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AEC 787/3

September 30, 1955

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ATOMIC ENERGY COMMISSION

PACIFIC PROVING GROUND TEST ACTIVITIES FOR
CALENDAR YEAR 1956

Note by the Secretary

The General Manager has requested that the attached report by the Director of Military Application be circulated for consideration by the Commission during the week of October 3, 1955.

W. B. McCool

Secretary

DEPARTMENT OF ENERGY DECLASSIFICATION REVIEW	
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REVIEWER (ADD): NAME: W. B. McCool DATE: 08/25/95	

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DEPARTMENT OF ENERGY DECLASSIFICATION REVIEW	
1ST REVIEW DATE: 03/04/02 AUTHORITY: DAK JACQ CADD NAME: William J. Harris 2ND REVIEW DATE: 10/04/02 AUTHORITY: ADD NAME: W. B. McCool	DETERMINATION (CIRCLE NUMBER(S)) 1. CLASSIFICATION RETAINED 2. CLASSIFICATION CHANGED TO: 3. CONTAINS NO DOE CLASSIFIED INFO 4. COORDINATE WITH: 5. CLASSIFICATION CANCELLED 6. CLASSIFIED INFO BRACKETED 7. OTHER (SPECIFY): PP 278-296

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ATOMIC ENERGY COMMISSION

PACIFIC PROVING GROUND TEST ACTIVITIES FOR
CALENDAR YEAR 1956

Report to the General Manager by the
Director of Military Application

THE PROBLEM

1. To consider:

- a. The general scope of a series of atomic tests at the Pacific Proving Ground during the calendar year 1956, commencing about May 1; and
- b. The desirability of requesting early approval by the President of such a test series.

SUMMARY

2. The Los Alamos Scientific Laboratory and the University of California Radiation Laboratory proposals for tests to be conducted at Operation REDWING have been circulated to the Commission. On July 14, 1955, representatives of the laboratories briefed the Commission on the then current status of these proposals. The Department of Defense also plans to participate in this operation.

3. Such details as are presently known of the devices under consideration by the laboratories, and the tentative shot schedule, are outlined in Appendix "E". It is anticipated that specific details and a firm shot schedule will be submitted by the laboratories late in calendar year 1955, and as soon as practicable thereafter the specific test program will be referred to the Commission for consideration.

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4. In addition to the tests proposed by the laboratories and Department of Defense participation, we have been informed that the Federal Civil Defense Administrator may request that FCDA be permitted to participate in or monitor certain effects projects in which they have an interest.

5. Large scale preparation for Operation REDWING have been underway for several months, and the forces required to conduct and support the operation are being organized. To facilitate orderly planning and preparation for Operation REDWING, formal approval at this time by the Commission of the general scope of Operation REDWING, and by the President of the conduct of the test series, is desirable. As presently visualized, the test operation will include nine shots for Los Alamos Scientific Laboratory and five shots for the University of California Radiation Laboratory. There is a possibility that two additional shots, one for each of the laboratories, will be required to attain the objectives of the test series, and other changes are possible. The effects program will be conducted in conjunction with the laboratories' development tests.

6. A public information plan for REDWING will be prepared to include as a minimum an initial announcement of the test series, provision for announcements to cover possible emergencies, and announcement of the termination of the tests. ✓

7. No coordination has been effected by the AEC staff with the staff of the Department of State or the Operations Coordinating

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Board. Such coordination appeared undesirable until the Commission could consider the advisability of such action at this time. Should the Commission desire, staff coordination can be initiated with the Department of State prior to dispatch of the proposed letter to the President but subsequent to receiving the comments of the MLC.

STAFF JUDGMENTS

8. The Division of Biology and Medicine, the Division of Classification, the Division of Information Services and the Office of the General Counsel concur in the recommendation of this paper.

CONCLUSIONS

9. It is concluded that:

- a. A series of atomic tests should be conducted at the Pacific Proving Ground during the calendar year 1956, commencing about May 1.
- b. The scope of the test series should be substantially as outlined in Appendix "E".
- c. It is desirable to obtain at this time the approval of the President for the conduct of the test series.

