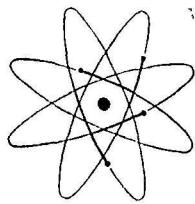


# INDIVIDUAL ATOMIC DEFENSE



By Maj E. J. Kritter

MANY IDEAS HAVE COME FORWARD regarding the defensive measures that should be taken in the event we are engaged with an enemy capable of employing the nuclear weapons. There are some misconceptions that because the nuclear weapons are so new and so great in magnitude in comparison to the "conventional" weapons, that new means of defense for the individual Marine must be found. There is no doubt that new means of defense in warfare must always be sought, especially with the constant improvement and change in weapons and tactics. But we should remember and emphasize that the means of defense now taught the individual Marine are still applicable and effective even in the case of the new nuclear weapons.

The atomic bomb is different from "conventional" weapons in that it is a triple threat weapon consisting of blast, thermal radiation (heat) and nuclear radiation. Each of these threats travel in a straight line so that the principle of line of sight shielding is effective for blast and thermal radiation, but not complete for nuclear radiation.

Field shelters must be designed to give the maximum protection with the minimum expenditure of available manpower, equipment and material. The main protection for an individual against an atomic burst is to be out of the direct path of the blast, thermal radiation and nuclear radiation (ionizing waves).

Increased attention must be given to the organization and proper construction of field fortifications in order to render them effective against atomic explosions. The present design of field fortifications constructed to withstand near or direct mortar and artillery hits, will be effective at middle damage ranges in protecting personnel from atomic explosions.

Protection against all effects can be provided with least effort by building fortifications below the natural surface of the ground. Any

cover that shades the individual will shield him from burn. To protect from nuclear radiation requires appreciable thickness and density of material. Since much of the radiation received at the bottom of a hole comes down through the opening, it is a good principle in the construction of individual shelters to keep the opening small and the hole deep. The shelter should be such that when a Marine takes cover from any atomic explosion the top of his head should be at least 2 feet below the opening.

The standing one-man foxhole appears to be the best from the point of view of individual protection. In a deep foxhole the individual is safely below the direct path of the blast wave, well protected from injuries caused by debris hurled about by the explosion and protected from the thermal effects. The deeper the hole and the smaller the opening at the top, the greater will be the protection from the shadow effect for any given set of conditions. The scatter effect of nuclear radiation and reflection of such rays from the back wall of the foxhole is a small percentage of the incident radiation, but definitely requires consideration. Two types of covers are usually suggested. One is a light cover which can give protection against thermal radiation; or the other is a very substantial cover consisting of one foot of earth or its equivalent which might be used to give added protection against nuclear radiation and strafing runs by enemy aircraft.

The use of overhead cover for the foxhole is undesirable in that, once the Marine has closed himself in, it is very difficult for him to hear the commands of the fire team or squad leader, especially if he is utilizing a heavy cover. Also, the use of a heavy cover, one that would approximate the one foot of earth that was mentioned earlier, would be very difficult for the Marine to operate because of the weight.

The answer for protection which

is better than the overhead cover is the use of the "bunny hole" which was used so extensively during the period of the "stabilized front" in Korea in the later stages of the conflict. This consists of digging another hole or tunnel in the foxhole at right angles near the bottom, either on the left or right side. By this means the man will have at least 3 feet of earth above him, which is adequate protection against the triple threats of the atomic bomb, plus protection from air bursts from enemy artillery or strafing runs from enemy aircraft. The man also will be able to hear the commands of his fire team or squad leader. Without the overhead cover, he will be able to get into and out of his foxhole with greater speed and ease and also be able to save precious moments in getting into a fighting position immediately after enemy preparation fires.

The individual Marine when starting to "dig in" should first dig a shallow trench in which he can lie down. This would be the quickest means of getting below the surface of the ground in order to minimize the effects of an atomic bomb. Then, as time permits, he should keep developing his shallow trench until it becomes his foxhole with its "bunny hole."

In the past, the development of the crossbow, the musket, the rifle, the cannon and artillery, each have put fear and doubt into the infantryman's mind and heart until he learned how to defend himself against these developments. We now have the atomic bomb as the latest new development, but there should be no fear or doubt in the Marine's mind or heart if he will use the foxhole with a "bunny hole." By this type of individual passive defense, our Marine will be better able to discharge his duties of engaging the enemy with fire in front of his position and, if necessary, engage in hand-to-hand combat quickly if he penetrates our lines. USMC