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UNCLASSIFIED RETURN TO  
HISTORIAN'S OFFICE  
AFBMD

1174

HISTORY OF ACTIONS ON WS 117L  
GENERAL SCHRIEVER  
AS OF JAN 4- 1958

\* SEE QUARLES VIEW THIS T

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REVIEWED  
BY [Signature]  
DATE 2/8/58

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WDTR - 57-485  
Copy #1 of 3

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PART I - INCLUDES ACTIONS PRIOR TO 1 JULY 1957

PART I

UNCLASSIFIED

- | <u>ITEM NO.</u> | <u>ACTION TAKEN</u>   | <u>REFERENCE TAB NO.</u> |
|-----------------|---|--------------------------|
| 1.              | WS 117L Development Plan, 2 April 1956, presented to HQ ARDC, HQ USAF, and Secretary Quarles in series of briefings ending 10 May 1956.   |                          |
| 2.              | WS 117L approved by HQ USAF Development Directive No. 85, 3 August 1956 and HQ ARDC System Development Directive No. 117L, 17 August 1956. (Reference DD No. 85 and SDD No. 117L)                                     | A                        |
| 3.              | Because of fund limitations in FY 57 program only \$3,000,000 of FY 57 R&D funds were made available to initiate this development.  |                          |
| 4.              | On 28 August 1956, WDD requested HQ USAF to re-examine inadequate funding. A total of \$25,000,000 was considered minimum essential to meet the schedule approved by HQ USAF. (Reference WDD letter dated 28 Aug '56) | B                        |

ITEM NO.

ACTION TAKEN

REFERENCE TAB NO.

5. HQ USAF replied no more than \$10,000,000 of R&D funds could be made available in FY 57 and requested a redetermination of our non-research type funds which would be required. (Reference TWX AFDRD 57697 dated 23 October 1956)
6. WS 117L representatives briefed Coordinating Committee on Guided Missiles on 26 October 1956. (Reference Memo to Colonel Terhune dated 31 October 1956)
7. 21 November 1956. WDD informed HQ USAF that in addition to the \$10,000,000 FY 57 R&D funds which they were to make available, an additional \$18,000,000 non-R&D funds would be required. (Reference WDD letter dated 21 Nov 56)
8. Secretary Quarles briefed again on WS 117L on 29 Nov 1956. (Reference Memo to Colonel Terhune dated 5 December 1956)

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ITEM NO.

ACTION TAKEN

REFERENCE TAB NO.

9. HQ USAF informed WDD on 10 December 1956 that no more than \$10,000,000 in R&D funds could be made available in both FY 57 and FY 58 and asked that we again reconsider our requirements for non-R&D funds.

(Reference 10 Dec 1956 letter, HQ USAF)

10. On 30 January 1957, WDD again requested a total of FY 57 funding of \$28,000,000 and set FY 58 requirements at \$47,000,000 dollars. (Reference 30 Jan 57 letter)

11. On 4 February 1957 HQ USAF requested WDD for cost estimates for a WS 117L backup to VANGUARD during the IGY period. A total program cost estimate for preparation and launching of six (6) WS 117L scientifically instrumented satellites during the IGY was determined to be 91 million dollars and was relayed to HQ USAF on 8 Feb 57.

(Reference TWX AFDRD-SS 47017 and TWX WDTR 2-2-E)

[REDACTED]

117L

ITEM NO.

ACTION TAKEN

REFERENCE TAB NO.

12. Air Council considered WS 117L case on 7 February 1957 and considered WS 117L as one of several "high priority programs with insufficient funding" and referred the matter to Secretary Quarles for determination.
13. Due to the inadequate funding and the amount of funds in the second half of the fiscal year, the prime contractor was required to reduce his planned effort and stretch out the program. (Reference AMC letter to Lockheed dated 11 Feb 1957) J
14. HQ USAF prohibits orbital testing prior to January 1960. (Reference HQ USAF letter dated 6 March 1957) ✓ K
15. WS 117L was finally funded to a total of \$13.9 million dollars in FY 57.

3.0 million dollars received Sept 1956  
7.0 million dollars received January 1957  
3.9 million dollars received April 1957  
13.9 million (TOTAL)

PART II - INCLUDES ACTIONS SINCE 1 JULY 1957

[REDACTED] [REDACTED]

PART II

<u>ITEM NO.</u>	<u>ACTION TAKEN</u>	<u>REFERENCE TAB NO.</u>
1.	Contractor proceeded on the basis that FY 58 funding would total \$35,000,000 which had been our guidance from HQ USAF. (Reference DRD letter dated 6 March 1957)	K
2.	Contractor notified in August to stretch out program through October 1957 due to lack of FY 58 funding. (Reference BMO letter to Lockheed dated 13 August 1957)	L
3.	Contractor notified of R&D Fund Expenditure Ceiling in FY 58. As of 30 December 1957 these expenditure ceilings have not been removed. (Reference BMO letter to Lockheed dated 21 August 1957)	M
4.	On 22 August 1957 General Ritland briefed the Air Council on WS 117L.	
5.	On 3 September 1957, we received program planning guidance from HQ USAF that all activity on WS 117L must be limited to 10 million dollars in FY 58 R&D funds. (Reference HQ USAF letter dated 3 Sep 57 [REDACTED] [REDACTED] 57-485	N





ITEM NO.

ACTION TAKEN

REFERENCE TAB NO.

- 6. On 5 Sept 1957 HQ USAF requested a budget submission 0  
 based upon the Air Council briefing. This information  
 was presented to HQ USAF on 19 Sept 1957, essentially  
 requesting \$48 million dollars for the remainder of  
 FY 58 and \$106 million dollars for FY 59. This would  
 allow the WS 117L to proceed at a rate to allow initiation  
 of flight test program by the middle of Calendar Year 1959.  
 (Reference 19 Sept 1957 letter "WS 117L Funding for FY 58  
 and FY 59")
- 7. ODM-State-NSC-State Group briefed on WS 117L on 20 Sept 1957.
- 8. ODM group under Dr. Kybal briefed on WS 117L on 10 Oct 1957.
- 9. AFEMD notified HQ USAF of pending work stoppage at prime P  
 contractor for lack of FY 58 funds. (Reference TWX WDTR 10-8-E,  
 10 October 1957)
- 10. 10 October 1957 - Secretary Douglas in memo to General Lemay Q  
 approved the program recommended by Air Council, namely \$47.5  
 million FY 58 and \$106 million in FY 59. (Reference Memo to  
 General Lemay)





<u>ITEM NO.</u>	<u>ACTION TAKEN</u>	<u>REFERENCE TAB NO.</u>
11.	8 Oct 1957 telecon from Hq USAF requested funds required to accelerate WS 117L. Replied to this on 11 October 1957. (Reference Extract of Telecon 8 Oct 57 (Part 5) and WDTR reply to WDT0)	R
12.	AD-HOC Committee of ASD (R&D) briefed on WS 117L on 18 October 1957.	
13.	AFBMD received procurement authorization for additional \$35.1 million dollars for WS 117L, 15 Oct 57. (Reference AFDRD-SS TWX 51476)	S
14.	On 16 October 1957, Secretary Quarles was briefed again on WS 117L. Meeting inconclusive, no decision to proceed. (Reference Memo for Record, 25 Oct 1957)	T
15.	On 18 October 1957 HQ USAF placed an administrative freeze on commitment of the monies authorized on 15 October 1957, but allowed commitment of \$15.5 million dollars pending decision by Secretary Quarles to allow	U





ITEM NO.

ACTION TAKEN

REFERENCE TAB NO.

15. (cont'd)

the program to proceed. (Reference Memo for Record

U

dated 18 Oct 1957 and AFMMP TWX 51689)

16.

On 29 October 1957 BMO took action to place WS 117L

on Master Urgency List and assignment of a DX rating.

No action to date.

17.

1 November 1957. Secretary of Defense approved

recommendation of Air Council and WS 117L given

go-ahead at a maximum rate consistent with good

management.

18.

1 November 1957. AFBMD received procurement

V

authorization of an additional \$2.4 million dollars

for WS 117L. (Reference TWX AFMPP 52291)

19.

On 5 November 1957, HQ USAF removed administrative

W

freeze on \$35.1 million dollar procurement authorization.

(Reference TWX AFMPP 52392)





<u>ITEM NO.</u>	<u>ACTION TAKEN</u>	<u>REFERENCE TAB NO.</u>
20.	On 17 December 1957, AFEMD requested HQ ARDC to take action to release \$13.5 million dollars WS 117L facilities funds in FY 58. (Reference WDTR TWX 12-7-E)	X
21.	HQ USAF requested on 27 November 1957 to remove overtime restrictions currently in effect on the WS 117L program. No action to date. (Reference BMO letter to HQ USAF dated 27 November 1957)	Y
22.	Copy of Lockheed letters to Committee on WS 117L	Z



[REDACTED] [REDACTED]

DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS, UNITED STATES AIR FORCE  
DIRECTORATE OF RESEARCH AND DEVELOPMENT

D. D. NO. 85

Date 3 August 1956

DEVELOPMENT DIRECTIVE  
FOR  
(UNCL) WEAPON SYSTEM 117L ADVANCED RECONNAISSANCE SYSTEM

1. This Directive is applicable to GOR No. 80, dated 16 March 1955, and to the Development Plan for System No. 117L, dated 2 April 1956, approved by Headquarters USAF on 24 July 1956.

