

December 6, 1957

AEC 129/83

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ATOMIC ENERGY COMMISSION

PART III - WEAPONS

QUARTERLY PROGRESS REPORT  
TO THE JOINT COMMITTEE ON ATOMIC ENERGY.  
JULY - SEPTEMBER 1957

Note by the Secretary

Attached for consideration by the Commission during the week of December 9, 1957, in connection with AEC 129/81, is a draft of Part III - Weapons, of the Quarterly Progress Report to the JCAE. Part II - Special Nuclear Materials, is being circulated separately as AEC 129/82.

W. B. McCool

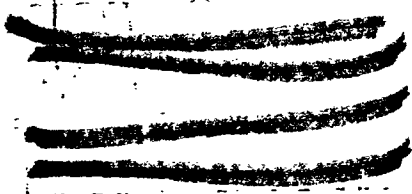
Secretary

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*W. Hagan* 1/2/86  
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*J. Diaz* 2/4/86

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Rpt. for the JCAE Vol. 3

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PART III

WEAPONS

WEAPONS PRODUCTION

1. The number and kinds of weapons produced and delivered to stockpile during the July-September quarter were in accordance with scheduled requirements based on Department of Defense guidance,

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WEAPONS DEVELOPMENT

4. A feasibility study was completed and a development program established for a nuclear projectile for the 155-millimeter howitzer.

5. Designs of the following weapons have been released and the weapons placed in the production-engineering phase:

a. Fission warhead, XW-34, with an operational availability date of April 1958 for three applications: the small depth bomb, Lulu; the laydown bomb, Hotpoint A; and the submerged-submarine-launched torpedo, ASTOR.

b. Class D thermonuclear bomb and warhead, TX/XW-27, with operational availability dates of January 1958 for the warhead and July 1958 for the bomb. (Warhead applications are for the Regulus and Rascal missiles.)

c. Class D thermonuclear bomb and warhead, TX/XW-28, with an operational availability date of January 1958. (Warhead applications are for the Matador and Regulus missiles.)

d. Class C thermonuclear bomb and warhead with gas boosting of the primary, TX/XW-39-X1, with an operational availability date of January 1958. This weapon and the Class D weapons above will be the first gas-boosted thermonuclear weapon to be produced.

e. Class B thermonuclear bomb, reduced fallout version, TX-36Y2-X1 - operational availability date, April-October 1958. This will be the first "clean" bomb to be produced.

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6. The Department of Defense has cancelled its requests for the development of the XW-27 and XW-39-X1 warhead applications to the B-58 Pod (Hustler), and for a feasibility study of a warhead for the Triton missile.

7. A new feasibility study was initiated for a high-yield warhead in the megaton range for the Air Force surface-to-air missile, Bcomarc.

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8. A study on the non-military uses of nuclear explosive devices, known as project PLOWSHARE, was initiated by the University of California Radiation Laboratory at Livermore.

9. All other development programs previously reported were continuing in the development phase on September 30,

#### TEST OPERATIONS

##### Operation PLUMBBOB

10. The operational phase of the PLUMBBOB series, which began on March 15, was concluded on October 12. A total of twenty-four nuclear tests were conducted between May 28 and October 7. Table I summarizes the operation.

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11. The operation included the satisfactory proof test of a warhead for an anti-submarine depth bomb and of **DELETED**

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18. The facilities at Oak Ridge for the fabrication of  
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September and ahead of schedule.

19. Expansion of facilities at the Kansas City Bendix  
Plant engaged in the production of non-nuclear weapons components  
was 69 percent complete and 79 percent scheduled.

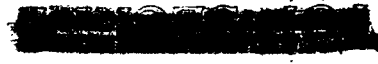
20. Construction of the South Albuquerque Works expansion  
for the production of thermonuclear weapons cases began in  
July.

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21. Negotiations are continuing with the General Electric  
Company for a prime contract for the operation of the Pinellas  
Peninsula Plant near Clearwater, Florida, to be administered after  
December by an area office of the Albuquerque Operations Office.  
Originally Sandia Corporation was to have procured the external  
initiators by subcontract from the General Electric Company.  
However, technical problems associated with research and develop-  
ment of the external initiators, together with AEC ownership of  
the plant changed the concept from one of procurement to one of  
managing and operating a plant engaged in a flexible program  
including the production of items under development. Sandia  
Corporation has requested to be relieved of all administrative  
functions associated with the plant in order to concentrate on  
providing technical assistance to the contractor.

22. As a result of a study made by the Albuquerque Operations  
Office, it was determined that the production of thermonuclear  
weapons cases at the Buffalo, New York, plant of ACF Industries,  
Inc., could be absorbed elsewhere within existing facilities.  
The Buffalo plant was phased in 1954 because of the magnitude of

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OPERATION PLUMBBOB  
NEVADA TEST SITE

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the heavy weapon program. However, recent estimates of the future need for heavy cases indicated that production capacity of both the Buffalo and South Albuquerque Works plants of ACF Industries was not needed. The operating contract at Buffalo was terminated, effective October 31, and a fixed-price contract is being negotiated for the remaining Mark 39 weapons cases to be produced at Buffalo in the period November 1, 1957 to April 1, 1958. The closing of this plant will result in more economical over-all weapons production.

Storage Facilities

23. Storage operations began in September at Operational Storage Site YOKE

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Research and Development Facilities

24. Livermore, California. Planning continued on the expansion in the Livermore area to provide additional facilities for the design and development of complete weapons from the conceptual stage to the production engineered stage. Over-all design on September 30 was 97 percent complete and on schedule. Over-all construction was 8 percent complete.

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25. Construction of the administration building for the weaponization facilities to be used by Sandia Corporation was 86 percent complete, and bids for the balance of the construction have been received.

26. Construction of the mechanical shops addition which began June 24, proceeded satisfactorily.



27. Construction of the programming building, part of the computer complex, was 95 percent complete as of September 30.

28. Los Alamos, New Mexico. A contract was awarded and initial construction began on the Sigma building in September. This building will replace the inadequate and temporary facilities now being used for certain research and development work.

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