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July 30, 1958

AEC 129/93

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ATOMIC ENERGY COMMISSION

73711

PART III - WEAPONS

QUARTERLY PROGRESS REPORT
TO THE JOINT COMMITTEE ON ATOMIC ENERGY
APRIL-JUNE 1958

Note by the Secretary

Attached for consideration by the Commission, in connection with AEC 129/91, is Part III - Weapons of the April-June 1958 Quarterly Progress Report to the Joint Committee.

W. B. McCool

Secretary

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ATOMIC ENERGY COMMISSION

PART III

WEAPONS

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WEAPONS PRODUCTION [Redacted]

1. The number of weapons produced during the April-June quarter was slightly less than the revised forecast set forth in the January-March report. Some of the major difficulties and attendant delays encountered in starting up production of the numerous new types of weapons during the second half of the fiscal year were resolved. Vigorous efforts are being directed toward resolving the remaining difficulties and toward the achievement of the record production rates that are necessary in order to meet stockpile requirements at the end of fiscal year 1959. Notwithstanding the delays encountered, it is expected that the previously reported forecast of the number of nuclear weapons to be in stockpile by June 30, 1959, will be met.

2. The number of nuclear weapons in stockpile was [Redacted] greater on June 30, 1958, than on June 30, 1957.

3. Initial units of the following new weapons were produced during the quarter:

[Redacted]
This document contains restricted data
disclosed by the Atomic Energy Act of 1954
It is essential to the disclosure of
information in a manner to an unauthorized
person.

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[Redacted] Part III

Dept of Energy

Mk-39 Mod. 1 Class C thermonuclear warhead for the
(warhead) Y2 Redstone missile.

W-34 Fission warhead for atomic depth bomb
Lulu, laydown bomb Hotpoint/A, and
submarine-launched torpedo ASTOR.

Mk-36 Y2-Mod. 1

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4.

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5. Previously reported weapon development programs and feasibility studies continued,

6. A new development program, TX-43-X1, was established to provide the TX-43 laydown weapon with an airburst option.

7. The feasibility study of a high-yield warhead for the Air Force Bomarc missile was completed, and a development program was established to achieve application of the XW-47 warhead to this missile.

8. The following new feasibility studies were initiated:

1. Warhead for the improved MB-1 rocket,
2. Warhead for the improved ICBM's, Atlas and Titan, and
3. Warhead for the Minuteman, an Air Force solid-propellant ICBM.

WEAPONS TESTING

Operation HARDTACK

9. The first nuclear test of the HARDTACK series was conducted on April 27. Twenty-two tests had been conducted by June 30, as follows:

<u>Shot name and device</u>	<u>Date fired</u>	<u>Yield</u>		<u>Objective</u>
		<u>Expected</u>	<u>Actual</u>	
YUCCA DELETED	April 27	DELETED		Very high altitude effects test

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<u>Shot name and device</u>	<u>Date fired</u>	<u>Yield</u>		<u>Objective</u>
		<u>Expected</u>	<u>Actual</u>	
CACTUS SECRET	May 5	14 KT	16.6 KT	
FIR SECRET	May 11			
BUTTERNUT SECRET	May 11			
KOA SECRET	May 12	1.75 MT	1.3 MT	Prototype test
WAHOO SECRET	May 15			Effects
HOLLY SECRET	May 20			Prototype test
NUTMEG SECRET	May 21			
*YELLOWWOOD SECRET	May 25			Prototype test
MAGNOLIA SECRET	May 26			
*TOBACCO SECRET	May 29			Exploratory
*SYCAMORE SECRET	May 30			Prototype
*ROSE SECRET	June 2			Exploratory
UMBRELLA SECRET	June 8			Effects
MAPLE SECRET	June 10			Exploratory
WALNUT SECRET	June 14			Prototype test
ASPEN SECRET	June 14			
LINDEN SECRET	June 17			
ELDER SECRET	June 27			Prototype test
REDWOOD SECRET	June 27			

