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Headquarters  
TASK GROUP 7.4, PROVISIONAL  
United States Air Force  
Kirtland Air Force Base, New Mexico

411390

MEMO

21 November 1957

SUBJECT: Radiation Dosages for Task Group 7.4 Personnel During HARDTACK

TO: Commander  
Joint Task Force SEVEN  
ATTN: Major Richie  
Washington 25, D. C.

1. We have completed an estimate of radiation dosages to be received by Task Group 7.4 personnel during Operation HARDTACK. Results indicate that only aircrews of sampling aircraft and possibly of Program 5 effects aircraft can be expected to be exposed to radiation dosages greater than the normal operational limit established by JTF SEVEN for JTF SEVEN personnel during REINING. This limit was published in Annex K, JTF SEVEN Operational Plan 1-56, and was established at 3.9 roentgens (3.9r) for any 13-week period.

2. We understand that requests for special maximum permissible exposures (MPE's) for Program 5 aircrews, if required, will be referred to your Headquarters by projects concerned through Task Group 7.1 channels.

3. During REINING a limiting dosage of twenty roentgens (20r) was established for sampler crews. In actual fact, however, sampler crews achieved an average exposure of 5.9 roentgens (5.9r) per man and the maximum individual exposure was 9.8 roentgens (9.8r) while sampling. In addition, as did everyone else on Eniwetok Island, these individuals received about two roentgens (2r) per man from accidental fallout during the operation.

4. We believe that the average sampler crew member during HARDTACK will have to be exposed to greater total radiation exposure than this average crewman during REINING. There are two (2) reasons for this:

a. There are more shots to be sampled.

b. There are more shots at Bikini, where the dosage is greater than at Eniwetok because of the greater fly-home distance.

5. We expect that the average exposure for sampler crews at HARDTACK will go to approximately eight roentgens (8r) and the maximum for any individual may go as high as twelve roentgens (12r) exclusive of possible accidental fallout on Eniwetok. Of course, by careful

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scheduling, we will hold exposures down to the minimum possible for each individual concerned. Miscalculations of one kind or another, however, may take place. In recognition of this factor, we would like to consider that any dosage in excess of twenty roentgens (20r) will be considered as overexposure which must be accounted for and explained by supervisory personnel.

6. Many of our sampler aircrew personnel who will participate in HARDTACK received radiation dosages during sampler operations during FLUDGEBOB. The maximum exposure received by any one individual during FLUDGEBOB was 6.3 roentgens (6.3r) and, of course, the bulk of this was received during the twelve (12) months preceding HARDTACK. In scheduling our aircrews at HARDTACK, we will take FLUDGEBOB dosages into account as much as possible to minimize the dosage received by any one individual during the preceding twelve (12) month period.

7. There is also a remote possibility that sample recovery crews may require a special exposure limit for HARDTACK. Any special MPE for sample recovery crews would not exceed 3.0r for the operation. We will not request additional exposure for these personnel unless the operational dosage limits to be established by your Headquarters appear to be inadequate for sample recovery operations.

8. During HARDTACK, in addition to the normal sampling effort, WB-50 weather reconnaissance crews will be performing low altitude sampling in support of Project E.8B. At this time we have no adequate method of predicting crew exposure but we expect that they will be considerably less than the B-57 sampler crew exposure. They may, however, exceed any nominal MPE (such as the 3.9r established during REINWING) which may be established by your Headquarters for HARDTACK participants.

9. With your concurrence, we intend to operate on the basis of a twenty roentgen (20r) maximum exposure limit for all sampler aircrews during HARDTACK and, in our scheduling, will give due consideration to crew exposures received during FLUDGEBOB.

/s/ PAUL R. WEGHALL  
Colonel, USAF  
Deputy Commander

Copies to:

CINCPAC, ATTN: Maj Waller  
COMARDC, ATTN: Staff Surgeon  
EDSTT, Maj Markham  
CTG 7.1, ATTN: Maj Jacks  
Dr. Flank  
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