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HEADQUARTERS
TASK GROUP 7.1
JOINT TASK FORCE SEVEN
P. O. Box 1663
Los Alamos, New Mexico

JO-146

November 8, 1955

SUBJECT: Maximum Permissible Radiation Exposure for Personnel Participating in Projects 2.6.6 and 11.2, Operation Redwing.

33027

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

This document consists of 3 pages
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1. The operational requirements for Project 2.6.6 (Early Cloud Penetration) and Project 11.2 (Sampling for Radiochemical Analysis) are such that the aircrews operating the aircraft for these projects will accumulate what is technically considered an overexposure to radiation. The technical requirements of these projects cannot be met unless the aircrews are permitted to exceed the maximum permissible radiation exposure that has been assigned for past test operations, namely 3.9 roentgens.

2. This requirement has been discussed at some length by personnel of this Task Group in conference with the project directors. Technical advice and assistance with respect to health and medical considerations has been provided by Dr. Thomas L. Shipman, Division Leader, "H" Division, Los Alamos Scientific Laboratory. As a result of these conferences, this Task Group has established limitations on the maximum permissible radiation exposure that should be permitted to the aircrews participating in Projects 2.6.6 and 11.2. In establishing these limitations, the approach has been taken that the maximum permissible exposure should be zoned rather than fixed at one definite figure. The lower limit of the zone was defined as the "authorized dosage"; within reason, the dosage accumulated by the aircrews should remain below this level. The upper limit of the zone was defined as the "limiting dosage". Basically, this means that the project director will strive to hold the accumulated dosage of the aircrews below the authorized dosage. In the event that the dosage exceeds this authorized dosage, but does not exceed the limiting dosage, no investigation will be required. This provides an adequate cushion to allow for such things as "pilots error", errors of instrumentation, and the basic uncertainty of the radiation field that will be encountered. Any deliberate planned exposure in this zone is only to be considered on an emergency operational basis, after discussion with and approval by CTG 7.1. Project directors are thus provided sufficient latitude in scheduling their aircrews as to permit the aircrews to accumulate a dose in the zone limited by the authorized dosage and the limiting dosage.

CLASSIFICATION CANCELLED
BY AUTHORITY OF DOE/OC

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3. The limitations that have been established are as follows:

FOR PROJECT 2.6.6

a. The authorized dosage for the aircrews is to be a 25 roentgen total. All efforts will be made by Lt. Col. E. A. Pinson, the project director, to limit crew participation in such a manner that no aircrew member is knowingly given a total dose in excess of this 25 roentgen level.

b. The limiting dosage for the aircrews is to be a 50 roentgen total.

c. Any dosage in excess of 50 roentgens is to be considered as an over-exposure that must be properly accounted for and explained.

FOR PROJECT 11.2

d. The authorized dosage for the aircrews is to be a 10 roentgen total. All efforts will be made by Dr. Harold F. Plank, the project director, to limit crew participation in such a manner that no aircrew member is knowingly given a total dose in excess of this 10 roentgen level.

e. The limiting dosage for the aircrews is to be a 20 roentgen total.

f. Any dosage in excess of 20 roentgens is to be considered as an over-exposure that must be properly accounted for and explained.

4. The above limitations have been based on a careful consideration of the operational requirements and the radiation hazards inherent in doses of these magnitudes. Every thought has been given to holding the accumulated dosage to a limit that is compatible with operational requirements, remembering at the same time that all exposures to ionizing radiation should be kept at the lowest possible level. The differences in maximum permissible exposure for the two projects reflects this approach to the problem. In addition, it should be pointed out that both Lt. Col. Pinson and Dr. Plank have participated in past test operations and are thoroughly familiar with the responsibilities that exist in scheduling personnel to receive exposures in the above ranges.

5. In the case of both projects, permission has been granted by the Surgeon General of the USAF for the aircrews to accumulate the dosage specified in the above limitations. Further, Dr. Shipman of the LASL has concurred in these limitations.

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6. It is requested that these limitations be approved by your headquarters and considered as final in the case of those aircrews participating in the two projects.

W. Ogle
WILLIAM E. OGLE

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