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<u>Shot name and device</u>	<u>Date fired</u>	<u>Yield</u>		<u>Objective</u>
		<u>Expected</u>	<u>Actual</u>	
HICKORY DELETED	June 28	DELETED	DELETED	DELETED
OAK DELETED	June 28	7.5 MT	9.35 MT	Prototype test

10. The preliminary results revealed that the yield of several of the devices (those indicated by an asterisk) fell substantially short of expectations. To obtain further data for the particular developments involved, additional tests were planned. Additional shots were also scheduled to take advantage of recent weapon research within the laboratories and to meet the need expressed by the Department of Defense for early development of specified weapon systems.

11. Six of the seven shots listed in the January-March report and not fired by June 30 continued to be scheduled, the one exception being the elimination of the BUCKEYE shot, listed as a contingent shot. Test firings added to the schedule included the LINDEN shot, fired June 17, and the following:

<u>Shot name and device</u>	<u>Ready date</u>	<u>Expected yield</u>	<u>Objective</u>
SEQUOIA	July 1		
DOGWOOD	July 5		
PISONIA	July 15		
PINE DELETED	July 27	DELETED	DELETED
OLIVE DELETED	July 28		

<u>Shot name and device</u>	<u>Ready date</u>	<u>Expected yield</u>	<u>Objective</u>
QUINCE DELETED	July 31	DELETED	DELETED

12. Johnston Island was selected as the site for conducting the high altitude effects tests, TEAK and ORANGE, with ready dates of August 1 and August 15, respectively.

Future Weapon Tests

13. Operation MILLRACE, planned for the late fall of 1958 at the Nevada Test Site, is to consist exclusively of underground shots. The schedule includes five small diagnostic shots, one relatively deep underground shot of 20 to 40 kilotons yield to explore the field of underground testing, and approximately eight safety tests, from which no significant nuclear yield is expected.

14. Preliminary planning was started for Operation TRUMPET, tentatively scheduled for the spring of 1959 at the Nevada Test Site.

WEAPONS FACILITIES

15. Operation of the Pinellas plant. A prime contract for a 2-year period was awarded in June to the General Electric Company for the operation of the Pinellas Peninsula plant near St. Petersburg, Florida. This plant, which produces external initiators for sealed-pit weapons, was formerly operated by General Electric under a subcontract with Sandia Corporation.

16. Storage facilities. The AEC concurred with the conclusion of the report of the Joint Board on Future Storage of Atomic Weapons that existing National Stockpile Sites and Operational Storage Sites, and existing and planned Service

Storage Facilities will be adequate to store the entire national stockpile through June 1962.

17. Ballistics test range. Negotiations were begun with officials of the Navajo tribe at Winslow, Arizona, for lease of approximately 40,000 acres of desert land on the Navajo reservation for use as a ballistics test range. At the range, measurements would be made of separation characteristics of unarmed bombs and missiles from high speed aircraft and of trajectory so that separation techniques, weapon shapes, and other factors may be evaluated.

18. The Winslow range would provide capability not only for testing weapon shapes dropped from current aircraft but from higher speed aircraft of the future. It would be operated by Sandia Corporation, which now operates the ballistics ranges at Tonopah, Nevada, and at Salton Sea, California. Use of the proposed range would enable the AEC to end operations at the Tonopah range which was established on an interim basis in 1956.

19. Construction. Expansion of weapon research and development facilities at the University of California Radiation Laboratory at Livermore was 42 percent complete and essentially on schedule on June 30. Construction of the Sigma Building at Los Alamos was 35 percent complete and slightly behind schedule.

20. The 1958 plant expansion of ACF Industries, Inc., at Albuquerque was 34 percent complete and on schedule. This plant produces cases from thermonuclear weapons.

21. Design of the building and supporting facilities for a 5-megawatt reactor for testing weapon components by Sandia Corporation in Albuquerque was started. (End of TOP SECRET section.)