

TO

FROM

SUBJECT

SYMBOL

14478

407628

Classification changed to  
Secret

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14 May

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19 May

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11 May

13 May

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Starting in October, 1953, a preliminary survey of the radiological condition of the West Islands was conducted by Dr. Simon Slaughter, Health Division, WHO. He found that the general pattern of relative intensities of  $^{137}\text{Cs}$  was not significantly different from what had been observed during the tests following the test on that island. Within 200 yard of ground zero, the rate of disintegration, there was a trend of intensity with distance. This trend varied in an irregular way between approximate limits of 100 to 200  $\mu\text{Ci/g}$ . From 200 to 750 yards there was a rapid decrease in intensity. Beyond 750 yards the intensity was less than 1  $\mu\text{Ci/g}$ . The distribution of the activity in the soil was such that the activity in the top inch was more than 10 times that in the top inch. (Paper LAB-4-1-1-1)

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Classification changes in classification and date)

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of ground zero (making two changes and date)

Hullas

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141179

T. L. Hipman, M.D.

Date: 12 June 1954

During January, 1949, a survey was conducted by General, Major, and Captain, USAAC, USAF; USAHC, CMA of AEC; Col. Henry W. Gandy, USAF; Major William A. Felt, USAF; Lt. Col. F. E. Jones, USAF; and Major Fred W. Jones, USAF, at Los Angeles.

This survey was followed by a conference held at Los Angeles on 28 January 1949. Following this conference, it was decided that decontamination should be done by:

- (1) First, removing and dumping (away from) all of the radioactive scrap, (e.g., radioactive sheet metal) that could be located.
- (2) Second, wetting the soil to allow rain, and bulldozing the top layer to bury the generally dispersed radioactive contamination.

Note Since it might appear that burying the contamination would not entirely solve the problem in an area where subsequent excavation work would be necessary, a discussion is added here to set forth the reasoning upon which this method of disposal was chosen.

On account of the great variability in the activity of the various parts of the radiation exposure of a man working in a contaminated area it is difficult to estimate the dose which a man would receive in such a situation. It is possible, however, to estimate that all of the radiation which a man would receive in such a situation is due in such a way as to appear the equivalent of a covered radiologist without removing any of it (which is a conservative assumption). Thus the man could at most receive 10 to 20% of the radiation exposure which

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T. L. Shiman, M.D.

Date: 20 June 1949

This theoretical calculation is based on the assumption that the radiation dose received by the population has been about 100 rads, which is a reasonable estimate. The effective dose is estimated to be 100 rads. The Health Division, ICRP, has estimated that the period approximately 1945-1947, the removal of the radioactive material should be undertaken. It was decided that no further work would be done in contaminated areas until some months later, when scientific investigation should be undertaken.

During the period from 17 March 1949, Dr. Wm. H. Shaw, Health Physicist, (RMA), served as assistant officer at Eniwetok. He conducted a scientific investigation of the situation with special emphasis on the radioactive content of food on the Atoll Islands. He was unable to detect any significant amount of radioactivity in food kicked up by the ordinary winds on the islands. By sticking up dirt into the air by artificial means, it was possible to detect radioactivity. He concluded that the radiation dose received by the population was about 100 rads, which is a reasonable estimate. The Health Division, ICRP, has estimated that the period approximately 1945-1947, the removal of the radioactive material should be undertaken. It was decided that no further work would be done in contaminated areas until some months later, when scientific investigation should be undertaken.

Prepared three records for the distribution of scientific personnel in radiological safety division. (Confidential): (20 May 1949), TP-216 (2 June 1949), (17 June 1949), SB-247

11/15/53

decontamination by removing the material on Eniwetok, about 1 1/2 miles  
 1949, with Mr. Wm. Bradley, B. (W. Bradley, B.), and Mr. Bradley, B. (W. Bradley, B.),  
 1950, with the decontamination work on Eniwetok, and the  
 on other islands. In recognition, Mr. Bradley was followed as  
 Safety Officer by the Dick Army, Washington, D.C., and another  
 was made by Dr. G. W. Fisher, Washington, D.C. The following is  
 excerpted from his report (Confidential) to the Air Force, ASD (ASST) as  
 Engineer, dated 1 March 1950.

The islands were surveyed with Geiger-Muller Instruments  
 sensitive only to gamma. The permissible weekly dose at the  
 present time in the laboratory of the Air Force is 300 milli-  
 roentgens (MR.) per week. With the present work week at Eniwetok  
 of 54 hours, the maximum dose rate for continuous exposure is  
 about 5.5 MR. per hour.

Eniwetok - 2<sup>nd</sup> January 1950

The entire graded area within the 1/2 mile radius from  
 zero was found to have an activity below 1 MR. per hour for  
 the most part. At the outermost edge of this area occasional  
 spots with 1.5 MR. per hour were noted.

The indication of the presence of the material in the  
 ground was the presence of the material in the ground  
 in the area of the graded area. Both the ground and the  
 graded area both showed the presence of the material.

Top soil samples from the vicinity of the location for the  
 new tower were collected and beta activity of this has been  
 measured to evaluate the presence of material in the soil  
 during operations there.

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The measure to avoid the... is placed... the... activity... it would... This excerpt includes all of the... on the island of Eniwetok... after, another... following excerpt from their (first... report to Mr. Curtis, dated 22 March 1950, contains all of the information contained in their report relative to working conditions on the island of Eniwetok.

The islands were surveyed with... sensitive only to gamma. The permissible weekly dose at the present time in the laboratory... roentgens (R) per week... Eniwetok of 41 hours, the maximum dose rate for continuous exposure is about 4.5 R per hour.

Eniwetok

The entire island was... was found... out...

An... detected with... Chlaer's report of 2 March 1950... side, well out of the working area.

The grading operations on the island have been completed.

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NOTES AND RECOMMENDATIONS

As of this date, 3/22/50, all islands of Eniwetok atoll are considered free of radiation hazard with the exception of Eberiru and Runit. This area will be eliminated by the grading which should be completed within a few months.

At present, film badges are being worn by 2000 Navy personnel on Eniwetok atoll and 2000 personnel on Bikini Island, as well as the Navy personnel of Navy Island. A total of about 900 film badges are issued each month.

These film badges are designed to detect ionizing radiation, and from the above it is shown that no radiation hazard exists except on Eberiru and Runit. At present, the film badge industry is running at full peak in order to supply the demand for essential work.

Probably between 30,000 and 40,000 additional badges will be required for future tests here. The production of this number of badges presents a serious problem of supply. It is felt that we are not using good judgment in using so many film badges where no ionizing radiation hazard exists.

The processing of this large number of film badges for the entire film badge processing department at the Eniwetok atoll will take several months.

Furthermore, the health of the personnel is a matter of psychological concern in the presence of a hazard which exist in the presence of ionizing radiation.

It is therefore recommended, subject to the approval of the Scientific Director of JCS, that the wearing of film badges be discontinued immediately for all personnel except the workmen on

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to: T. L. Shipman, M. D.

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DATE 16 June 1953

Unit, and that there has been no such an existing operation on this island as completed.

J. P. DOONEY, M.D.  
RAD-SAFETY OFFICER, JTF-3

JACK W. AEBY  
RAD-SAFETY OFFICER, ENIWETOK ATC

A few months later, after all decontamination operations had been completed another survey was made by Mr. Aebly and Mr. T. J. White, H-Division, LASL. Since this was the final survey, the complete report (SD-2017) is appended. After the departure of Mr. Aebly and Mr. White on 13 May 1950, no Rad-Safe Officer was assigned to the AEC Headquarters Engineer because it was believed to be entirely unnecessary.

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