



DEPARTMENT OF THE ARMY

HEADQUARTERS, U.S. ARMY ARMAMENT, MUNITIONS AND CHEMICAL COMMAND
ROCK ISLAND, ILLINOIS 61299-6000

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REPLY TO
ATTENTION OF



12-00722-06

Safety Office

Administrator
Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, Illinois 60137

DCD/DCB

Dear Sir:

This letter is a final report on the loss of two tritium containing items covered by license number BML12-00722-06. The two items were lost by Army tank units during range operations in Korea. These incidents were reported to the Nuclear Regulatory Commission (NRC) by phone on 15 September 1993.

The 72nd Armor Division, of the Eighth Army, based in Yongsan Korea, lost two items containing tritium in August 1993. One item was a muzzle reference sensor the other item was a component of the muzzle reference sensor. Both items contain 10 curies of tritium.

The muzzle reference sensor is a passive device which is attached to the end of a tank cannon tube. The tritium gas in the muzzle reference sensor excites a phosphor which then glows. This glow is sensed by an on-board computer and used to align the cannon tube for accurate firing.

The tanks involved traveled to the firing range, fired their cannons, and then returned. It is assumed that the muzzle reference sensors were loosened and lost at the firing range or loosened at the firing range and then lost on the return leg of the trip. Searches were made of the firing range and the route of return to no avail. All wipes taken, to check for tritium contamination on the cannon tube and remaining components, have revealed no contamination.

The two tritium items were lost out of doors. Bioassays were not deemed necessary. No areas were restricted.

A Quality Deficiency Report is to be submitted against the muzzle reference sensor for coming off the cannon tube. This will cause maintenance engineers to review the problem. A local decision was made to have the tank crew add the muzzle reference sensor to its preoperation inspection.

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The two items were reported to the Eighth Army radiation control officer on 17 and 25 August 1993. The radiation control officer reported to this office by telephone and datafax on 14 September 1993. A request for further information was sent to the radiation control officer in Korea on 27 September 1993. This request was answered on 10 November 1993.

The points of contact are Mrs. Betty Peterson, Mr. Gary Buckrop, AMSMC-SFS, commercial (309) 782-2968/2969, or Mr. Glenn Leach, AMSMC-SF, commercial (309) 782-2989.



GLENN S. LEACH
Acting Chief, Safety Office