2. RELATIVE IMPORTANCE. A vital requirement for the defense of the United States is the earliest possible warning of a Soviet intention to attack. This system, employing an orbiting satellite, can provide at a reasonably early date, surveillance of the whole Soviet complex. The use of the varied sensing devices in the satellite system should reveal Soviet preparations for a possible attack well in advance of the event. Of equal importance is the need for acquisition of accurate target information, kept currently revised for effective counter attack. As a by-product, Soviet knowledge that they are under surveillance will, in itself, provide a forceful deterrent to the initiation of hostilities. This system is presently assigned a 1A priority and a 1-6 precedence rating.

3. FUNDING INFORMATION. Because of fund limitations, only \$3,000,000 of FY 1957 P-600 series funds are available to your Command to initiate this development.

4. The above statements constitute a directive to initiate such developments as can be supported with the above fund limitations.

/s/ BMK  
SPENCER S. HUNN  
Colonel, USAF  
Chief, Program Control Division  
Assistant for Development Programming  
Office, DCS/Development

/s/ R. L. Johnston  
Colonel, USAF  
Deputy Director of R&D  
Office, DCS/Development

WD-56-02503

AFCGM-A Control No. 1627

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DOWNGRADED AT 12 YEAR  
INTERVALS; NOT U.S. OFFICIALLY  
DECLASSIFIED. DOD DIR 5200.10

[REDACTED]  
HEADQUARTERSAIR RESEARCH AND DEVELOPMENT COMMAND  
Post Office Box 1395  
Baltimore 3, MarylandSDD No. 117L  
17 August 1956ARDC SYSTEM DEVELOPMENT DIRECTIVE  
ADVANCED RECONNAISSANCE SYSTEM

## 1. DIRECTED ACTION

Implementation, within the limits established by the following paragraphs of this directive, of System Development Plan No. WS 117L, dated 2 April 1956, title: "Advanced Reconnaissance System," is directed. (UNCL)

## 2. ASSIGNMENT OF RESPONSIBILITIES

a. Primary responsibility for the implementation and execution of this Development Plan is assigned to Headquarters ARDC, Western Development Division. (UNCL)

b. At the request of Western Development Division, and to the degree stipulated by that agency, the following Centers will be responsible for technical and/or test support, as appropriate, in the execution of the WS 117L Development Plan:

- (1) Air Force Cambridge Research Center.
- (2) Wright Air Development Center.
- (3) Rome Air Development Center
- (4) Holloman Air Development Center
- (5) Arnold Engineering Development Center
- (6) Air Force Missile Test Center.
- (7) Air Force Personnel and Training Research Center.

(UNCL)

## 3. CHANGES

No specific changes to the WS 117L Development Plan, dated 2 April 1956, are directed. However, it is desirable that the Advanced Reconnaissance System be capable ultimately of meeting all operational and technical intelligence requirements for visual reconnaissance; thus necessary developments to improve the proposed visual sensor system to permit maximum ground resolution should be incorporated in the Development Plan, and such developments initiated as soon as possible in parallel with the WS 117L development program. (SECRET)

[REDACTED]

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4. PERTINENT INFORMATION

a. Target Date - As indicated in Top Secret Supplement to WS 117L Development Plan, dated 2 April 1956. ~~(SECRET)~~

b. Funding Information - This system is being funded under line item 621-117L. (UNCL)

c. References -

(1) USAF General Operational Requirement No. 80 (SA-2c)  
16 March 1955

(2) ARDC System Requirement No. 5, 17 October 1955.

(3) USAF Development Directive No. 85, 3 August 1956.  
(UNCL)

d. Other -

(1) Security - Maintenance of special security restrictions on information relating to development progress, system status, and planned operational capabilities is directed. A Master Security Classification Guide for WS 117L will be prepared, and a roster maintained of individuals whose position, as known to your organization, requires overall knowledge of the sensitive aspects of the WS 117L development program. An up-to-date copy of this roster will be submitted for retention at this Headquarters, Attn: RDZGW.

(2) Initial Funding - Severe limitations on FY 1957 funds available to this Command permit allocation of only \$3,000,000 to initiate development of WS 117L. As soon as possible, ARDC Form 111, "Research and Development Management Report," should be submitted to Headquarters ARDC, Attn: RDZXP, outlining significant changes to the WS 117L Development Plan which will result from this inadequate initial funding.

~~(SECRET)~~

BY ORDER OF THE COMMANDER

JOHN A. CONNER  
Chief, Fiscal &  
Documentation Branch  
Executive Office  
Deputy Comdr/  
Weapon Systems

/s/ Don R. Ostrander  
DON R. OSTRANDER  
Brigadier General, USAF  
Ass't for Guided Missiles Systems  
Deputy Commander/Weapon Systems

~~This document is classified SECRET because it contains information on technological developments planned for the defense of the nation, the unauthorized disclosure of which would result in serious damage to the nation.~~

HEADQUARTERS  
AIR RESEARCH AND DEVELOPMENT COMMAND  
Post Office Box 1395  
Baltimore 3, Maryland

Amend No. 1 to  
SDD No. 117L  
28 August 1956

AMENDMENT TO ARDC SYSTEM DEVELOPMENT DIRECTIVE  
ADVANCED RECONNAISSANCE SYSTEM

1. AMENDMENT

ARDC System Development Directive No. 117L, dated 17 August 1956,  
is amended as follows:

a. Add to paragraph 4, as follows:

"e. Priority-Precedence -

The Advanced Reconnaissance System is currently assigned  
a development priority of 1A, and USAF Precedence List  
rating of I-6."  
(UNCLASSIFIED)

BY ORDER OF THE COMMANDER:

/s/Don R. Ostrander  
DON R. OSTRANDER  
Brigadier General, USAF  
Ass't for Guided Missiles Systems  
Deputy Commander/Weapon Systems

JOHN A. CONNER  
Chief, Fiscal & Documentation Branch  
Executive Office  
Deputy Commander/Weapon Systems

WD 56-03014



HEADQUARTERS  
AIR RESEARCH AND DEVELOPMENT COMMAND  
Post Office Box 1395  
Baltimore 3, Maryland

Amend No. 2 to  
SDD No. 117L

**TITLE: ADVANCED RECONNAISSANCE SYSTEM**

**AMENDMENT TO ARDC SYSTEM DEVELOPMENT DIRECTIVE**

**1. AMENDMENT**

ARDC System Development Directive No. 117L, dated 17 August 1956, is amended as follows:

a. Add paragraph 5, as follows:

**"5. ADDITIONS OR CORRECTIONS TO DEVELOPMENT PLAN**

- a. Project No. 8728, title: "Qualitative Personnel Requirements Information for the Advanced Reconnaissance System (System 117L)", is approved for the inclusion in the System 117L Development Plan. Implementation of Project No. 8728 will be at the discretion of Western Development Division (WDIR) and contingent upon availability of necessary resources."

**BY ORDER OF THE COMMANDER:**

28 Aug 56

**SUBJECT:** Requirement for Additional Fy 1957 Funds for WS 117L

**THRU:** Commander  
Air Research and Development Command  
ATTN: RDZG  
P.O. Box 1395  
Baltimore, Maryland

**TO:** Deputy Chief of Staff, Development  
Headquarters, USAF  
Washington, D. C.

1. A prerequisite for successful initiation and implementation of the program directed in Headquarters, USAF Development Directive Number 85, dated 3 August 1956 and Headquarters, Air Research and Development Command Systems Development Directive Number 117L, dated 17 August 1956 is an early availability and assignment of additional funds from the fiscal year 1957 Budget Program. A team of military, industrial, and academic professional scientists and engineers is currently standing in abeyance pending a resolution of the funding problems. Members on this team have strong background in the system requirements, having participated in the feasibility program and the preliminary design study programs. A strong enthusiasm for the program and a spirit of impatience to attack the problems in an all-out fashion prevails. Any appreciable delay in the resolution of funding problems will result in a loss of enthusiasm and, of greater consequence, a disbanding of team members to the detriment of any subsequent program efforts. Industry, the academic institutions, and in some cases the military cannot indefinitely postpone the re-assignment of personnel to other programs while extended deliberations on supporting funds are in process.

2. The type and total of additional fiscal year 1957 funds required are:

P-620	\$11,400,000
P-131	\$ 8,500,000
P-244	\$ 2,000,000

The determination of funds required is based upon the prime contractor's estimate for second, third and fourth quarter fiscal year 1957 expenditures, (Incl 2) the estimates provided by Wright-Air Development Center, Air Force Cambridge Research Center and Rome

WDTR 56-131

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[REDACTED] [REDACTED]

WDD (HQ ARDC) Subject: Requirement for Additional Fy 1957  
Funds for WS 117L

Air Development Center for research and development in technical areas peculiar to Air Research and Development Command Center capabilities, (Incl 1), the need for early procurement action on long-lead time items, (Incl 3), and a consideration of the many problem areas involved in establishing an integrated, progressive work schedule to provide an operational WS 117L by the established national need dates.

3. A total of three million dollars in EFSN 2-117 is currently available for the implementation of the WS 117L program. It is planned to place the available funds on purchase request for a contract with the Lockheed Aircraft Corporation as System Prime Contractor on or about 15 September 1956, and zero dollars into the Air Research and Development Command center directed efforts. This management decision should not be construed as one which lessens the importance of the need for solution of the problems assigned the various Air Research and Development Command centers, but one which emphasizes the importance of holding together the development team as indicated in paragraph 1, above. An early decision regarding additional funds is requested if the WS 117L Project Office is to establish a properly oriented program of research, development and test, and is to effectively direct the contractor's efforts in the various subsystem areas. Early knowledge regarding additional funds is essential for a determination of initial rates of expenditure and level of effort as well as for planning and timing for increased expenditure rates and work effort to the levels originally planned and still deemed a requirement for successful and timely achievement of an operational ARS.