RECOMMENDATION

10. The General Manager recommends that the Atomic Energy Commission:

- a. Approve conducting a series of atomic tests at the Pacific Proving Ground during calendar year 1956, commencing about May 1, of a scope substantially as outlined in Appendix "E";
- b. Note that Department of Defense comments on and support of the test series will be requested by letter to the MLC such as that in Appendix "B";
- c. Note that the Commander, Joint Task Force SEVEN, will be designated the Senior AEC Representative during the operational phase of Operation REDWING, as was done for Operation CASTLE;
- d. Note that a specific program for the test series, in final form, will be submitted to the Commission for consideration during the latter part of calendar year 1955;

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e. Approve dispatch of a letter such as Appendix "C" to the President requesting Presidential approval of the test series, this letter to be dispatched after receiving the comments of the Department of Defense;

f. Note that Presidential authorization for expenditure of special nuclear materials required for the tests will be requested during the latter part of calendar year 1955 subsequent to Commission approval of the specific test program;

g. Note that the Joint Committee on Atomic Energy will be informed of the test series by letter such as that in Appendix "D" after Presidential approval is received;

h. Note that the Federal Civil Defense Administration will be informed of the test series by appropriate letter after Presidential approval is received;

i. Note that a public information plan will be prepared and submitted for Commission approval at the earliest practicable date;

j. Note that there has been no liaison with the State Department or the Operations Coordinating Board.

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APPENDIX "A"

BACKGROUND

1. The Los Alamos Scientific Laboratory has submitted (see AEC 99/23) a general description of tests currently under consideration by LASL for Operation REDWING.

2. Tests currently under consideration by the University of California Radiation Laboratory are described in a letter to the Director of Military Application dated July 7, 1955, copies of which were distributed to the Commissioners by memorandum from the Secretary dated July 14, 1955.

3. On July 14, 1955, Dr. Bradbury of LASL and Dr. Mills of UCRL briefed the Commission on the then current status of their respective test programs.

4. The tentative shot schedule for Operation REDWING is contained in a letter from Task Group 7.1 of Joint Task Force SEVEN dated August 12, 1955, subject: "Revision No. 3 to CTG 7.1 General Concept No. 1-55, J3-51, dated April 1955." This shot schedule, when correlated with the previous information from the laboratories, gives the test series summary presented in Appendix "E", which therefore reflects the latest information concerning the probable test program.

5. The approved Department of Defense military weapons effects program is contained in the AFSWP report "Operation REDWING Weapons Effects Programs," dated August 8, 1955. The



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6. At Meeting 1101 on July 14, 1955, the Commission agreed that the LASL version of the TX-21 "clean" weapon should be tested at Operation REDWING.

DISCUSSION

7. The test program as tentatively planned and as outlined in Appendix "E" comprises fourteen shots. Of these, six would be fired at Bikini and the other eight would be fired at Eniwetok. As noted before, it is currently recognized that it may be necessary to fire additional shots in order to attain the desired objectives of the test series.

8. The test program in final form, with full justification, should be available in late 1955, at which time it will be submitted to the Commission. At that time, Presidential authority for expenditure of the required special nuclear material will be requested. It should be noted that it is possible that further laboratory development will result in substantial change in the details of the program as presently conceived.

9. Since the question of contamination from radioactive fall-out may be of concern, both at home and abroad, and may lead to pressure to cancel or discontinue the test series, it is extremely important that a comprehensive public information plan be implemented at the proper time to assist in dispelling public and governmental fears and to counteract propaganda designed to capitalize on these fears. Such a public information plan will be prepared and presented to the Commission for approval at the earliest practicable date.

10. In the latter connection, comparisons between Operation CASTLE and the proposed Operation REDWING are enlightening. Comparisons can be made from four viewpoints: the danger area around the Pacific Proving Ground, the total yield for each

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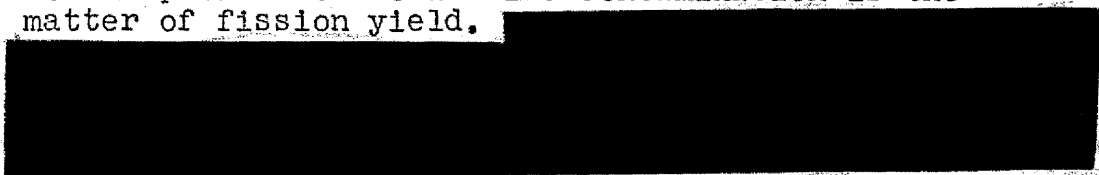
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operation, the total fission yield for each operation, and the types of shots on each operation.

