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1265th AEC Meeting 2-11-57

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5. AEC 952/3 - Special Test Proposed by E. O. Lawrence (pp. 44-45) (See also minutes of the Executive Session of Meeting 1265 and Meeting 1262.)

The Commissioners considered the feasibility of conducting a high altitude nuclear test detonation in the Pacific for the purpose of checking U.S. long-range detection capabilities. Mr. Fields referred to his reasons for recommending that such a test not be conducted during 1957, (See AEC 952/3) and suggested that before discussing this matter formally with the DOE the Commission reach a decision regarding the test. Mr. Strauss observed that if this particular test were deferred until Operation HARDTACK in 1958, and if an agreement concerning a weapons test limitation is imminent at that time, the U.S. might have to choose between cancelling the test or proceeding with it concurrently with negotiations to halt testing.

Mr. Murray suggested that one or more high altitude tests be conducted during 1957 and that additional high altitude tests be carried out during Operation HARDTACK. He indicated that, although he did not consider a test limitation likely by 1958, he believed it would be advisable to assume that agreement may be reached and therefore a high altitude test shot should be conducted during 1957. Mr. Libby said he believed that conducting one such test during 1957 would prove to be of logistic assistance for similar tests at Operation HARDTACK.

General Starbird said that at the present time the maximum height attainable for testing a nuclear weapon is about 100,000 feet. He observed that the ability to detect a shot at this altitude is no assurance that a device detonated at 160,000 or 180,000 feet could also be detected. He pointed out that a layer of air at 160,000 feet tends to deflect shock waves away from a downward path and therefore, it is much more difficult

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J. Diaz 1/22/86  
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to detect weapons detonated at these greater heights. By 1958, he said, it probably will be possible to detonate nuclear weapons at heights of 200,000 to 250,000 feet, thus affording a more comprehensive test of U.S. long-range detection capabilities.

Mr. Vance remarked that since a single high altitude shot carried out in 1957 would be inconclusive concerning the U.S. ability to detect shots higher than 100,000 feet, the U.S. position in any negotiations for a weapons test limitation might be weakened rather than strengthened. Ability to detect shots at 100,000 feet, he said, might convince many people that weapons tests at even higher altitudes could also be detected accurately. Mr. Fields observed that conducting weapons tests both in Nevada and in the Pacific during 1957 might have an unfavorable reaction on world public opinion since it could be interpreted as an indication that the U.S. is intensifying its weapons development program.

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Mr. Strauss then suggested that General Starbird obtain from the DOD a definite statement concerning the present capabilities for high altitude nuclear weapons testing and a statement about the earliest date on which a weapon might be tested at altitudes which would provide a more comprehensive evaluation of U.S. detection capabilities. In response to a question by Mr. Strauss, General Starbird said he could obtain this information within a week. After further discussion, the Commissioners agreed to defer a decision whether to conduct a high altitude weapons test during 1957 until after General Starbird obtained additional information from the DOD.

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