4. It is requested that fiscal year 1957 funds in the totals and by Budget Project as listed in paragraph two above be made available to the Commander, Western Development Division at the earliest possible date. The additional funds requested are required for the continuation of a properly balanced effort during the remainder of fiscal year 1957, and are essentially those asked for in the System Development Plan No. WS 117L, dated 2 April 1956, title: "Advanced Reconnaissance System" after adjustment for the time presently elapsed in fiscal year 1957.

   
WDD (HQ ARDC) Subject: Requirement for Additional Fy 1957  
Funds for WS 117L

Funding requirements for fiscal year 1958 will be essentially those indicated in the above referenced Development Plan with some adjustment due to the fact that the program is getting a later start than was proposed in the Plan.

FOR THE COMMANDER:

3 Incls:

1. ARDC Center requirements  
Fy 1957
2. System Prime Contractor  
IAC, Estimated Fund
3. Guided Missile Ground  
Handling Equipment

SIGNED

CHARLES H. TERHUNE, JR  
Colonel, USAF  
Deputy Commander  
Technical Operations

COPY

WDD (ARDC), Subject: Requirement for Additional FY 1957 Funds for  
WS 117L

RDZGW (28 Aug 56)

1st Ind

HEADQUARTERS, AIR RESEARCH AND DEVELOPMENT COMMAND, Post Office Box  
1395, Baltimore 3, Maryland 29 August 1956

TO: Deputy Chief of Staff, Development, Headquarters USAF,  
Washington 25, D. C.

1. This Headquarters strongly supports the request contained in the basic letter and considers the funds requested as the minimum necessary to an effective prosecution of the WS 117L development program.

2. Funds in the amounts and categories requested are not currently available to this Headquarters. Appropriate action to provide these funds is urgently recommended.

3. Your attention is particularly invited to the need for an early decision in this regard for the reasons stated in paragraph 3 of the basic letter. It should be noted that the development team referred to in paragraphs 1 and 3 of the basic letter covers, in addition to these personnel on the program at Lockheed, major Lockheed subcontractors such as Eastman Kodak and CBS Laboratories as well as contractors on specific component development being controlled by the ARDC Centers. It is estimated that the over-all team amounts at present to approximately 205 people.

FOR THE COMMANDER:

SIGNED

3 Incls  
n/d

DON R. OSTRANDER  
Brigadier General, USAF  
Assistant for Guided Missiles Systems  
Deputy Commander/Weapon Systems

This indorsement is not  
classified in itself.

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PRIORITY

FROM: HQ ARDC

TO COFS, HQ USAF, WASH, D. C.

~~SECRET FR RDZGW-10-3-E~~

ATTN: AFDDC. REFERENCE WDD SECRET LETTER DATED 28 AUGUST 1956, SUBJ: REQUIREMENT FOR ADDITIONAL FY 57 FUNDS FOR WS 117L AND 1st IND THERETO BY THIS HQ. CURRENT NEGOTIATIONS WITH LOCKHEED AS PRIME SYSTEM CONTRACTOR FOR 117L ARE SERIOUSLY HAMPERED BY LACK OF DEFINITIVE INFORMATION ON FUNDING PROGRAM FOR FY 57. AVAILABILITY OF A FIRM FY 57 FUNDING FORECAST FROM YOUR HEADQUARTERS BY 15 OCTOBER WOULD (A) PERMIT NEGOTIATION TO PROCEED WITH LOCKHEED ON A SOUND PLANNING BASIS, AND (B) PLACE LOCKHEED IN A STABLE POSITION FOR RETAINING THE SUBCONTRACTOR STRUCTURE WHICH IS VITAL TO SUCCESSFUL PROSECUTION OF THE 117L PROGRAM. REQUEST INFORMATION AS SOON AS POSSIBLE ON THE FUNDING PROGRAM, PARTICULARLY IN THE P-600 AREA.

11 1400Z

Oct 56

SYMBOL: RDZGW

Lt Col Paul E. Worthman

E. A. Kiessling, Col., USAF  
Deputy Assistant for Guided Missiles  
Deputy Commander/Weapon Systems

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23 Oct 1956

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FM HED USAF WASHINGTON DC

TO ZEN/COMARDC BALTO MD

INFO COM WDD INGLEWOOD, CALIF

SECRET FROM AFDRD CITE 57697. REFERENCE YOUR MESSAGE RDZGW 10-3-E AND LETTER 28 AUG 56, SUBJECT "(UNCL) REQUIREMENT FOR ADDITIONAL FY 57 FUNDS FOR WS 117L", LIMITATION OF FUNDS NECESSITATES PROLONGING OF SYSTEM 117L DEVELOPMENT. PHASING WILL BE BASED UPON MINIMUM BALANCED RATE OF DEVELOPMENT PROGRESS ON VEHICLE AND COMPONENTS INSTEAD OF ON DEVELOPMENT PLAN TARGET COMPLETION DATES. THREE MILLION DOLLARS PRESENTLY ALLOCATED CONSTITUTES TOTAL FUNDS NOW AVAILABLE. THIS HEADQUARTERS CONTEMPLATES REPROGRAMMING ADDITIONAL SEVEN MILLION DURING FY 57 FROM P-600 FUNDS. ADVISE REVISING DEVELOPMENT PLAN TO REFLECT AN ANNUAL TEN MILLION DOLLAR RATE OF EXPENDITURE AND DETERMINING EXTENT AND SPECIFIC APPLICATION OF FY 57 AND FY 58 NON-P-600 FUNDS EARLIEST, TO ENABLE REPROGRAMMING. NO NON P-600 FUNDS ARE NOW PROGRAMMED FOR THIS SYSTEM.

BT

23/0154Z OCT RJWPM

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WDSSA 56-214

WDTR

31 Oct 56

MEMORANDUM FOR Colonel Charles H. Terhune, Jr.

SUBJECT: Trip Report

1. During the period 23 - 26 October 1956, the undersigned accompanied by Lieutenant Colonel Quanten A. Riepe, WDTR, visited Washington, D. C. for the primary purpose of presenting a briefing on WS 117L to the Coordinating Committee on Guided Missiles (CCGM) of the Office of the Assistant Secretary of Defense for R & D. A secondary purpose of the trip was to assist Colonel Leonhard, WDI, in informally discussing WDD facility needs in regard to WS 117L with representatives of the Assistant Chief of Staff for Installations, Headquarters USAF. On the afternoon of 24 October 1956, the undersigned made a brief visit to Baltimore, Maryland, to coordinate several minor matters.

2. Prior to the presentation to CCGM, we saw General Putt. Guidance from WDG was to concentrate on the technical aspects of the system and minimize discussion of schedules and funding. General Putt agreed completely with this approach. Colonel R. L. Johnston, AFIRD, (AF member of CCGM) had told us earlier that DOD had not yet officially approved WS 117L for systems development per se, although they have approved WS 117L as a budget line item. General Putt, after a brief discussion with Mr. Horner, thought that no further permission from DOD was needed and that the present USAF Development Directive was quite valid. General Putt indicated for our own benefit that for the ARS Program we should plan on ten million dollars in P-600 funds for FY 57 plus those non P-600 funds which we could justify. This was essentially the information contained in the Headquarters USAF TWX cite 57697 dated 23 October 1956. General Putt is quite evidently making every attempt to avoid bringing up WS 117L before the Secretary until resolution is achieved on pending problems in regard to WS 107A and WS 315A. There was some vagueness as to whether or not WS 117L was actually in the present Air Force FY 58 budget and, if so, for how much.

3. The dry run of the presentation was given as scheduled on 25 October 1956 to Colonel Johnston and members of the Air Staff without particular incident. Colonel Johnston's primary comments were around the political aspects of the situation in CCGM, as well as expected questions and methods for handling these. At his request, we simplified our funding charts down to one chart which merely presented our estimated FY 57 and 58 needs based upon the development plan schedule. A copy of the figures submitted at the

WDTR 56-209

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presentation is attached. Further, the introductory statement as to the need for the ARS as an essential intelligence source was deleted by Colonel Johnston on the grounds that we did not have to justify the requirement.

4. The presentation to CCGM on 26 October 1956 was made with approximately 25 additional people present. Colonel Johnston took the approach that the presentation was primarily for informational purposes only, since the Secretary of the AF has not yet given final approval to the program. It might be added at this point that we had been unable to determine the specific agenda item in front of CCGM until we actually went into the presentation. It turned out that they were considering six million in P-600 funds for FY 58 for the ARS plus some nine million in FY 58 P-300 funds. Neither of these figures were those submitted by WDD. The presentation to CCGM by the undersigned was made in accordance with the WDG guidance received and cited above, and was apparently satisfactory since there were no specific questions on the technical approach. One representative who appeared to be a Naval Officer in civilian clothes, tried several devices of submarining the entire program by raising such points as "the need for prior approval from the State Department before embarking on the R&D program", "the value of money spent on this program as compared to other missile programs", etc. In response to a question on the total cost of the program, I replied that I did not have this figure available since it would depend upon the specific definition as to what would be included in the over-all program. At this point, Dr. Furnas volunteered (apparently from the Lockheed Aircraft Corporation presentation he had received) the figure of  $\frac{1}{2}$  billion dollars for the over-all program, including operational costs. I offered no comment upon this figure. The committee ended their discussion on the item by approving the P-600 item and deferring without prejudice the P-300 item. After the presentation, we were told by Major Dillon (AFDRD Project Officer for WS 117L) that there were presently no FY 58 P-600 funds in the AF budget.