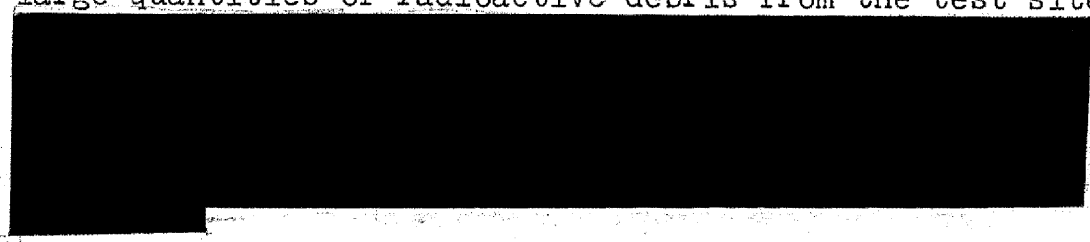
a. An original danger area, a rectangle of about 150 by 335 nautical miles about the Atolls of Eniwetok and Bikini, was in effect on Operation CASTLE until after the accident involving the FUKURYU MARU. After that accident, the danger area was temporarily extended to include a northern sector of 450 nautical mile radius. The latter danger area, or a new one based on appropriate recommendations, will be used in Operation REDWING from the outset.

b. The total yield produced by the six shots on Operation CASTLE was approximately 48 megatons. The total yield for Operation REDWING based on fourteen shots now tentatively planned should not exceed approximately 18 megatons.

c. However, the foregoing does not indicate the true relationship between the radioactive fall-out problems on the two operations. Of greater importance to the problem of world-wide contamination is the matter of fission yield.



d. Furthermore, on Operation CASTLE all six shots were surface bursts, resulting in the upward movement of large quantities of radioactive debris from the test site.



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DOE
6.11.69

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APPENDIX "B"

DRAFT LETTER TO THE CHAIRMAN, MLC

1. To meet requirements of the atomic weapons research and development program and of the Department of Defense weapons effects program, a series of atomic tests at the Pacific Proving Ground, commencing May 1, 1956, and designated as Operation REDWING has been approved by the Commission.

2. The final detailed test program, which is not yet completely firm, will be available late this year. Though later changes are possible, present plans envisage 14 shots, with a possibility that two additional shots will be required to carry out the objectives of the program now visualized. The special military weapons effects test for the determination of certain information urgently needed by the Services, which you requested in your letter of July 27, 1955, has been incorporated into the REDWING program.

3. As has been the practice in latest operations at the Pacific Proving Ground, the Commission intends to designate the Commander, Joint Task Force SEVEN, as the Senior AEC Representative during the operational phase of REDWING.

4. Your comments on, and assurance of Department of Defense support for, this very important test program are requested. Upon receipt of your comments, Presidential approval of the test series will be sought.

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APPENDIX "C"

DRAFT LETTER TO THE PRESIDENT

1. The purpose of this letter is to request your approval for conducting an atomic test program in the late Spring of 1956 at the Pacific Proving Ground. The operation, which has been assigned the code name REDWING, is presently scheduled to begin May 1, 1956, and to extend through the early part of July. Although current plans show a need for approximately 14 shots, there is a possibility that additional shots will be required to carry out the objectives of the program. Specific details of the weapons and devices to be tested will be firmed late this calendar year, and authorization for the expenditure of the required special nuclear material will be requested when specific test details are crystallized.

2. The test series is designed to achieve four objectives vital to our continued progress in the research and development of atomic weapons and in the improvement of atomic defense,

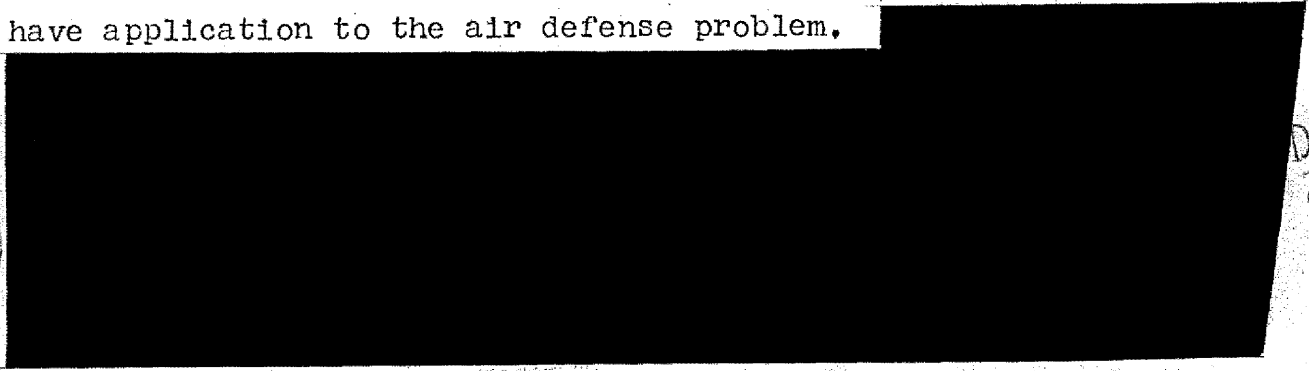
3. Certain aspects of this test series we believe will be of particular interest to you. In addition to the testing of weapons for strategic and tactical employment including atomic and fusion weapons, this program will proof test a prototype of the stockpile warhead for air-to-air rockets and will continue research and development of small designs suitable for use in

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air-to-air and surface-to-air missiles. These latter, of course, have application to the air defense problem.



