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1295th AEC Meeting  
7-24-57  
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1. Special Briefing on Fallout Program for Operation HARDTACK  
(PP. 2-20)

General Starbird commented on the Commission's decision at Meeting 1276 on April 9, 1957, that a prime objective in Operation HARDTACK is the accurate establishment of local fallout in order that the world-wide contribution can be accurately calculated by difference. He said that in response to the Commissioners' request at that time that they review in September, 1957, the plans for a fallout program for Operation HARDTACK, a special briefing had been scheduled to inform the Commission of tentative plans for this program. General Starbird added that in particular, guidance is needed from the Commission on that phase of the program requiring ships which the Department of the Navy now plans to place in the reserve fleet on July 31, 1957.

Mr. Graves explained that while reasonable estimates of total fallout can be made for each shot, consideration is being given to five experiments which would provide more accurate information on fallout in local and intermediate areas, and also world-wide fallout.

With respect to the first experiment to be conducted in connection with the two high altitude shots, Mr. Graves said that valuable information on the over-all fallout pattern from these shots would be obtained by adding thalium to the weapons to serve as a radioactive tracer. Mr. Strauss questioned whether this radioactive tracer might not mix with fallout from previous shots of the U.S. of other countries. Mr. Graves commented briefly on the plans for this experiment, indicating that the situation suggested by Mr. Strauss was not likely.

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BY AUTHORITY OF DOE/OC  
Caryl Wilson 3/23/84  
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H.R. Schmidt 8/12/85  
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Mr. Graves said the second experiment would involve the use of approximately six B-50 type airplanes which would be made available by AFOAT-1. These planes would be used to make extensive measurements of local fallout over an expanded area for as long as ten hours following each shot. The third experiment would involve the use of airplanes which could fly at very high altitudes, measuring the amount of radioactive material in the stratosphere after each shot.

Mr. Graves said consideration is being given to a fourth experiment in which instrument-bearing rockets would be used to obtain data on the radioactive material in the mushroom cloud of one of the high-altitude shots. In the fifth experiment, two drone ships which had served the same purpose in Operation REDWING would be used to sample radioactivity present in the ocean waters to a depth of eighty meters in the immediate areas of the shots. General Starbird commented that these ships would cost approximately \$1 million to \$2 million. In response to a question by Mr. Strauss, Dr. Shelton said that these ships had been equipped for use in Operation REDWING and that it is not practical to consider equipping smaller ships.

General Starbird commented on the additional information requested by the Department of Defense on fallout in the intermediate areas and said that the use of radioactive tracers, B-50 airplanes, and other high-altitude airplanes would provide this information. He added that the cost of these experiments would be approximately \$6 million, but that neither the AEC nor the DOD are sure of available funds at this time. General Starbird said consideration is also being given to other experiments involving rockets and ships to collect fallout data. He pointed out that the question of funds for the use of rockets

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does not require an immediate decision. However, the Department of the Navy has requested an answer by July 31, 1957, concerning the use of the two drone ships since the Navy plans to place these ships in the reserve fleet at an early date. In response to a question by Mr. Strauss, General Starbird said the Department of the Navy has indicated that funds are not available for these two ships but that this matter is still being discussed.

Mr. Libby commented on the importance of establishing a reliable fallout program for Operation HARDTACK and said he believed the program outlined is a reasonable one. However, he added that he would prefer that it be expanded if sufficient funds were available.

During discussion of these experiments, Mr. Libby commented on the total fallout expected from Operation HARDTACK and said the fallout program for this test should be at least as comprehensive as that for Operation REDWING. Mr. Graves said that other activities in the fallout program would consist of land stations close to the actual test area and a number of vessels such as tugs, destroyers, and LST's which would be stationed in the fallout area.

General Loper remarked that the major problem of the DOD with respect to the proposed fallout program concerns funding. He added that available funds in the DOD for this program are not sufficient to meet the cost of the program to the DOD.

General Loper then said that another consideration in the proposed program is the political aspect. He commented that an extensive fallout program would demonstrate the Commission's efforts in obtaining additional information on world-wide fallout. However, he said that in view of the cost involved, there might be some question whether the value of the information obtained

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from the standpoint of defense knowledge, justifies the expenditure of the funds.

General Loper concluded his remarks by saying that in addition to the question of availability of funds on the part of the DOD, consideration would have to be given by the DOD to the problems involved in providing the B-50 type of airplanes as well as the airplanes which would be used for high altitude sampling.

After further discussion, the General Manager said he would discuss the proposed program further with the Commission prior to July 31.

At this point Dr. Graves, General Griffith, Major Richie and Dr. Shelton left the meeting and Mr. Northrup and Colonel Woodward entered the meeting.