5. In company with Colonel Leonhard, we gave a desk-top presentation on WS 117L to General C. P. Brown, AFCIE, and members of his staff and informally advised them as to the nature of our facility requirements. They agreed to survey existing AF Installations with a view toward determining what of our facility requirements could be met from within the existing inventory. Colonel Leonhard cautioned the group on several occasions as to the fact that this program has not yet received Secretarial approval and, therefore, must be closely held.

[REDACTED] [REDACTED]

6. Comment - As the result of this trip, the undersigned has sincere doubts as to the effectiveness of managing WS 117L through present structure and, in some cases, personell (from Hq ARDC through AFIRD to the OASD (R&D)). Support by Major Dillon appeared to me to be both lukewarm and not too effective in so far as WS 117L is concerned. WDIR has gone to considerable effort to keep Major Dillon advised and to make him feel a member of the development team. One could only attribute his lack of enthusiasm in support of the project to his personal likes and dislikes. To illustrate the problem, he (Dillon) is also responsible for a trainer aircraft development program and stated that WS 117L must compete with this and other "support" projects for that "cut" of the AF R&D budget available to his branch. This is obviously an untenable situation. The most surprising factor was that he was very poorly informed as to the status of various actions in Hq USAF regarding the program. Colonel Ahola, WDD Liaison Officer, was in fact, much better informed on many of these details than was Major Dillon. In regard to CCGM it was quite apparent that the committee had difficulty because ARS is not a "conventional" missile and that they would develop enthusiasm for the project only if it were directed from above. Only Dr. Furnas appeared to be in complete support of the program. It should be noted that none of the committee showed any familiarity with the intelligence and reconnaissance aspects of the problem, and this causes me to wonder if they are appropriate to the job.

7. In view of General Schriever's concern over the CCGM briefing, the above report may be of interest to him.

1 Incl  
WS 117L FY-57 & 58  
Fund Breakdown

SIGNED  
FREDERIC C. E. ODER  
Lt. Colonel, USAF  
Assistant for WS 117L  
Technical Operations

[REDACTED]

WDIR 56-209

[REDACTED]

WS 117L

	<u>FY 57</u>	<u>FY 58</u>
P-100	8.5	35.6
P-200	2.0	26.0
P-300	0	34.3
P-600	14.4	33.0

Incl 1

WDIR 56-209

012

HPB008 TXB005EKKHQE003

RR RJWPHF

DE RJEPHQ 980

R 211845Z

FM HEDUSAF WASH D C

TO COM WDD INGLEWOOD CALIF

BT

UNCLASS FROM AFDRD-SS 37326 REFERENCE IS MADE TO YOUR LETTER SUBJECT  
FUND REQUIREMENTS FOR WEAPON SYSTEM 117L PROGRAM DATED 21 NOV 1956.  
REQUEST THAT YOU REVIEW THE FUNDING INFORMATION PRESENTED IN EACH  
OF THE SUB-PARAGRAPHS OF PARAGRAPH 1 OF REFERENCED LETTER WITH A VIEW  
TOWARD DETERMINING IF ITEMS FOR WHICH P-200 FUNDS WERE RECOMMENDED  
MAY BE OBTAINED WITH P-100 FUNDS. ONE ELEMENT OF INFORMATION  
NEEDED IS A DETERMINATION OF WHICH ITEMS MAY BE PROCURED AS CFE  
FROM THE PRIME CONTRACTOR AS DISTINGUISHED FROM THOSE WHICH WILL BE  
PROCURED DIRECT BY THE AIR FORCE FROM OTHER CONTRACTORS TO BE GFE  
TO THE PRIME CONTRACTOR. REQUEST THAT YOUR RECOMMENDATIONS BE  
FORWARDED THIS HEADQUARTERS AS SOON AS POSSIBLE.

BT

21/1925Z DEC RJEPHQ

WDTR, WDD, 21 Nov 56, Subj: Fund Requirements for Weapon System 117L Program.

RDZGW

1st Ind

Nov 26 1956

HEADQUARTERS, AIR RESEARCH AND DEVELOPMENT COMMAND, Post Office Box 1395,  
Baltimore 3, Maryland

TO: Director of Research and Development, Headquarters USAF,  
Washington 25, D. C.

1. This Headquarters strongly supports the request contained in the basic letter and considers the funds requested to be a minimum requirement for a balanced system-oriented approach to the WS 117L Program during the remainder of FY-57.

2. Funds in the amounts and categories requested are not currently available to this Headquarters. Appropriate action to provide these funds is urgently recommended.

3. Your attention is particularly invited to paragraph 6 of the basic letter which points out the need for the P-100 and P-200 funds no later than 15 December 1956, and to paragraph 5 which indicates a need for additional P-600 funds by 25 December 1956.

FOR THE COMMANDER:

**SIGNED**

DON R. OSTRANDER  
Brigadier General, USAF  
Assistant for Guided Missiles Systems  
Deputy Commander/ Weapon Systems

This indorsement is not  
classified in itself.

CY of 1st Ind & ltr fwded to RDSCB  
L/C Hart RDZGW

308

26 Nov 56

if

[REDACTED] [REDACTED]

NOV 21 1956

WDTR

SUBJECT: Fund Requirements for Weapon System 117L Program

THRU: Commander  
Air Research and Development Command  
ATTN: HDZG  
Post Office Box 1395  
Baltimore, Maryland

TO: Director of Research and Development  
Headquarters USAF  
Washington 25, D. C.

1. Reference TWX AFDRD 57697, dated 23 October 1956. On 7 November 1956, Lieutenant General Donald Putt was briefed by Lt Colonel Frederic C. E. Oder on the planned program for research, development and engineering test of WS 117L for the balance of FY 57, utilizing \$10,000,000 in P-600 funds. This briefing detailed the planned utilization of funds by the prime contractor, sub-contractor and the ARDC Centers. On the same date, General Putt was briefed on the planned program in the P-100 and P-200 areas as detailed below. General Putt indicated general concurrence with the information as presented. The following information reflects the budget program P-100 and budget program P-200 FY 57 fund requirements for the conduct of a balanced system oriented approach to the development of essential components of the WS 117L program during the remainder of FY 57.

a. Vehicle Subsystem: Two hundred forty thousand dollars (\$240,000) P-100 funds for fabrication of first three orbit test vehicle airframes after mock-up; three hundred forty thousand dollars (\$340,000) P-200 funds for ground-handling carrier, check-out equipment, fuel-carrying and handling equipment.

b. Propulsion Subsystem: Three million two hundred eighty thousand dollars (\$3,280,000) P-100 funds for incremental payments on twelve main engines and twenty eight control verniers; two hundred eighty thousand dollars (\$280,000) P-200 funds for test and ground-handling equipment.

WDTR 56-231

[REDACTED] [REDACTED]

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[REDACTED] [REDACTED]

c. Auxiliary Power Unit Subsystem: One hundred eighty thousand dollars (\$180,000) P-100 funds for seven battery units for ground and flight test; forty thousand dollars (\$40,000) P-100 funds for cost of three chemical auxiliary power supply propellant feed systems; one hundred forty thousand dollars (\$140,000) P-200 funds for test equipment.

d. Guidance and Control Subsystem: Five hundred ten thousand dollars (\$110,000) P-100 funds for incremental payments on four AC Spark Plug units for FY 59 delivery, one orbital boost guidance unit, two transition control systems, one transition computer and one ascent guidance unit; three hundred forty thousand dollars (\$340,000) P-200 funds for ground support and test equipment for preceding guidance and control units.

e. Visual Subsystem: Sixty thousand dollars (\$60,000) P-200 funds for test equipment for experimental models.

f. Ferret Subsystem: Thirty thousand dollars (\$30,000) P-200 funds for test equipment for experimental models.

g. Infra-red Subsystem: One hundred fifty thousand dollars (\$150,000) P-200 funds for test equipment for experimental models.

h. Ground-Space Communications Subsystem: Four hundred twenty thousand dollars (\$420,000) P-100 funds for airborne communications equipment; one million eight hundred thousand dollars (\$1,800,000) P-200 funds for incremental payment on three nulling interferometers, total cost one MSQ-1A radar and two COTAR systems.

i. Data Processing Subsystem: Eight hundred eighty thousand dollars (\$880,000) P-200 funds for computers, simulators, receivers and duplicators.

2. The sub-total FY 57 P-100 fund requirement is \$4,670,000. The sub-total FY 57 P-200 fund requirement is \$4,020,000.

3. An additional requirement exists for four (4) each SM 65 boosters. Seven million two hundred forty seven thousand dollars (\$7,247,000) P-100 funds for incremental payment on four SM 65 boosters; one million nine hundred sixty four thousand dollars (\$1,964,000) P-200 funds for incremental payment on associated ground-handling equipment.

4. The grand total FY 57 P-100 fund requirement is \$11,917,000. The grand total FY 57 P-200 fund requirement is \$5,984,000.

