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December 17, 1956

ATOMIC ENERGY COMMISSION

PROPOSED TEST PLANS FOR CALENDAR YEAR 1957

Note by the Secretary

The General Manager has requested that the attached memorandum and enclosures be circulated for consideration by the Commission at the meeting scheduled for 2:15 p.m., Tuesday, December 18, 1956.

W. B. McCool
Secretary

WITH ATTACHMENTS

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UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D. C.

December 14, 1956

MEMORANDUM for the Commission

Subject: PROPOSED TEST PLANS FOR CALENDAR YEAR 1957

1. At Commission Meeting 1254 on 12 December 1956, the Commission considered AEC 944/2, Subject "Proposed Test Plans for Calendar Year 1957." The Commission requested that a letter be addressed immediately to the President, requesting his approval for the conduct of tests in Nevada beginning in the Spring of 1957. The attached draft (Enclosure "A") has been prepared by the Director of Military Application and has the concurrences of the Divisions of Information Services and Biology and Medicine, and of the General Counsel. It is circulated for Commission consideration at the meeting scheduled for 2:15 p.m., Tuesday, December 18, 1956.

2. I would like to point out the following concerning this draft:

a. Pursuant to Commission instructions an attempt has been made in the first paragraphs to explain the devices, and weapons toward which shots are directed.

b. The draft speaks of "approximately 25 nuclear shots" as possibly requiring a "period of the order of 5 months." Should the Commission decide to adopt Plan 2 or some modification thereof, the number of shots probably would not drop more than 4 or 5. Also, it is believed that any shortening of time could not be greater than 1 month. I believe the wording used is appropriate and that it does not prejudice the Commission's ultimate decision.

c. The draft explains that shots comparable with the larger ones of prior tests will be generally at higher altitudes in an effort to minimize fallout on local communities. It is believed that this is about as much as should be stated on this point at the present time.

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[REDACTED]

Until further time passes in the laboratories' planning, it would be unwise to state that all shots would be smaller than a certain specific size.

d. The letter states that a public announcement will be made immediately. As General Starbird brought out, we can expect increased conjecture during the future and our announcement should be made as soon as possible. The draft announcement is attached as Enclosure "B" for Commission approval and subsequent coordination with the DOD and the OCB.

3. In accordance with the Commission's discussion at Meeting 1254, the Director of Military Application has been directed to review again the program with the idea of reducing the number of shots further, in order to shorten the test period, provided such action will not interfere with important weapons development activities. Also, he and the Laboratory Directors will be requested to present a final program for Commission's decision at the earliest practicable date after the beginning of the new year.

K. E. FIELDS

General Manager

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ENCLOSURE "A"

DRAFT LETTER TO THE PRESIDENT

1. A number of nuclear devices for early entry into our defense stockpile, or important to the most rapid advancement of later weapons designs, will require testing in calendar year 1957. Such tests would include:

a. The proof-firing of certain air defense and anti-submarine warheads scheduled for early production. Included in this category are a warhead for the TALOS-W missile, two warheads for the NIKE-B missile and an atomic depth charge.

b. Development tests of components and mockups which provide design information for thermonuclear devices, which we plan to test in the Eniwetok Proving Ground in 1958. These include an ICBM warhead and devices directed toward a higher yield-to-weight ratio.

c. Exploratory and development tests directed toward achieving more efficient use of active material and warheads of smaller size and weight.

d. Tentatively a deep underground test designed to explore this manner of testing. This test would be conducted only if the results of an extensive investigation now in progress indicate that the shot would result in no hazardous off-site effects.

2. In addition, the Department of Defense and the Federal Civil Defense Administration have indicated a need to secure from any test series in 1957 certain effects data important to the protection of our populace and military forces. A portion of this data can be secured from diagnostic shots. However, two special shots designed specifically to secure such effects information may be required, one of which would be a DOD test involving an airburst of the nuclear warhead in the new USAF air-to-air rocket following its launching from an interceptor aircraft.

[REDACTED]

3. Finally, it will be necessary during the year to conduct certain safety tests -- tests wherein the high explosive is detonated in an asymmetrical manner to prove that no nuclear reaction will occur if the weapon, while safed, is subjected to fire or accident, and to determine the extent of local contamination which might result from the spread of nuclear material from weapons involved in fire or accident.