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4. Even though the number of shots for REDWING is much greater than that for CASTLE (approximately fourteen as against six), the cumulative expected yield for REDWING from all shots is considerably less than half the cumulative yield obtained at CASTLE.



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5. A public information plan will be prepared to cover all foreseeable contingencies. This plan will be coordinated with other interested government agencies and upon concurrence and approval will be implemented at the appropriate time.

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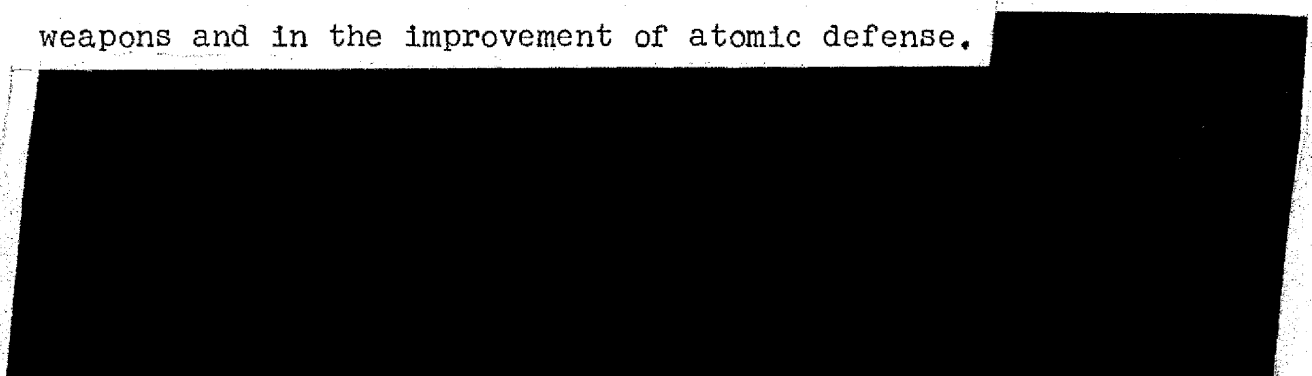
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APPENDIX "D"

DRAFT LETTER TO THE CHAIRMAN, JCAE

1. To meet requirements of the atomic weapons research and development program, and of the Department of Defense weapons effects program, a series of atomic tests to be conducted at the Pacific Proving Ground, commencing May 1, 1956, and designated as Operation REDWING has been approved by the Commission and the President. Specific details of the test program will be firmed late this year. At that time we shall request authority from the President to expend the required special nuclear materials.

2. As now envisaged, the test series will comprise approximately fourteen shots, with a possibility that additional shots will be required to carry out the objectives of the program. The test series is designed to achieve four objectives vital to our continued progress in the research and development of atomic weapons and in the improvement of atomic defense.



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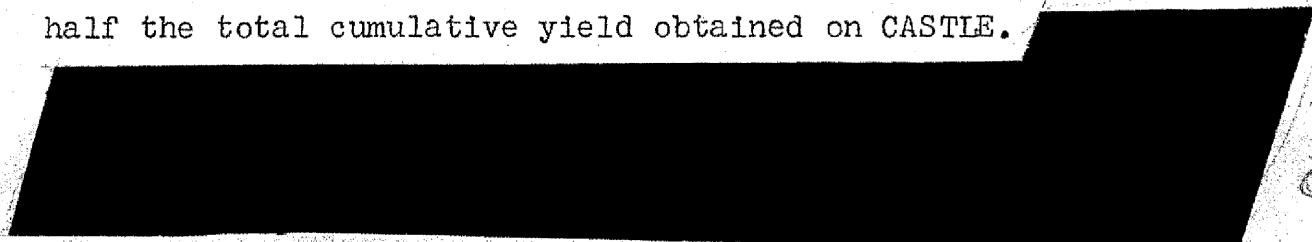
3. You will be interested in the following aspects of the test series which relate to the matters of radioactive contamination and fall-out. The danger area about the Pacific Proving Ground was temporarily enlarged during Operation CASTLE; it is intended that this larger area or a similar one will be used on Operation REDWING from the outset. Even though the number of shots on REDWING is much greater than that on CASTLE (approximately fourteen as against six) the total cumulative

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expected yield from all shots on REDWING is considerably less than half the total cumulative yield obtained on CASTLE.