[REDACTED] [REDACTED]

5. The currently established contractor expenditure curve indicates additional FY 57 P-600 funds will need to be placed on Contract AF 04(647)-97 by 25 December 1956. It is requested that an additional seven million dollars (\$7,000,000) of FY 57 P-600 funds be made available to the WS 117L Program by 1 December 1956 to prevent a work stoppage.

6. It is to be emphasized that the detailed, planned program in the non-P-600 area, contained in paragraph 1 of this letter, represents an optimum balanced system oriented approach to the WS 117L Program during the remainder of FY 57. The total FY 57 P-100 and P-200 funds required should be made available at the earliest possible date and no later than 15 December 1956 to allow timely initiation of procurement action on long lead time items if a balanced program schedule is to be maintained.

FOR THE COMMANDER:

SIGNED

CHARLES H. TERHUNE, JR.  
Colonel, USAF  
Deputy Commander  
Technical Operations

copy furnished:  
Hq USAF  
ATTN: AFCCM-A

Major Zelenka 1343

3

WDTR 56-231

[REDACTED] [REDACTED]



C O P Y

WDTR

5 December 1956

MEMORANDUM FOR COLONEL TERHUNE

SUBJECT: Report of Trip to Hq USAF 27-30 November 1956

1. In accordance with Hq USAF request contained in TWX, cite 58580, dated 13 November 1956, the undersigned together with Lt. Colonel Quanten A. Riepe and Lt. John C. Herther departed Western Development Division on 27 November 1956 for the purpose of participating in a presentation to Secretary Quarles at 10:00 - 29 November 1956 on the present status of the critical components of the early and feasible Advanced Reconnaissance System program.

2. We were able to discuss the proposed presentation with General Schriever on the morning of the 28th and as a result of this discussion made some rearrangements in our briefing. Further, we together with Mr. Carter and Mr. Salter of MSD/IAC prepared a "script" for each of the participants. Inclosure 1 is a copy of that script, Inclosure 2 is a list of project office, consultant and contractor personnel present for the presentation for Mr. Quarles.

3. On the evening prior to the schedule time of the presentation, some uncertainty developed as to whether or not Secretary Quarles would be able to hear the presentation at all due to the budget blitz. Fortunately, he was able to attend as scheduled.

4. At 8:15 - 29 November 1956, Western Development Division representatives together with our "panel of experts" got together and held a dry run on the presentation. General Schriever was able to attend this session and furnished excellent guidance to the group.

5. During the presentation, Secretary Quarles asked quite a number of questions to the extent that the over-all session lasted 1 hour and 45 minutes. Since he was on a first name basis with all of our "panel of experts" the session was fairly informal. Those who attended the presentation, such as General Putt and Colonel Johnston, who are familiar with the Secretary's usual reactions to presentations of this sort, felt that we had been quite successful in satisfying the Secretary's concerns and questions concerning the system. The Secretary made several comments but they would be confusing out of context. General Putt told me later that after a

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"little more softening up by Mr. Horner and myself" we (WDD) should bring in an over-all scheduling and systems presentation. He (General Rutt) is aware of our P-100 and P-200 request for 17 million and expects to be able to get us the money.

6. Lt. Colonel Riepe and I made a brief contact with Colonel R. J. Quinn, Jr. and Lt. Colonel C. M. Adkins, AFOIN-LX2. Their office had requested RADC to brief AFOIN on WS 117L. We explained the present project set-up and convinced them that at present, things were too unclear to make feasible a valid presentation to the Directorate of Intelligence.


7. I discussed with Colonel C. P. Richman and Mr. Eugene Barnard of AFOIN-Z their experiences in regard to intelligence handling problems similar to that which can be expected with WS 117L.

8. The undersigned together with Lt. Colonel Quentin A. Riepe established initial contact with representatives of Reconnaissance Branch, Operations Control Division of the Directorate of Operations: Colonel W. E. Basye, Chief, AFOOP-OC-R, Colonel C. C. Andrews, and Major R. C. Brown. Our visit was somewhat timely inasmuch as Colonel Basye had just received a copy of the WS 117L Development Plan and Development Directive and was quite concerned over the publication of a preliminary operational concept. We advised him of the study that Western Development Division had requested from Rand which is directed to this subject (among others) and suggested that in view of the unique and somewhat complicated nature of WS 117L, it might be desirable that his office work closely with the project office in regard to weapon system documentation when such is required. The primary purpose of the visit was to assure that Hq. USAF would not come out with a preliminary operational concept until adequate time had been allowed to study the problem. It does not appear that Colonel Basye's people will press for an early issuance of this document although it is also obvious that issuance can not be too long delayed because of the many costly matters which must be resolved particularly in the training and operational planning end of the project.

**SIGNED**

- 3 Incls
1. Presentation Script
  2. Project office consultant & contractor personnel
  3. Those in attendance at the presentation

FREDERIC C. E. ODER  
Lt. Colonel, USAF  
Assistant for WS 117L  
Technical Operations

- 
- I. Introduction (Oder) 3 Minutes
  - II. Critical and Peculiar Subsystem for Early ARS Capability

- A. Guidance and Control (Draper) - 5 minutes

- 1. Pre-orbital Guidance

- a. Use of Past USAF Experience and R & D.
      - b. Use of 315A System
      - c. Accuracy of System (Orbital-Ellipticity)
      - d. Feasibility of Inertial System
      - e. Time Scale of Development

- 2. Orbital System

- a. Stability required
      - b. Effect of Attitude Control and Stabilization on accuracy of data collecting system (be prepared to discuss interaction with visual system)
      - c. Feasibility of System
      - d. Time Schedule of Development



*Includ!*



B. Visual Reconnaissance System (MacLeish and Goldmark) (15 Min)

Involves

- EKC
- (1) Camera - Film - Readout -  
Ground Reconstitution
  - (2) State of Development
  - (3) Feasibility
  - (4) Time schedules for Development

(be prepared to answer questions regarding  
"Minicard" sorting and recall use in early capability)

C. Utility of Results of Pioneer ARS System (MacDonald) (10 Min)

- (1) What can be seen as a function of resolution?
- (2) What good is it?
- (3) When does need exist?

D. Ground-Space Communications (Ridenour) (5 Min)

- (1) Acquisition - our ability to do so -  
by what means
- (2) Tracking - accuracy effects ability to position  
photographs - by what means - use of successive  
passes
- (3) Data Link - bandwidth and effective picture quality

E. Battery Auxiliary Power (Salter) (3 Min)

- (1) Power Requirement for early system
- (2) Battery system wt. and output/lb and effect  
on duration
- (3) Feasibility of batteries and the operational life
- (4) Availability date of batteries for this use

[REDACTED]

III. Follow-on Systems

A. Infrared Reconnaissance (Salter) (3 Min)

- (1) Concept - Phase I and II
- (2) AICEM Warning and Tracking
- (3) Where we stand - feasibility - use of other tests and results

B. Electronic Reconnaissance (Ridenour) (3 Min)

- (1) Limitations of Satellite Ferret as function of time
- (2) ARS Approach to Ferret Problem
  - a. Signal density
  - b. New signal search
  - c. Order of battle

C. Advanced AFS Development (Major Anderson) (3 Min)

- (1) Nuclear
  - a. Radioisotope
  - b. Reactor
- (2) Chemical and Solar (Mr. Salter) (3 Min)

C O P Y

Project Office Consultant and Contractor Personnel who appear before the Secretary:

Lt. Colonel Frederic C. E. Oder - WDD  
Lt. Colonel Quenten A. Riepe - WDD  
Lt. John C. Herther - WDD  
Dr. Duncan McDonald - Boston University  
Dr. C. Stark Draper - Harvard University  
Dr. Louis Ridenour - Lockheed Aircraft Corporation  
Dr. Ford Tuttle - Eastman Kodak Company  
Dr. Peter Coldmark - CBS Laboratories  
Mr. Jack Carter - Lockheed Aircraft Corporation  
Mr. Richard Leghorn - Eastman Kodak Company  
Dr. Kenneth MacLeish - Eastman Kodak Company  
Mr. Robert Salter - Lockheed Aircraft Corporation

Incl #2

**[REDACTED]**

Those in attendance at the Presentation:

The Honorable Donald A. Quarles - Secretary of the Air Force

The Honorable Lyle S. Garlock - Assistant Secretary of the  
Air Force - (Financial Management)

General T. D. White - CS/USAF

Lt. General D. L. Rutt - BCSD

Mr. D. R. Jackson - OSAF (Materiel)

Mr. William Weitzen - OASAF (R&D)

Colonel R. L. Johnston - AFDRD

Colonel A. T. Culbertson - AFDRD

Colonel F. L. Moore - AFDRD

Colonel O. G. Johnson - AFDAP

Lt. Colonel J. R. Finton - AFDDC

Lt. Colonel E. A. Doty - AFDRD

Lt. Colonel W. R. Kelso - SAFRD

Major F. J. Dillon, Jr. - AFDRD

Commander R. C. Truax - WDD (WDTR)

Lt. Colonel P. E. Worthman - Hq. ARDC (RDZGW)

Lt. Colonel V. M. Genez - Hq. ARDC (RDZFI)

Lt. Colonel E. Gibbs - Hq. ARDC (Project Vanguard Liaison Officer)

Mr. R. D. Coons - Hq. ARDC (RDTEW)

Colonel J. C. Armstrong - AEC

Major G. M. Anderson - AEC

COPY

DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS UNITED STATES AIR FORCE  
WASHINGTON 25, D. C.

