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MEMORANDUM For Mr. Strauss  
 Mr. Murray  
 Dr. Libby  
 Mr. Vance  
 Mr. Fields

Subject: FALL-OUT FROM TEVA

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 BY 219-7-elf DATE 3-22-73

At Commission Meeting 1718 on July 24, 1956, the General Manager reported on fall-out occurring at Perry and Kaiwetok from the TEVA shot. Dr. Libby requested that information on whether clean up techniques could be practiced in the contaminated areas and the results. Based on this I teletyped Mr. Gordon Felt, who was still at the Proving Ground, asking the following:

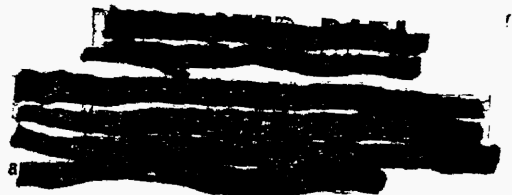
- a. Was any decontamination attempted and how effective was this?
- b. From the heavy rainstorms during the period is it possible to determine any washdown effect there - from and to establish any quantitative relationship?
- c. Is there quantitative evidence with respect to the reduction of exposure incident to taking cover in the type shelters available there?

To these questions Mr. Felt replied as follows:

- a. Decontamination was not attempted.
- b. It is difficult to assign quantitative numbers to wash-down effect. Such effect was noticeable, however, inasmuch as regions adjacent to peaked-roof buildings and tents read almost twice as high as clear but un-stabilized areas. Puddles of water, especially on Kaiwetok runway and parking areas, showed very high concentration of activity up to 10 times general area level. Until early morning of 26 July, local time,

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rains were not heavy enough to produce washdown of the general area. At that time high winds and rain falling at several inches per hour for about four hours reduced the general background approximately half.

- c. Film badges used as controls were located about three feet inside an aluminum building and showed reduction to about 60 percent of outside integrated dose. Dose rate survey meters indicated about 30 percent of outside rate at positions greater than eight feet from interior of building walls. Film badges worn by office workers show a dose of about 60 percent of outside integrated dose. People working outside most of the day accumulated about 80 percent of the outside integrated dose.
- d. Though we did not attempt decontamination we believe local areas could have been cleared where necessary by extensive hosing. Such methods presuppose appreciably better drainage than we have here. The technique should work well in cities but would be less effective in suburban areas. In suburban and rural areas our experience both here and in Nevada suggests that surface grading is a very effective method of local decontamination. We intend to clear Parry Island living and working areas by this method in order to reduce long time dose to AEC and contractor personnel who will remain here.
- e. We believe protection afforded by buildings resulted primarily from distance effects since tents, though less well documented, showed similar trend.

By separate teletype Dr. Felt reported the following:

- a. Maximum readings on Parry and Eniwetok were about 120 mr at 26 hours after the shot. No maximum was recorded on Japtan or other local islands and no fall-out was observed at weather station islands and Enyu (Rikini). No fall-out was reported on Rongelap.

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- b. Readings were spotty on Farry due to the fact that the fall-out occurred with rain and high surface winds. Spottiness increased after fall-out ceased owing to subsequent rain washings.
- c. The ships Alsworth, Curtiss and Knudson ran into fall-out traveling from Bikini to Eniwetok. The Curtiss sailed with ship battened up and activated washdown equipment every 15 minutes all during night as it stood off Farry Island. By noon, Sunday, local time (approximately 30 hours after the shot) background was reduced to about 5 mR.
- d. Rain was frequent during the first night. The main effect was to keep deposition rate even with decay so that readings held even for approximately 6 to 8 hours before beginning to drop.

The teletypes from which the above information was extracted were distributed separately to each Commissioner, to Los Alamos Scientific Laboratory and Livermore, to Commander, Joint Task Force SEVEN and to Armed Forces Special Weapons Project when received. I am requesting that the Albuquerque Operations Office keep us informed of the results from any scraping or other decontaminating effort.

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Alfred D. Starbird  
 Brigadier General, USA  
 Director of Military Application

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