ellis, Director of the Office of Emergency Planning, has been tentatively estimated at 500 million to 1.5 billion dollars.

Soviet civil defense planning, as I have indicated, places at present great reliance on receipt of early or strategic warning of an attack, and there are indications that the Soviet leadership does not believe in the likelihood of an unprovoked Western surprise attack on the Soviet Union. Unfortunately we cannot necessarily make the same assumption about a Soviet attack on the United States. It is difficult to predict and assess the effectiveness of the Soviet civil defense system but it should be noted that, as Marshal Malinovsky indicated at the 22nd Congress, Soviet expectations of carrying out a pre-emptive attack and their emphasis on developing a significant air and anti-missile defense capability could greatly improve the performance of their civil defense.

The Soviet civil defense program and concepts have evidently various features different from those of our own and therefore its character and scope cannot be judged merely in terms of the U.S. program. Although the Soviet authorities may be losing interest in some types of urban shelters and despite

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current Soviet propaganda denving the value of civil defense, there are clear indications that at this moment at least, the Soviet Union still has an active civil defense program and still believes it to be worth further efforts and continued investments.