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4. A public information plan will be prepared to cover all foreseeable contingencies.

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APPENDIX "E"

SUMMARY OF TEST PROGRAM AND SHOT SCHEDULE

CHEROKEE

Ready Date
Shot Site

May 1, 1956
Bikini -- Namu



Laboratory

LASL

Type of Shot Airdrop -- height of burst still undetermined but must satisfy laboratory requirement to obtain diagnostic data without ambiguity and DOD requirement that the fireball neither touches nor is appreciably distorted by the surface of the earth.



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YUMA

Ready Date
Shot Site

May 1, 1956
Eniwetok -- Aomon

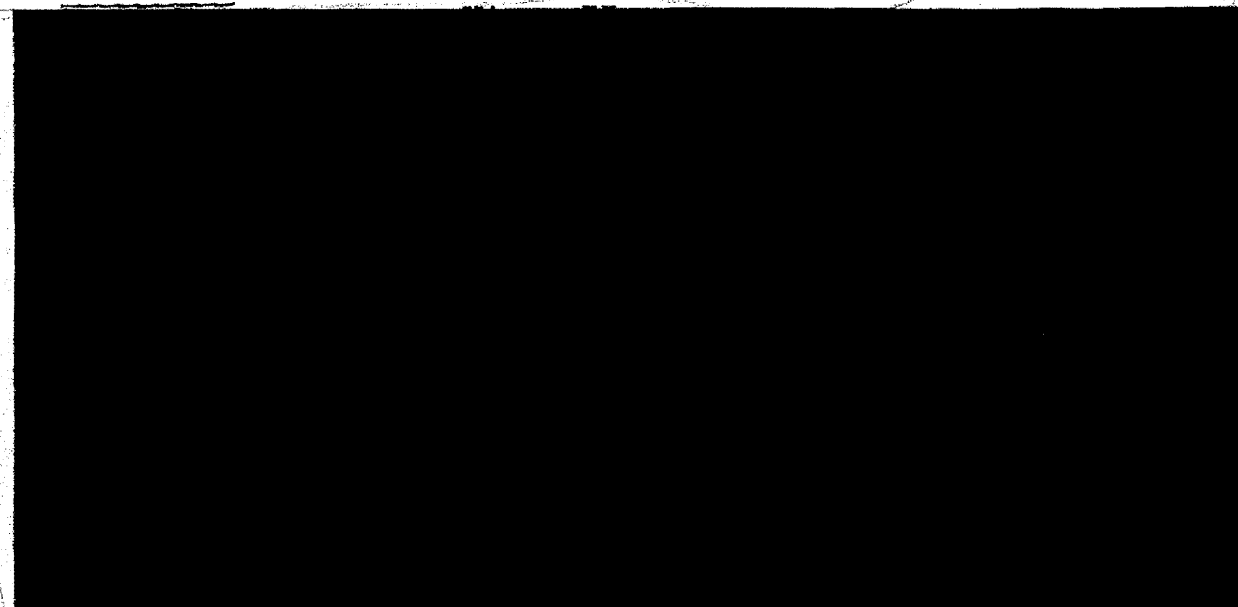


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LACROSSE

Ready Date
Shot Site

May 1, 1956
Eniwetok -- Runit

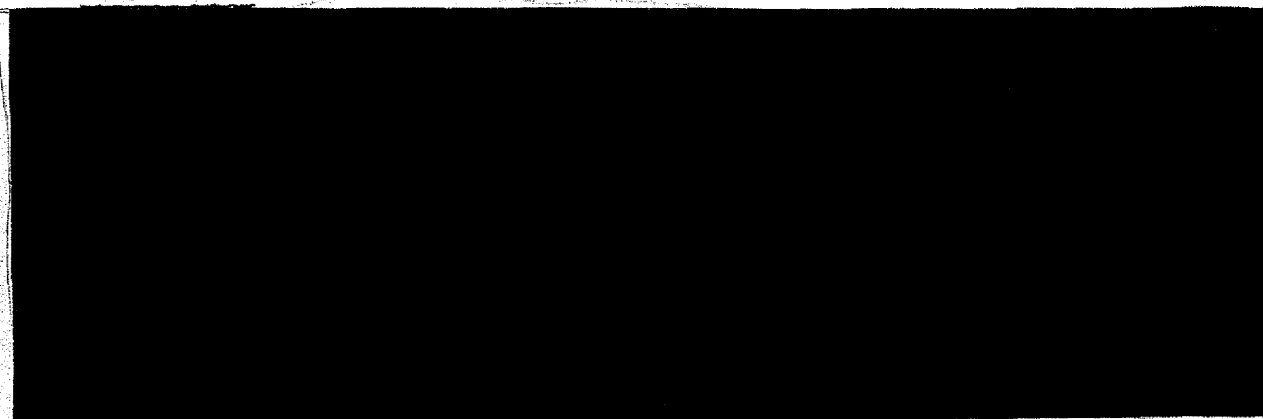


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OSAGE

Ready Date
Shot Site

May 7, 1956
Eniwetok



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6.1.

