

PUBLIC SAFETY

USSR Civil Defense

► CIVIL DEFENSE has top priority in the Soviet Union.

The Central Communist Party and the highest military officials in Russia this year endorsed as "a most urgent and vital part of defense" an accelerated program to train every Soviet citizen for civil defense, Dr. Leon Goure, Russian expert for the Rand Corporation, Santa Monica, Calif., told SCIENCE SERVICE.

Soviet spending on civil defense programs has for the past 10 years steadily increased from \$2.50 to the present \$6.00 per person. This is in sharp contrast to United States spending on civil defense which reflects crisis fluctuations so that civil defense expenditures may vary from 23¢ per person (prior to 1960) to about \$1 (1961). Funding for U.S. civil defense is now about 30¢ per person.

The Russians have a trained civil defense corps of over 22 million persons. The U.S. has one million civil defense workers.

Since the Russians developed an H-bomb, U.S. civil defense has concentrated on fallout shelters that offer no protection to persons in the range of a nuclear bomb burst. The Russians have a number of blast shelters designed to survive a direct hit by a nuclear bomb, withstanding pressures of 100 to 300 pounds per square inch. (Fallout shelters are seldom built to withstand more than five pounds per square inch of pressure.)

These special Soviet blast shelters are stocked for long-term occupancy and many include such luxuries as toilets, telephones,

radio receivers lacking in many Russian homes. High-level Communist Party faithfuls are assigned to these shelters.

For city populations in the Soviet Union, subways will be used to provide shelter in the event of a nuclear war. Dr. Goure noted that in one of the rare public statements admitting Soviet civil defense plans, a Russian official told Governor Nelson Rockefeller of New York, "Why don't you build subways like we have—good subways and deep subways. You could improve your subways and provide bomb shelters at the same time."

The subway system in Moscow, 120 feet below the ground, is modified for shelter purposes to accommodate one million people, 20 per cent of Moscow's inhabitants. Leningrad subways can shelter 20,000. Those in Kiev, which are deeper than those in Moscow, will take care of 18 per cent of that city's citizens. Unlike the special shelters, the subways are sparsely equipped. Subway shelters have no sleeping facilities and few toilets.

Soviet shelters are also in newer apartments, schools and factories. These are able to withstand from 10 to 100 pounds pressure per square inch, and can accommodate from 100 to 300 persons. Like the super-strong blast shelters, they also are equipped with telephones, radio receivers, double-decker bunks, fire-fighting equipment, digging apparatus and water supplies. Food emergency rations have not yet been devised. Russians seeking shelter are expected to bring a three-day supply of food with them.

Soviet civil defense training emphasizes protection against chemical and bacterial warfare as well as atomic war. Trainees are instructed in the use of gas masks, nerve gas antidotes, chemical decontaminants and inhalants to be used to counteract smoke and chemical poisons. According to Dr. Goure, the Soviet Union has enough gas masks and other devices for a majority of the population. It even can provide gas masks for its livestock in rural areas.

The reaction to the civil defense effort has been mixed. In some Soviet citizens there has been evidence of increased anxiety. In many others, the reaction is apathetic and disinterested.

Participation, labeled as voluntary, is forcibly "encouraged" by "psychological, social and even economic pressures," Dr. Goure said. Perhaps the majority reaction is exemplified by the Russian girl who asked a civil defense instructor, "Tell us, Dilbar, why are you giving us all this? Really, we don't intend to fight."

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Public Hysteria, Fear Ask For More Civil Defense

► HYSTERIA and fear of nuclear war prompted by the Cuban crisis paradoxically have advanced public clamor both for civil defense and for disarmament in the United States.

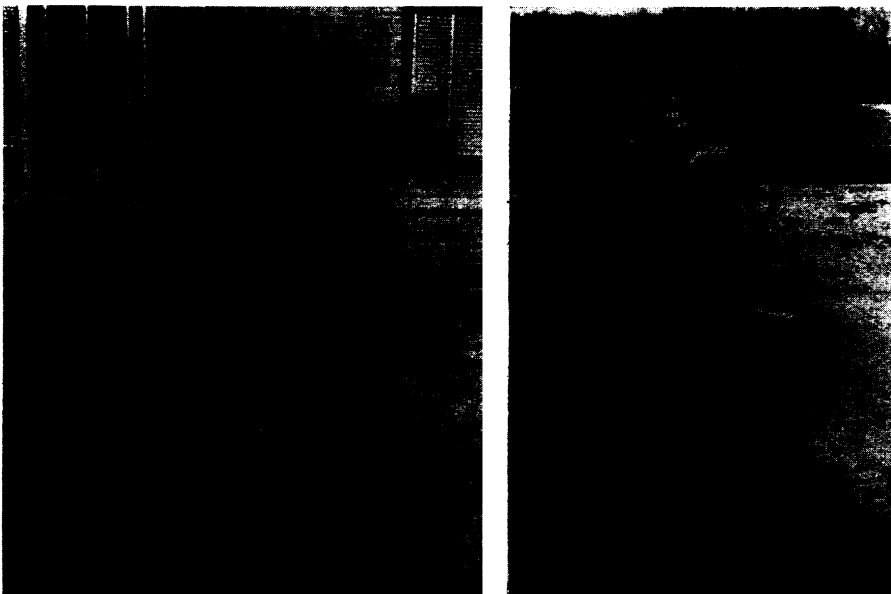
Although many groups for increased civil defense also want more effort on disarmament, few if any of those urging disarmament believe survival in any way meaningful can be achieved through civil defense.

It is safe to predict that Congress will, as it has in past periods of crisis, increase funds for civil defense, largely to satisfy the illusion held by a large percentage of the public that "protection" against nuclear war can be measured in dollars spent for defense, civil or military. It is unlikely that the same urgency will be reflected in increased funds for disarmament.

Future Congressional support for civil defense is not likely to be based on its far-reaching implications which are related to basic military defense, the issues of counterforce, stable deterrence or independent initiatives. In past moments of crisis, Congress has failed to consider the impact of civil defense in these areas, as Stanley Newman, legislative assistant to Congressman William F. Ryan (D-N.Y.), has emphasized in the Bulletin of Atomic Scientists, 18:33, 1962. Mr. Newman warns that the case history of civil defense "serves as a warning that the debate on defense policy cannot be postponed to a time of crisis."

Rep Ryan had pointed out, "attention has been directed to the procedures involved in building a civil defense agency rather than to the basic goals of civil defense, the effects of civil defense upon our country, and the serious question of whether the objectives sought can be achieved by any civil defense program that would be compatible with our principles and traditions."

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Geophysics Corporation

SPACE BLAST DETECTORS—Optical photometers to detect presence of nuclear debris from a high altitude explosion are being checked by Dr. Edward Manning of the Geophysics Corporation of America, which developed the instruments. On the left is the rapid-response photometer with four filter barrels and on the right a single barrel instrument that observes for longer periods of time.