10 Dec 56

SUBJECT: (Uncl) Requirement for Additional FY 1957 Funds for  
WS 117L

TO: Commander  
Air Research and Development Command  
Post Office Box 1395  
Baltimore 3, Maryland

1. Reference is made to letter, same subject, dated 28 August 1956, from Western Development Division with 1st Indorsement by Headquarters, Air Research and Development Command dated 29 August 1956, and to message from this Headquarters AFRD 57697 dated 22 October 1956.

2. The three million dollars orginally funded for this system in FY 57 has been increased to a total of five million dollars. It is the intention of this headquarters to add another five million P-600 funds during this fiscal year. To obtain this money it will be necessary to reprogram from other systems as soon as the sources can be determined. System 117L will be given first priority in P-600 funds reallocation. You will be notified by message as soon as all or part of the funds are reprogrammed to this system.

3. For management planning purposes it is essential that you plan your expenditures based on a ten million dollar program ceiling for P-600 funds during FY 1957 and FY 1958. No more than \$10,000,000 can be made available in either year. Funds required in the P-100, P-200 and P-300 areas will be handled as separate items and are being reviewed at this time.

4. The following will be used for program planning guidance:
- a. Continue the development and testing of all component items.
  - b. Do not construct a mock-up for inspection purposes or a complete experimental test item until further advised.
  - c. Do not plan to launch this system prior to FY 1961.
  - d. Launching facility construction funds are not included in the FY 58 budget.

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/s/ D. L. Putt  
D. L. PUTT  
Lieutenant General, USAF  
Deputy Chief of Staff,  
Development

WD 56-05231



COPY

WDTR

30 Jan 57

SUBJECT: Planning and Funding Requirements for WS 117L

THRU: Commander  
Air Research and Development Command  
ATTN: RDZG  
Post Office Box 1395  
Baltimore, Maryland

TO: Deputy Chief of Staff, Development  
Headquarters USAF  
Washington 25, D. C.

1. In your letter dated 10 December 1956, (U) Requirement for Additional FY 1957 Funds for WS 117L to the Commander, Air Research and Development Command, guidance is furnished for the planning of the Advanced Reconnaissance System Program. While this guidance will be reflected in a revision to the WS 117L Development Plan now in preparation, there are certain aspects of the problem which should be brought to your attention at this time.

2. I have interpreted your guidance that we should not plan to launch this system prior to FY 1961 to mean that a satellite with a military reconnaissance capability not be launched on an operationally useful orbit until that date. In view of the extensive development and test which must precede such an event, this guidance is not considered to be restrictive at the present time.

3. Realizing the P-600 funding problems that must be considered during FY 1958, the need for establishing ceilings in this fund area is understandable. These P-600 funds cited in your letter are, however, inadequate to meet the minimum component development and test needs of this program. Both Secretary Quarles and you have pointed out the magnitude of the development program associated with this system, and have recognized that it utilizes a new mode of transportation and requires many new features in its reconnaissance and data link equipment.

WDTR 57-13

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[REDACTED] [REDACTED]

4. An FY 1958 Financial Plan for WS 117L which is based upon a ten million dollar (\$10,000,000) program in P-600 funds is Inclosure 1. Inclosure 2 states those goals which we can reach and those which cannot be reached. This level of funding will cause serious slippage in the achievement of certain of the reconnaissance capability of the system, particularly in the ferret and infra-red areas.

5. Facilities required are computed upon the basis of new construction and total four million five hundred thousand dollars (\$4,500,000) in P-300 funds (Inclosure 4). Every attempt will be made to utilize existing and available facilities with a corresponding reduction in new construction cost. Inclosure 3 points out the need for authority to commence A and E work for a number of these facilities during FY 1957. Early approval of the A and E work is requested.

6. The test schedule (Inclosure 5) is attainable but our ability to develop components for testing is directly related to the funds available.

7. Western Development Division has been informally advised that there is presently no line item for WS 117L in the FY 1958 P-100 and P-200 budgets. An FY 1958 budget estimate for WS 117L (Inclosure 6) was submitted by TWX (SECRET) WDIR 7-3-8-E, 19 July 1956, to Headquarters ARDC. Information received from Headquarters ARDC indicates that this budget estimate was contained in a letter from Commander ARDC to the Director of Budget, Headquarters USAF, 23 August 1956, "FY 1958 Budget Estimate for Systems."

8. To permit an orderly management of the ARS program, urgent action is requested in regard to our letter, 21 November 1956, "Fund Requirements for WS 117L Program."

a. Lack of FY 57 P-100 and P-200 funds is preventing procurement of material and equipment essential to maintaining a balanced system oriented program.

[REDACTED] [REDACTED]

b. FY 57 funds to cover procurement of the four (4) SM 65 boosters are still a very valid requirement and are not affected by the guidance contained in your letter. The lead time for procurement, assembly and check-out of the boosters and the WS 117L test items dictates that these funds be available to Western Development Division no later than February 1957.

6 Incl  
1-WS 117L FY 58 Fin Plan  
1 pg, 2 cys WDIR 57-13  
2-Justifi for WS 117L  
Budget, FY 58, 7 pgs  
3-FY 58 P-300 Fin Plan  
1 pg, 2 cys WDIR 57-13  
4-Form 161, 12 pgs, 2 cys  
WDI 56-220  
5-Flight Test Schedule  
1 pg, 2 cys WDIR 57-13  
6-Summary of TWX of 19 Jul 56  
(WDIR 7-3-8-E) 1 pg, 2 cys  
WDIR 57-13

/s/ B. A. Schriever  
B. A. SCHRIEVER  
Major General, USAF  
Commander  
[REDACTED]

[REDACTED]

WDIR 57-13

[REDACTED]

C O P Y

WDTR, WDD, 30 Jan 57, Subj: (U) Planning and Funding Requirements  
for WS 117L

RDZGW

1st Ind

5 Feb 57

HEADQUARTERS, AIR RESEARCH AND DEVELOPMENT COMMAND, Post Office Box  
1395, Baltimore 3, Maryland

TO: Deputy Chief of Staff, Development, Headquarters USAF, Washington  
25, D. C.

1. This Command recognized the limitations imposed in your letter, subject; (U) Requirement for Additional FY 1957 Funds for WS 117L, dated 10 December 1956, as restricting the P-600 funding for WS 117L to \$10,000,000 in FY 1958. In order to maintain the proper balance between component development, fabrication, and testing for WS 117L, as directed by the Secretary of the Air Force, it is strongly urged that every effort be made to obtain P-100, 200, and 300 funds for FY 1957 and FY 1958 in the amounts indicated by the Western Development Division. (SECRET)

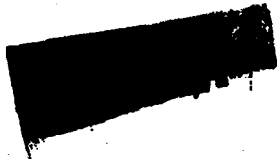
2. The data contained in the inclosures to the basic letter are intended to provide members of your staff with the most up-to-date information regarding our plan for conducting the WS 117L development in accordance with the guidance we have received. (Unclassified)

6 Incls  
n/c (1 cy ea)

SIGNED  
DON R. OSTRANDER  
Brigadier General, USAF  
Assistant for Guided Missiles Systems  
Deputy Commander/Weapon Systems

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WD 57-00577



PRIORITY

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COMDR, WDD, INGLEWOOD, CALIFORNIA

COMDR, ARDC, BALTO, MARYLAND

~~SECRET~~ FROM WDIR 2-2-E FOR RDZGW PERSONAL FOR GENERAL POWER

PLEASE TRANSMIT TO GENERAL PUTT AS SOON AS POSSIBLE PD AT THIS DATE THE MOST LOGICAL APPROACH TO ACHIEVE A WS 117L SATELLITE CAPABILITY FOR GEOPHYSICAL PURPOSES IS REPRESENTED BY THAT PROGRAM DESCRIBED IN WDD LETTER SUBJECT QUOTE FUND REQUIREMENTS FOR WEAPON SYSTEM 117L PROGRAM DATED 21 NOVEMBER 1956 AND WDD LETTER SUBJECT QUOTE PLANNING AND FUNDING REQUIREMENTS FOR WS 117L DATED 30 JANUARY 1957 PD THIS PROGRAM IS EXPECTED TO ACHIEVE AN ORBITAL CAPABILITY ON THE SCHEDULE INDICATED IN WDD LETTER OF 30 JANUARY 1957 PD ON THIS PROGRAM THE FIRST ORBITAL CAPABILITY IS CURRENTLY SCHEDULED IN OCTOBER 1959 CMM HOWEVER CMM IT IS POSSIBLE THAT THE FIRST TWO TEST LAUNCHINGS PAREN IN 1958 PAREN COULD BE ORBITAL ATTEMPTS WITH A LOW ORDER OF CONFIDENCE PD PARAGRAPH THE FOLLOWING LETTERED PARAGRAPHS REFERENCE QUESTIONS A THROUGH D OF THE REFERENCED TWX CLN QUESTION A PD THE COSTS TO DEVELOP A SATELLITE NOSE COME FROM THE PRESENT STATE OF

WDIR

Lt. Colonel Q. A. Riepe  
1243

1

for

/s/ QUENTEN A. RIEPE  
Lt. Col., USAF  
B. A. SCHRIEVER  
Major General, USAF  
Commander

9  
Feb 1957



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COMDR, WDD, INGLEWOOD, CALIFORNIA