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Appendix "E"

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KICKAPOO

Ready Date
Shot Site

May 10, 1956
Eniwetok -- Aomon

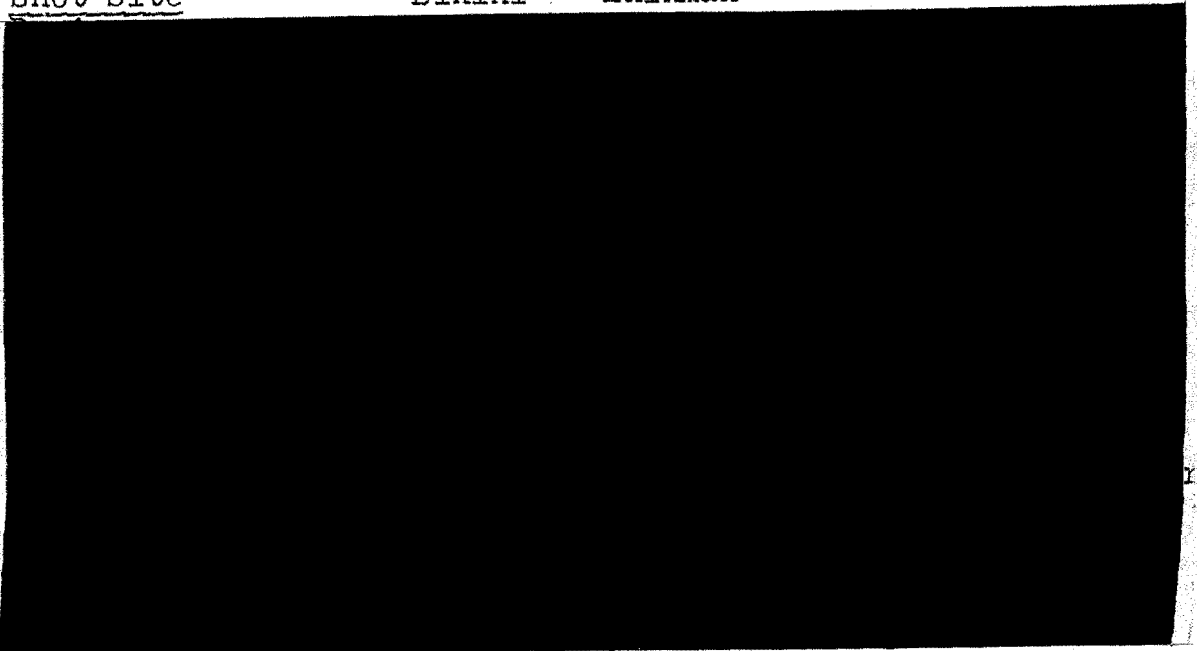


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ZUNI

Ready Date
Shot Site

May 15, 1956
Bikini -- Eninman

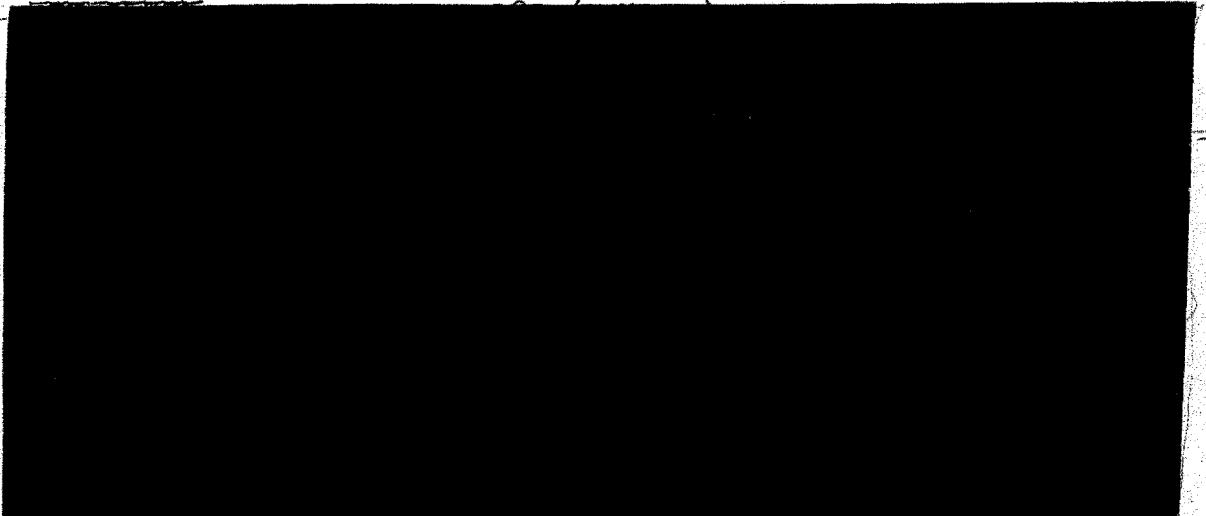


DOE
6.11

ERIE

Ready Date
Shot Site

May 23, 1956
Eniwetok -- Runit



