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February 9, 1959

ATOMIC ENERGY COMMISSION

MEETING NO. 1308

2:45 p.m., Tuesday, October 22, 1957

Present

W. F. Libby
Harold S. Vance
John S. Graham
John F. Floberg

K. E. Fields

W. B. McCool

Also Present

David B. Anthony
Col. Harold C. Brown
Capt. Edward E. Conrad
Edward Diamond
Paul C. Fine
Paul F. Foster
Col. John R. Hood, Jr.
George M. Kavanagh
Calvin Potts
John L. McGruder
Capt. Kenneth F. Musick
William P. Risso
Lt. Col. Raymond I. Schnittke
Brig. Gen. Alfred D. Starbird
Col. Charles B. Stewart
Shelby Thompson
Richard V. Willit
Herbert York
Maj. Gen. Alvin R. Luedecke,
AFSWP
James McRae, Sandia Corp.
James E. Reeves, Albuquerque
Operations Office

CLASSIFICATION CANCELLED
BY AUTHORITY OF DOE/OC

Carl Wilson 3/27/84
REVIEWED BY DATE

H.R. Schmidt 7/9/85

By: W. Tensah 3/18/86

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1. Laboratory Directors Briefing on Operation HARDTACK

General Starbird explained that the purpose of the briefing was to discuss with the Commission the plans for Operation HARDTACK and not necessarily to obtain a final Commission decision on the program. He began by reviewing the development of plans for Operation HARDTACK as set forth in AEC 952/16 - Review of Program

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for Operation HARDTACK. The AEC staff, he said, made the following recommendations: (1) the operation should begin no earlier than May 1, 1957, to allow adequate time for AEC preparations, (2) the number of AEC shots should be seventeen, as requested by the laboratory directors, plus one detonation of a clean weapon to which U.N. observers would be invited, (3) three specific contingency shots should be ready for detonation in the event that some of the other seventeen shots are not successful, (4) two one-point safety tests should be conducted at the Nevada Test Site during the fall of 1957, and (5) following Operation HARDTACK, two or three devices of less than two kilotons should be tested underground in the tunnel used during Operation PLUMBBOB.

Mr. Norris Bradbury, Director, LASL, then reviewed with the aid of charts the devices recommended by LASL for testing during HARDTACK. Mr. Libby expressed concern about the amount of off-site fallout which would result if it were necessary to detonate the contingency devices now included in the plans. In response to a question by Mr. Libby, General Starbird said no new type weapon has ever been stockpiled without one of its type being tested before entry. Mr. Libby also raised the problem of the increasing proliferation of types of weapons being tested and stockpiled. General Starbird replied that the staff recognized this problem. He pointed out that AEC had received requirements from the DOD for warheads for a large number of different weapons and that AEC is attempting to develop warheads which will fit several different kinds of carriers and missiles. Mr. Bradbury added that the laboratories were conscious of the desirability of reducing the amount of testing, but said he did not believe that it would be possible under the present DOD requirements to dispense with any of the shots now scheduled. Any of the dev:

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not tested during HARDTACK, he said, would be delayed entering the stockpile at least two years.

Mr. Herbert York, Director, Livermore Laboratory, discussed with the Commissioners the weapons tests proposed by Livermore Laboratory. Mr. Libby noted that if the two high altitude shots were eliminated from the test series, and no contingency shots detonated the off-site fallout from Operation HARDTACK would not exceed four megatons, the same as that resulting from Operation REDWING. General Luedecke pointed out, however, that the Commission had originally requested these shots in order to determine whether detonations at 125,000 to 250,000 feet could be detected. This information is required before establishing a U.S. position on a possible world moratorium on weapons testing. More important to the DOD, he said, was the information to be learned about the effects of high altitudes on nuclear explosions, and the characteristics of radiation in varying densities of the upper atmosphere. The latter information is needed, he said, in connection with research being conducted on method of attacking large numbers of enemy aircraft by the radiation from weapons detonations. Mr. Libby observed that if the two high altitude shots and three contingency shots were tested in addition to the other scheduled shots, the off-site fallout would total 8.22 megatons. The President, he said, wishes to limit, if possible, off-site fallout to the amount resulting from Operation REDWING. Mr. Libby added, however, that the President probably would agree to a total off-site fallout of not more than six megatons.

Mr. Graham left the meeting briefly during the above discussion.

General Luedecke said that if the two high altitude shots were removed from the test schedule, the DOD would wish to re-

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examine the entire program for Operation HARDTACK. Mr. York remarked that the testing of the two rocket shots is quite important to the anti-missile program. Mr. Vance said in view of the adjournment of the London Disarmament Conference earlier in the year, a weapons test moratorium is unlikely and, therefore, there now seems to be no urgency in testing U.S. detection capabilities at high altitudes.

General Starbird pointed out that if it becomes necessary to reduce the number of devices tested, the clean weapon devices will have to be eliminated since these are purely experimental devices, while the others are DOD requirements. Mr. Libby reiterated, however, that the President has talked repeatedly of the need to develop clean weapons and has, in fact, based his defense of continued weapons testing partly on the fact that more tests are needed to achieve such weapons.

Mr. Floberg suggested that the U.N. observers be permitted to see one of the other shots, thus eliminating the extra observer shot. General Starbird replied that AEC should test a weapon already proven to be clean by a previous test, rather than risk one of the new devices not being as clean as expected. The United States would suffer a serious setback, he said, if a weapon which it had claimed to be clean, proved not to be before a group of U.N. observers. Mr. Libby suggested that the President be asked to reconsider his proposal to invite U.N. observers to the next test series.

Mr. Graham observed that the Commission's long range interests might best be served by reducing the number of shots for Operation HARDTACK, and thereby reduce the possibility of arousing public opinion against further tests of any type. He suggested that more of the shots be fired underground in tunnels as was done during Operation PLUMBBOB. General Starbird pointed

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out that only three devices scheduled for HARDTACK were small enough to be tested within the United States. Also, these should produce very little fallout so that the total off-site fallout of HARDTACK would not be substantially reduced if they were eliminated. In addition, he said with each device tested underground, there is the risk that an earthquake will occur concurrently, causing the public to conclude erroneously that the one caused the other.

Mr. Vance said he thought that if the President understood the need for testing each of the devices proposed for the series, his reservations about the number of shots would be dispelled. He would agree to the shot schedule now before the Commission. Mr. Vance proposed, therefore, that the Commission recommend to the President the shot schedule for Operation HARDTACK as presented by the laboratory directors.

General Lueddecke said the DOD would like to begin testing their five weapons effects shots about the middle of April. The Commissioners indicated no objection to this.

Mr. Libby said he believed that before reaching a final decision on the shot schedule, the Commission should obtain the views of the GAC Subcommittee on Weapons which will meet at Los Alamos on November 20. The other Commissioners agreed with this suggestion and also agreed that for planning purposes, March 1, 1958, should be established as the date for beginning testing of the seventeen devices proposed by the AEC laboratory directors. The Commissioners indicated they would also review the shot schedule with the MLC at the 114th AEC-MLC Conference on October 25. Mr. Libby restated his belief that the test of a clean weapon for U.N. observers should be cancelled.

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2. AEC 952/17 - Demonstration Shot for Operation HARDTACK.

The Commissioners deferred consideration of AEC 952/17 until a later meeting.

W. B. McCool

Secretary

Approved by the Commission: Meeting 1350, April 2, 1958