DEVELOPMENT CSM BUT NOT INCLUDING THE LAUNCHING OF THE SIX IGY

ORBITAL NOSE CONES ARE CLN

	TOTAL(MILLION \$)
AIRFRAME	8.30
PROPULSION	10.13
AUXILIARY POWER	3.45
GUIDANCE AND CONTROL	5.20
GROUND SPACE COMMUNICATION	11.90
DESIGN GEOPHYSICS	1.40
EIGHT SM 65 BOOSTERS	19.00
LAUNCH CREW COST	2.00
MOD. LAUNCH FACILITIES AFMTC	.25
TRACKING NET FACILITY	4.60
TOTAL COST TO ACHIEVE ORBITAL CAPABILITY	<u>66.23</u>

THESE COSTS DO NOT INCLUDE THOSE R&D COSTS NECESSARY TO MODIFY THE  
WS 117L FOR GEOPHYSICAL PURPOSES SINCE THESE REQUIREMENTS ARE NOT  
KNOWN CSM AND DO NOT INCLUDE THE COST OF DEVELOPMENT CSM FABRICATION  
AND TEST OF THE GEOPHYSICAL INSTRUMENTATION PD QUESTION B PD THE  
ORBIT OF THE GEOPHYSICAL SATELLITE WOULD BE A THREE HUNDRED MILE  
ALTITUDE LOW LATITUDE PAREN THIRTY FIVE DEGREES NORTH TO THIRTY  
FIVE DEGREES SOUTH MAXIMUM LATITUDE PAREN ELLIPTICAL ORBIT WITH  
ECCENTRICITY OF POINT ZERO ZERO ONE PD QUESTION C PD ESTIMATED TOTAL  
COSTS OF THE GEOPHYSICAL PROJECT FOR SIX ORBITAL LAUNCHINGS ARE CLN

WDIR 57-33

[REDACTED] [REDACTED]  
CMDR, WDD, INGLEWOOD, CALIFORNIA

	TOTAL (MILLION \$)
DEVELOPMENT COSTS (PARAGRAPH A)	66.23
SIX SM 65 BOOSTERS	14.40
SIX SATELLITE NOSE CONES (LESS GEOPHYSICAL EQUIPMENT)	9.00
LAUNCH CREW COSTS	1.50
TOTAL COST	<u>91.13</u>

IT IS ASSUMED THAT THE COSTS OF DEVELOPMENT AND FABRICATION OF GEOPHYSICAL EQUIPMENT CMM IGY PERSONNEL TRAINING AND IGY EQUIPMENT TECHNICIANS PARTICIPATING IN LAUNCHINGS WOULD BE BORNE BY THE VANGUARD PROGRAM PD QUESTION D-1 PD ALL LAUNCHINGS IN THE TEST VEHICLE PROGRAM TO ACHIEVE ORBITAL CAPABILITY USE THE SM 65 AS A BOOSTER PD THE COSTS FOR THIS TEST PROGRAM ARE ILLUSTRATED IN PARAGRAPH A PD QUESTION D-2 FUNDS REQUIRED FOR SIX SM 65 BOOSTERS ARE ELEVEN POINT FOUR ZERO MILLION AND FUNDS FOR GROUND SUPPORT EQUIPMENT ARE THREE MILLION DOLLARS PD TOTAL COST IS FOURTEEN MILLION FOUR HUNDRED THOUSAND DOLLARS PD QUESTION D-3 PD FUND BREAKDOWN FOR SIX SATELLITES BASED ON PAYLOAD OF ONE THOUSAND FIVE HUNDRED POUNDS IS NINE MILLION DOLLARS PD THE COSTS OF THE GROUND SUPPORT EQUIPMENT FOR THE NOSE CONE ARE PART OF THE COSTS CITED IN PARAGRAPH A PD THE ABOVE COSTS DO NOT INCLUDE THE GEOPHYSICAL INSTRUMENTATION OR THE COSTS OF GROUND SERVICING AND TEST EQUIPMENT FOR THE GEOPHYSICAL PAYLOAD PD QUESTION D-4 PD THE ATLAS BOOSTED WS 117L SATELLITE CANNOT BE LAUNCHED FROM PRESENT OR MODIFIED VANGUARD FACILITY PD LAUNCHING THE WS 117L SATELLITE ON ANY IGY

[REDACTED] [REDACTED]  
CDR, WDD, INGLEWOOD, CALIFORNIA

PROGRAM WILL CAUSE INTERFERENCE WITH THE ICBM PROGRAM PD WHETHER THIS DEGREE OF INTERFERENCE WOULD BE ACCEPTABLE WOULD DEPEND UPON STATUS OF THE ICBM PROGRAM AND RELATIVE PROGRAM PRIORITIES PD MODIFICATION OF SM 65 LAUNCH FACILITY AT AFMTC IS A PART OF THE PLANNED WS 117L PROGRAM AND COSTS ARE ESTIMATED AT TWO HUNDRED FIFTY THOUSAND DOLLARS PD QUESTION D-5 PD LAUNCH FACILITY OPERATIONAL COSTS PAREN DEFINED AS COSTS INDICENT TO BASE OPERATION AND MAINTENANCE PAREN FOR AN EIGHTEEN MONTH PERIOD ARE NOT AVAILABLE AT THIS TIME PD QUESTION D-6 PD THE VANGUARD QUOTE MINITRACT QUOTE TRACKING SYSTEM CAN BE UTILIZED IF DESIRED CMM BUT THE LOW ORDER DATA ACQUISITION CAPABILITY OF THE QUOTE MINITRACK QUOTE SYSTEM IS NOT COMPATIBLE WITH THE HIGH VOLUME DATA GATHERING CAPABILITY OF A ONE THOUSAND FIVE HUNDRED POUND GEOPHYSICAL PAYLOAD PD THE COST SUMMARY TO ACHIEVE TRACKING AND DATA ACQUISITION COMPATIBLE WITH A ONE THOUSAND FIVE HUNDRED POUND GEOPHYSICAL PAYLOAD IS CLN

<u>COST ITEM</u>	<u>MILLION \$</u>
DEVELOPMENT OF GROUND SPACE COMMUNICATIONS INCLUDING TRACKING AND DATA ACQUISITION EQUIPMENT	3.60
EQUIPMENT PROCUREMENTS	8.30
TRACKING AND DATA ACQUISITION FACILITIES	4.60
TOTAL	<u>16.50</u>

QUESTION D-7 PD OPERATING COSTS PAREN DEFINED AS COSTS INDICENT TO BASE OPERATION AND MAINTENANCE PAREN FOR TRACKING AND DATA ACQUISITION STATIONS FOR EIGHTEEN MONTH PERIOD ARE NOT AVAILABLE AT THIS TIME PD

[REDACTED] [REDACTED]  
WDIR 57-33



[REDACTED] [REDACTED]

QUESTION D-8 PD ORBIT COMPUTER EQUIPMENT IS AN INTEGRAL PART OF THE TRACKING AND DATA ACQUISITION STATIONS AND COSTS OF COMPUTER EQUIPMENTS ARE INCLUDED IN COSTS CITED IN D-6 PD PARAGRAPH THIS OFFICE BELIEVES A WDD SATELLITE EFFORT DURING THE IGY WOULD INTERFERE WITH ACHIEVING THE ICBM PROGRAM AT THE EARLIEST DATA PD HOWEVER CMM EARLY DEMONSTRATED SUCCESS IN THE XSM 65 PROGRAM WOULD ENHANCE THE POSSIBILITY OF REALIZING AN EARLIER ORBITAL RECONNAISSANCE CAPABILITY PD IF WDD IS TO BE DIRECTED TO UNDERTAKE THIS PROJECT CMM IT IS RECOMMENDED THE DIRECTIVE INCLUDE THE CONDITION THAT THE EARLY DEVELOPMENT OF THE SATELLITE CAPABILITY FOLLOW THE XSM 65 BOOSTER DEVELOPMENT CLOSELY DASH NOT CONCURRENTLY DASH EXCEPT IN NOW INTERFERENCE AREAS PD IT IS ALSO REQUESTED THAT FUNDING BE PROVIDED OTHER THAN FROM THE ICBM PROGRAM PD MANPOWER SPACE REQUIREMENTS OVER AND ABOVE PRESENT AUTHORIZATIONS WILL BE DETERMINED AFTER BETTER DETERMINATION OF THE PROBLEM PD

C O P Y

1 Feb 57

JWPHP34  
HPA205 TXA246 TDC203HQE172  
PP RJEPYB RJWPHP  
DE RJEPHQ 869  
P 011712Z  
FM HQ USAF WASHDC  
TO RJWPHP/CMWDD INGLEWOOD CALIF  
INFO RJEPYB/COMARDC BALTO MD

BT

UNCLASSIFIED FROM AFDRD-SS 47017 REFERENCE TELECON 31 JANUARY 1957  
BETWEEN COLONEL ODER YOUR HEADQUARTERS MAJOR DILLON THIS  
HEADQUARTERS AND TO PRELIMINARY DEVELOPMENT FOR WS 117L DATED  
14 JANUARY 1957.