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SEMINOLE

Ready Date

May 26, 1956



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MOHAWK

Ready Date

May 27, 1956

Shot Site

Eniwetok - Eberiru



DOE
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FLATHEAD

Ready Date

May 30, 1956

Shot Site

Bikini -- Yurochi



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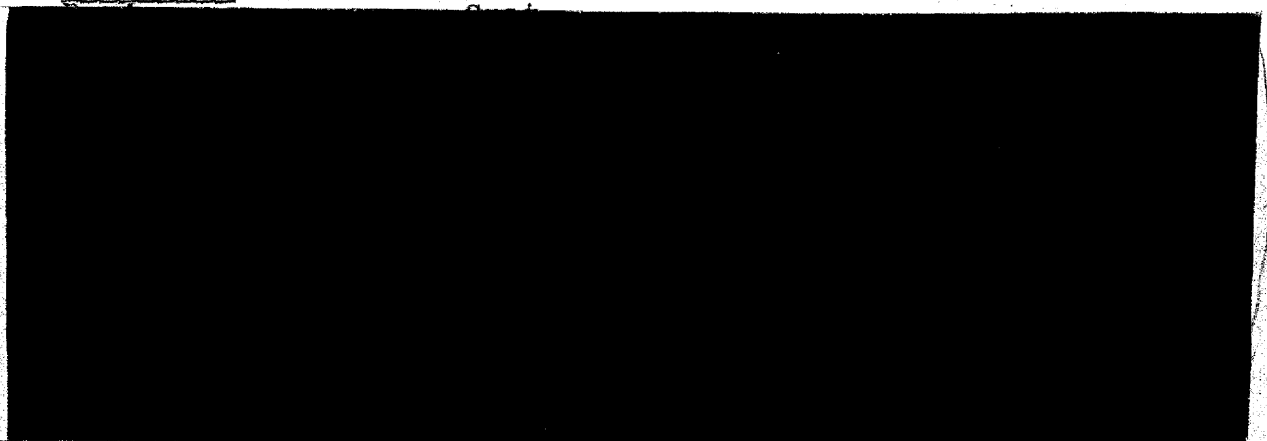
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Ready Date