4. Approximately 25 nuclear shots, together with five or more safety tests, may be required during the year. The first nuclear device would be detonated on or about May 1, 1957, and it is estimated that all nuclear shots would be fired in a period of the order of five months. The safety tests, from which no nuclear reaction is expected, would be fired on an "as needed" basis throughout the year.

5. The operation would be designated PILGRIM. So as to avoid hazard to participants or the public, shots will be limited in yield, will be fired only under favorable weather conditions and will be implaced so as to minimize local fallout to the maximum extent practical. Larger shots of the series will be detonated generally at higher altitudes than those for past shots of comparable yield. The expected fallout from such shots on local communities should be reduced materially thereby.

6. It is not possible at the present moment to specify exactly what shots are to be fired. This information is now being developed by the laboratories who are studying intensively the detailed results from REDWING and laying their plans for PILGRIM. It is our intention, however, to finalize a schedule as early as possible and immediately thereafter to request your approval for the expenditure of the necessary special nuclear material.

[REDACTED]

7. In the meantime, it is necessary that major preparations proceed. These include the mobilizing of forces at the proving ground and the inauguration of large-scale construction. Importantly, too, it should involve the informing of the public in the area and others possibly affected, such as the photographic industry, of the timing of our series.

8. We request your approval, therefore, for the conduct of the tests on the scale and in a manner as we have described above. As soon as practical after receipt of your approval, it is our intent to issue a brief public announcement as to our plan for the conduct of tests at the Nevada Test Site during calendar year 1957.

I approve the conduct of Operation PILGRIM on the scale and in the manner outlined above, and authorize the issuance of a suitable public announcement of plans for tests at the Nevada Test Site during calendar year 1957.

Dwight D. Eisenhower

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ENCLOSURE "B"

DRAFT PUBLIC ANNOUNCEMENT

1. A series of nuclear tests will be conducted at the U. S. Atomic Energy Commission's Nevada Test Site beginning in late Spring, 1957.

2. The program of tests is aimed to attain new knowledge important to the defense of the United States and the Free World. The development of weapons for defense against attack is a major objective; also further studies of weapons effects for purposes of civil and military defense against nuclear attacks on troops or populations will be carried on. The Department of Defense and the Federal Civil Defense Administration will participate in the series.

3. As in previous Nevada series, only relatively low-yield nuclear devices will be tested. Various precautions, including the use of high towers and the latest techniques of weather and fallout prediction, will be utilized as in the past, to reduce any radioactive fallout adjacent to the testing area. In addition consideration is being given to the use of captive balloons from which to detonate a limited number of nuclear devices. A decision on the use of the balloons, which would be anchored by four cables, is expected after completion of operational tests in the next two or three months.

4. Every effort will be made to limit fallout on populated areas around the Test Site so that radiation exposure to the public will not exceed 3.9 roentgens in any one year. This was the radiation exposure criterion used for the last Nevada Test Series in the Spring of 1955.

[REDACTED]

5. The most extensive radiation monitoring network ever used for continental tests will be in effect during the series. About 12 monitoring teams supplied by the U.S. Public Health Service will be stationed in communities near the test site. In addition, the U.S. Public Health Service network of monitors in about 40 cities across the nation, established prior to the last Eniwetok test series in the Spring of 1956, will be in operation. Radiological monitoring also will be conducted at 12 Commission installations.

6. As in past test series, U.S. Weather Bureau stations in various localities will collect dust samples on gummed paper for analysis by the Commission's Health and Safety Laboratory in New York City. About 100 Weather Bureau stations will cooperate in this program during the 1957 Nevada series.

7. These programs will provide many thousands of measurements of radioactivity for use in scientific studies.

8. The 1957 test series will be called "Operation Pilgrim". The date for the beginning of the series will be announced later. A termination date cannot be definitely announced because the schedule of detonations will depend upon the occurrence of weather conditions meeting the requirements for radiological safety.

9. In addition, there will be further experiments, similar to those announced in October 1955, related to the safety of various weapons and experimental devices in the event of accidents, such as fires, during handling or storage. The first of these will be conducted early in 1957 and several others later in the year. Because fissionable materials are involved, precautions will be taken, such as firing only under carefully

[REDACTED]

selected weather conditions. No off-site radioactive fallout problem is anticipated.

10. The Commission, through its Las Vegas Office, is advising public officials, stockmen, miners and others in southwestern Utah and southern Nevada that the test site will be used for the tests beginning in late Spring, 1957.