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CENTRAL INTELLIGENCE AGENCY

Office of the Chief, Economic Research

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Current Support Memorandum

, ORR

8 September 1954

SUBJECT : Atomic Defense in the USSR

The use of air-raid shelters is being emphasized in passive air defense preparations of the USSR. That the use of such shelters is considered applicable to atomic warfare is indicated in a newly initiated series of articles in the Army newspaper Red Star. 1/ Repeatedly mentioning blast effect as the major hazard of nuclear warfare, these articles recommend to Soviet troops the use of ground cover, trenches, and prepared shelters as the principle means of reducing casualties. These articles are the first announced instruction in atomic defense to appear in open publications in the USSR. Previous air defense instructions were limited to treatment of conventional weapons.

Acknowledging the unprecedented power of these new weapons, the Red Star writer, Major General B. Olisov, reviews the effects of the bombs used in Japan and in the Pacific tests conducted by the United States. Although the atom and hydrogen bombs are devastating, the writer states that means of protection have been developed and are workable for both troops and the general public. Coordinated research in atomic defense will continue while developed techniques are being perfected. In analysing the threat of nuclear explosion the danger factors are identified as light, radiation, radio-active contamination and shock wave. Effects of light (and heat) are not treated in the first two articles and radiation effects are minimized, citing the low percentage of casualties from this cause at Hiroshima and Nagasaki. Radio-active contamination is mentioned but has not yet been discussed. However, in an earlier series of Red Star articles on the physics of nuclear forces, it was mentioned that the use of ordinary gas masks and washing with soap and water to remove contaminating material were adequate protective measures. 2/ (Filter ventilating systems in Russian designed air-raid shelters would presumably be used with the same effect as gas masks.) In the current articles it is emphasized several times that the shock wave and its indirect effects (debris from falling buildings, etc.) are the basic cause of casualties. Recommended defense measures for troops range from lying down through the use of defilade, excavations, covered trenches, and prepared re-enforced shelters. Noting war experience it is stressed that cellar shelters with re-enforced concrete or arched ceilings are protected from the major blast effect which is dissipated on the upper stories. This thinking is consistent with known shelter design in the USSR which includes a cellar ceiling designed

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- 2 -

to withstand complete collapse of the building. 2/

It is not surprising that recommended defense measures against atomic and hydrogen attack should appear at this time. An earlier series of Red Star articles on the physics of nuclear forces revealed to the Russians some of the hazards of atomic warfare and the capabilities of the bomb. This information combined with constant propaganda regarding the warlike intentions of the capitalist bloc could not have failed to arouse in the public mind the question of atomic defense. The government of the USSR presumably had an answer prepared before permitting the question to be raised even obliquely. It is significant that the use of cellar shelters for troops in populated areas is strongly urged. This presupposes their existence and lends weight to earlier reports that the USSR has embarked on a program of air raid shelter construction in new dwelling units. 4/ From the unfolding pattern of Soviet civil defense preparations it may be concluded that the Soviet plan for atomic defense will include heavy shelters for central urban areas and vital installations, combined with substantial cellar shelters in dwelling units further removed from the potential area of ground zero.

(Coordinated with 1

OSI,

- 1/ Joint Press Reading Service, Moscow Daily Press Review, No. 218, Section B, 6 Aug 1954 and No. 219, Section B, 7 Aug 1954. Unclassified.
- FBIS, Daily Report, USSR and Eastern Europe, No. 99, 21 May 1954. OFFICIAL USE ONLY.
- 2/ Army, Chief Chemical Officer, Intelligence Branch Study No. I-Soviet Protective Shelters, 1 Feb 1954. Unclassified.
- 4/

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