June 7, 1956

Shot Site

Eniwetok -- Runit



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HURON

Ready Date
Shot Site

June 11, 1956
Bikini -- Yurochi

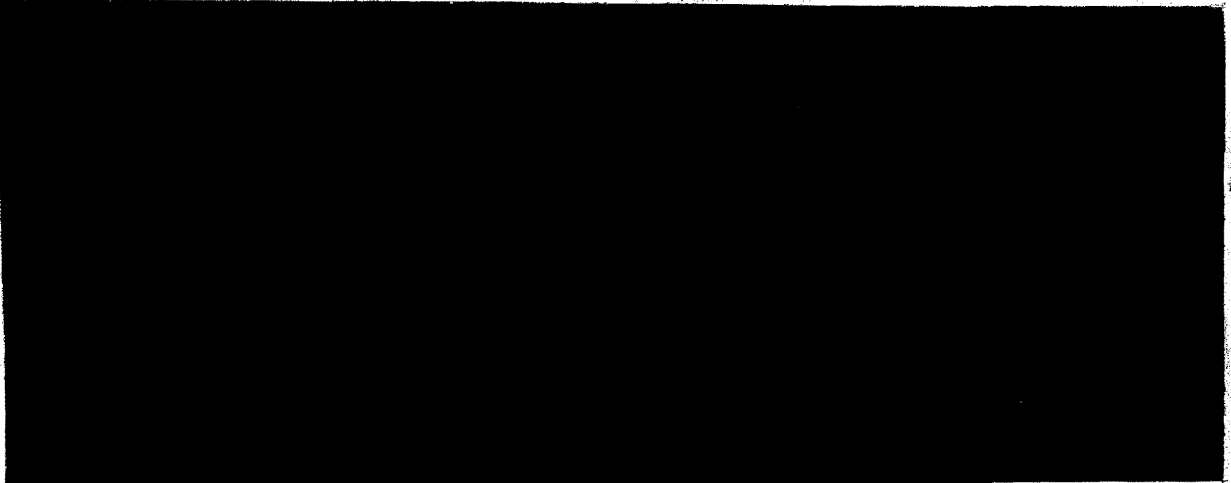


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NAVAJO

Ready Date
Shot Site

June 18, 1956
Bikini -- Yurochi



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APACHE

Ready Date
Shot Site

July 1, 1956
Bikini -- Yurochi



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6.1.56

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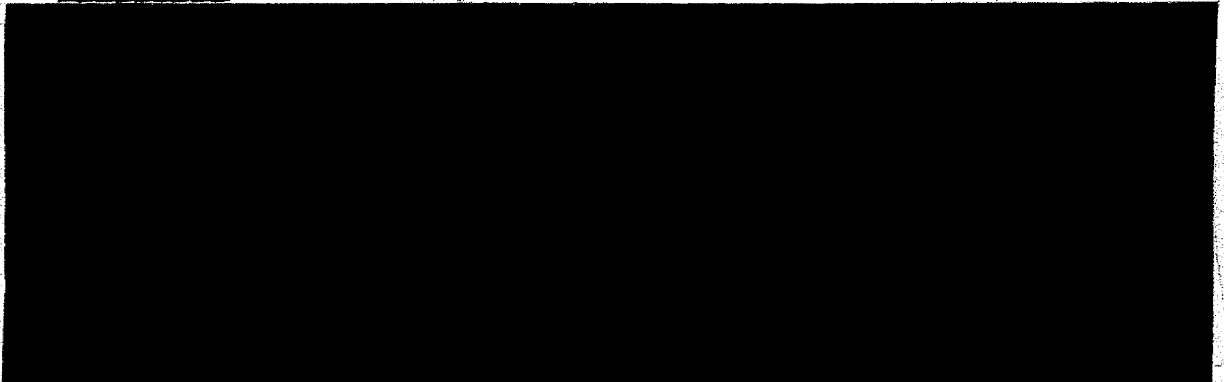
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PAWNEE

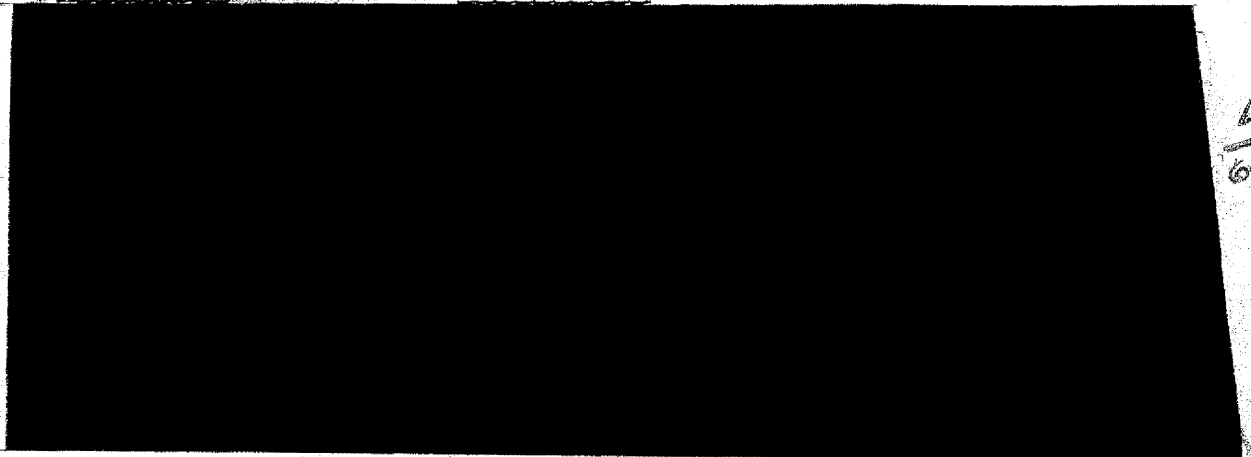
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Shot Site

June 6, 1956 (tentative)
Eniwetok -- Aomon (tentative)



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Ready Date
Shot Site



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