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HEADQUARTERS  
 CHEMICAL CORPS RESEARCH AND ENGINEERING COMMAND  
 Radiological Warfare & Non-Toxic Materiel Division  
 Radiological Warfare Branch

CMLRE-RWD-1

29 June 1955

MEMORANDUM FOR: Executive Officer, RW &amp; Non-Toxic Mat'l Division

SUBJECT: Section V &amp; VI, Quarterly Historical Report, RW Branch

1. Section V: Operations

During this period, primary emphasis was devoted by this Branch to the following areas: (a) Evaluation of ELR3 dosimeters obtained thru UTP, (b) Joint participation with Canadians at TEAPOT, (c) Preparation for 10th CER Tripartite Conference. Other operations involved: (d) Project proposals submitted for Operation REDWING, (e) Survey of RW agent availability, (f) Assignment of neutron measurement responsibility to CRL by AFSWP, (g) Relationship with NRDL. (Confidential)

a. Evaluation of ELR3 Dosimeters:

Of the 100,000 dosimeters manufactured by TA and CVC (50,000 each), 2500 of each were made available to this Command for evaluation. 800 from each manufacturer were sent to environmental test stations. Others have been placed in controlled surveillance. Several hundred of each were tested at Operation TEAPOT. Results thus far indicate that the TA dosimeters, maintained at normal temperate climates are holding up very well. The CVC dosimeters, on the other hand, have become quite insensitive due to leaching. MatCom has been asked to obtain samples of both TA and CVC dosimeters, sent to the overseas theatres, returned for testing. The fact that the CVC dosimeters passed our accelerated storage inspection tests, yet deteriorated shortly thereafter, points out a deficiency in the test which must be remedied. (Unclassified)

b. Joint Participation with Canadians at Operation TEAPOT:

Arrangements to conduct an informal joint evaluation of Canadian and U.S. candidate radiac instruments during the course of Canadian participation, as a training exercise, in the FCDA Open Shot, were described in last Quarterly Report. Captain Duane L. Emerson, AFF Board No. 2, Mr. George Bryant and Mr. A. Cohen, Evans Signal Laboratory, and the undersigned met on numerous occasions with the Canadians, observed the operations of the Radiation Detection Unit (RIU) and made available several of each of the Signal Corps radiac survey meters. Signal Corps personnel examined the Canadian survey meter. (Confidential)

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c. Tenth CER Tripartite Conference:

The undersigned was nominated as U.S. co-chairman for Radiological Defense. Efforts are underway to increase the U.S. delegation for this section. Colonel Sullivan has approved appointment of a Signal Corps representative for the technical discussions, and has also approved an extra space for the Navy to be filled by Dr. Paul C. Tompkins, Scientific Director, USNRDL. There is still some question as to whether Dr. Tompkins will be able to participate. (Confidential)

d. Operation REWING:

Five of nine proposals submitted by this Command, thru channels, to AFSWP for Operation REWING, were approved. These include: (1) Evaluation of Radiation Hazards Resulting from One-Point Detonation Shots (\$20M), (2) Decontamination and Protection (\$50M), (3) Neutron Flux Measurements (\$257M), (4) Analysis of Downwind Fall-Out and Base Surge (\$210M), and (5) Evaluation of Self-Recording Thermal Indicators (\$10M). (SECRET, RESTRICTED DATA)

e. RW Agent Availability:

The Army Senior Review Board (ASRB) in May 1953 decreed phasing-out of the Cml C offensive RW program (see Quarterly Historical Report dtd 29 June 1954). This decision was based primarily on a preview given ASRB of the WSEG evaluation of the RW program concurrently going on. This review noted that by June 1956, the date set for establishing an offensive RW capability, there would be insufficient quantities of RW agent material available based on production from Savannah River Works and the Hanford Piles. DA has directed Cml C to monitor the AEC reactor program for any major changes in the reactor program. Mr. J. P. Mitchell, Chief, Radiological Division, C & R L, and the undersigned visited ORNL 18-20 April to discuss the forecast AEC reactor program. This visit was occasioned by recent actions taken by the President in opening up the atomic energy program to industry (which was not considered in the WSEG agent evaluation). ORNL personnel indicated that they foresaw tremendous strides forward in the power industry in utilization of atomic energy. By 1965, they estimated, 50% of U.S. power would be derived from atomic energy. The fission product yield from all the reactors in use to supply this power would provide several-fold the equilibrium stockpile of RW agent material considered by WSEG to be required in order to achieve a capability in offensive RW. A more detailed study is to be made by C & R L on forecasting the future availability of fission products, quantities and physical-chemical form obtainable, from the several varieties of reactors which will be in use. This may result in a renewed interest in offensive RW. (SECRET, RESTRICTED DATA)

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at Operation TEAPOT, in which he used the chemical dosimeter systems to measure gamma spectra and neutron fluxes.

(6) On 23- 24 May, the undersigned, with Dr. D. N. Kramer and Pfc. Maack, Protective Division, C & R L, visited Evans Signal Laboratory to discuss preparation of the draft final report of the joint Sig C - Cml C Project 6.1.1A, Radiac Instrument Evaluation project at TEAPOT. The preliminary report, written by Signal Corps, was reviewed and found to put the EIR3 chemical dosimeter data in a very poor light. Exception was taken to the report, as written, by the undersigned, who notified ESL personnel that AFSWP would be informed of Cml C opinion.

(7) On 10 June, the undersigned visited with Dr. Paul C. Tompkins, Scientific Director, USNRDL, and Cdr. W. Carlson, BuShips, at the Main Navy Bldg, Washington, D. C. to discuss Dr. Tompkins' possible participation in 10th CER Radiological Defense Tripartite Conference. The undersigned requested progress report and discussion papers from Dr. Tompkins.

(8) On 10 June, the undersigned visited Captain Charles Smith, Radiation Branch, AFSWP, Washington, D. C. and discussed 6.1.1A preliminary report referred to in 2 b(6), above. The undersigned noted that the report was biased against the Cml C EIR3 dosimeter and favored the Signal Corps IM-93; Also, that the report was unscientific. Captain Smith indicated he would consult with Dr. Scoville, Technical Director, AFSWP, whether preliminary report should be held up, pending settling of differences between Sig C and Cml C.

(9) On 23-24 June, the undersigned met with Major Bankes, DWET, Headquarters, Field Command, AFSWP, Albuquerque, and Captain Graham, Mr. Shapiro, Mr. Cohen, Signal Corps, at Evans Signal Laboratory to see if some agreement could be reached over the differences in the 6.1.1A report. After considerable discussion, no agreement could be reached and matter has been turned over to AFSWP for resolution.

  
JOSEPH LENDWURM  
Chief, RW Branch

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