INFORMATION REGARDING POSSIBLE USE OF WS 117L FOR INTER-  
NATIONAL GEOPHYSICAL YEAR HAS BEEN REQUESTED BY DEPARTMENT OF  
DEFENSE. REQUEST FOLLOWING QUESTIONS BE ANSWERED

- A. WHAT IS COST TO DEVELOP IGY SATELLITE NOSE CONE
- B. WHAT IS ORBIT AND PAYLOAD
- C. WHAT IS ESTIMATED TOTAL COST OF PROJECT FOR SIX LAUNCHING

PAGE TWO RJEPHQ 869  
TRIES

- D. WHAT IS FUNDING BREAKDOWN FOR FOLLOWING  
TEST VEHICLES PROGRAM  
SIX LAUNCHING VEHICLES  
SIX SATELLITES BASED ON PAYLOAD OF 1500 LBS  
LAUNCH FACILITY. CAN ATLAS BE LAUNCHED FROM PRESENT  
VANGUARD PAD WITHOUT MODIFICATIONS WITH MODIFICATIONS  
IF NOT WOULD INTERFERENCE PREVENT USE OF PRESENT ATLAS  
PAD IF SO WHAT IS COST OF NEW PAD BLOCK HOUSE ETC  
LAUNCH FACILITY OPERATING COST FOR 18 MONTHS  
ESTABLISHMENT OF TRACKING STATIONS. WOULD ATLAS USE A  
TRACKING STATION OTHER THAN VANGUARD MINITRACK IF SO  
WHAT WOULD COST BE INCLUDING DEVELOPMENT PROCUREMENT  
TRACKING STATION ESTABLISHMENT AND OPERATING COST  
OPERATING TRACKING STATIONS FOR 18 MONTHS  
COST OF ORBIT COMPUTATION BY IBM OR OTHER METHODS TO  
INCLUDE DATA REDUCTION

REQUEST REPLY AS SOON AS POSSIBLE

BT

01/1721Z FEB RJEPHQ

C O P Y

11 February 1957

MCPTS/ESS/Jbp

Lockheed Aircraft Corporation  
Attn: Mr. Carl Hagemmaier  
Missile Systems Division  
Van Nuys, California

Subject: Contract AF 04(647)-97

Gentlemen:

Your Management Information Report dated 28 January 1957 pertaining to the subject contract has been received.

It is noted that your project commitments and invoicing thru 30 June 1957 amount to \$13,700,000.00. The contract as presently funded provides for a maximum \$3,000,000.00, and an additional funding action, which is in process, provides for an additional \$5,563,000.00, or a total of \$8,563,000.00.

The above amount represents the total funding on this contract thru 30 June 1957. It is accordingly requested that your Management Information Report reflect the available funds, and the Contractor is cautioned that any commitments and invoicing beyond the above-mentioned amount can be at his own risk only.

In the event additional funds are made available within FY 57, you will be immediately advised to that effect and a re-scaling of the fund projection could take place at that time.

Sincerely,

cc: Mr. McLachlin, ACO

EUGENE S. SILBERMAN  
Contracting Officer

C O P Y

[REDACTED] [REDACTED]  
Hq USAF, 6 Mar 57, Subj: (U) Planning and Funding Requirements for WS 117L

RDZGW

1st Ind

13 Mar 57

HQ AIR RESEARCH AND DEVELOPMENT COMMAND, P.O. Box 1395, Baltimore 3, Md

TO: Commander, Western Development Division (ARDC) ATTN: WDT, P.O. Box  
262, Inglewood, California

1. Basic correspondence is forwarded for your information and necessary action. Your attention is invited to the last sentence of paragraph 3, which requests that the amended Development Plan indicate no orbital testing prior to January 1960. ~~(SECRET)~~

2. Request action be initiated to establish a WSPO within WDD concurrently with receipt of P-100 and P-200 funds. (UNCL)

for /s/ E. A. Kiessling  
DON R. OSTRANDER  
Brigadier General, USAF  
Assistant for Guided Missiles Systems  
Deputy Commander/Weapon Systems

DOWNGRADED AT 12 YEAR  
INTE VAIS; NOT U O 'A'ICALLY  
DECLASSIFIED. DOD DIR 5200.10


  
 DEPARTMENT OF THE AIR FORCE  
 HEADQUARTERS UNITED STATES AIR FORCE  
 Washington 25, D. C.

6 Mar 1957

SUBJECT: (U) Planning and Funding Requirements for WS 117L

TO: Commander  
 Air Research and Development Command  
 Post Office Box 1395  
 Baltimore 3, Maryland

1. Reference is made to your 1st Indorsement dated 5 Feb 57 to the Western Development Division letter of 30 Jan 57, subject as above.

2. Fiscal Year 1957 P-100 and P-200 funds are already over-programmed. Items that have been retained in the present program represent critical support of the active forces. WS 117L, along with other inadequately funded programs, has recently been reviewed at the highest level and the decision made to make no changes in the program structure at this time.

3. This headquarters does not concur with the Western Development Division interpretation of the guidance from this headquarters as outlined in paragraph 2 of their basic letter. The guidance, as previously presented, was promulgated for the purpose of emphasizing component development to insure a greater expectation of success when launchings are undertaken. The Research and Development Flight Schedule proposed in the Western Development Division basic letter of 30 Jan 57 shows no significant change over the flight schedule published in the Development Plan dated 2 Apr 56. Your staff is familiar with the Secretary's views in this regard and that resultant definite slow down is in order. Request your amended Development Plan, to be published in the near future, indicate no orbital testing prior to January 1960.

4. WS 117L must proceed with the ten million of P-600 funds presently available. Another review will be made in April to determine if 4.67 million of P-100 and 4.02 million of P-200 funds can be obtained for FY 1957. For your information the estimates under consideration for FY 1958 are as follows:

P-100	15.0
P-200	10.0
P-600	10.0

  
  
 WD 57-01083

DOWNGRADED AT 12 YEAR  
 INTERVALS; NOT AUTOMATICALLY  
 DECLASSIFIED BY 5200 10

[REDACTED] [REDACTED]

Ltr to ARDC, subj: (U) Planning and Funding Requirements for  
WS 117L (cont'd)

5. It is envisioned that this development will be conducted along conventional lines, which dictates the need for the establishment of a WSPO within Western Development Division.

/s/ D. L. Putt  
D. L. PUTT  
Lieutenant General, USAF  
Deputy Chief of Staff,  
Development

C O P Y

13 August 1957

**SUBJECT:** Contract AF 04(647)-97, Status of Contract Funds

**TO:** Lockheed Aircraft Corporation  
Missile Systems Division  
ATTN: Mr. J. C. Wingerd  
Post Office Box 504  
Sunnyvale, California

1. Reference is made to your letter IMSD/35372, dated 8 July 1957, concerning the status of funds.
2. The Air Force fund program for Fiscal Year 1958, applicable to WS 117L, has not been established as of this date.
3. Pending a determination of program funding, a limited amount will be made available to the contract. The amount being processed is \$3,900,000, which is the maximum additional sum available to carry your program through 30 October 1957.
4. It is therefore requested that you adjust your planning, as indicated above.

/s/ Eugene S. Silberman

copy furnished: EUGENE S. SILBERMAN  
Administrative Contracting Office Contracting Officer  
WDTR

MCPIS E.H.  
Mr. Silberman

C O P Y

LOCKHEED AIRCRAFT CORPORATION  
MISSILE SYSTEMS DIVISION  
SUNNYVALE, CALIFORNIA

In reply refer to:  
LMSD/35372

8 July 1957

Subject: AF 04(647)-97  
Status of Contract Funds

To: Chief  
Ballistic Missile Office  
Air Materiel Command  
Attn: E. S. Silberman  
P. O. Box 262  
Inglewood, California

Through: Assistant Air Force Plant Representative  
Lockheed Aircraft Corporation  
Missile Systems Division  
Van Nuys, California

1. The Weapon System Contractor wishes to advise the Ballistic Missile Office that the current cost commitments on the subject contract indicate that 85% of current funding will be expended by approximately the first week in August and 100% of current funding will be expended by approximately 15 August 1957.

2. This condition is due to an increase in expenditure rate to meet the schedule as set forth in your Request for Proposal Work Statement and further commitments toward completion of our subcontract structure.

3. You are requested to take whatever action is deemed necessary to obtain additional funds for the period from approximately August 15 to the end of November, 1957, to adequately cover this program until such time as a definitive contract is executed. It is estimated that \$7,900,000 will be required to fund this program between August 15 and November 30, 1957.

4. The Contracting Officer's prompt cooperation in amending the subject Letter Contract with the above required funds will be greatly appreciated.

LOCKHEED AIRCRAFT CORPORATION  
MISSILE SYSTEMS DIVISION

/s/ J. C. Wingerd

J. C. Wingerd  
Military Relations Representative  
WS 117L Project

JCW:mh



C O P Y

AIR MATERIEL COMMAND  
BALLISTIC MISSILES OFFICE  
P.O. Box 262  
Inglewood, Calif.

MCFTA

21 August 1957

SUBJECT: P-600 Expenditure Ceilings FY 58

THRU: Assistant AF Plant Representative  
Lockheed Aircraft Corporation  
Missile Systems Division  
Sunnyvale, California

TO: Lockheed Aircraft Corporation  
Missile Systems Division  
Attn: Mr. Joe Wingerd  
P.O. Box 504  
Sunnyvale, California

1. As a result of expenditure ceilings imposed during FY 58 on the Advanced Reconnaissance (117L) System, Lockheed Missiles Division is hereby requested to reduce invoice billings for payment in order that Air Force expenditures on Contract AF04(647)-97 will not exceed 9.6 million dollars of P-600 type funds during fiscal year 1958. Furthermore, no more than fifty percent of this ceiling is to be expended during the first six months of the fiscal year.

2. Lockheed Missile Systems Division is advised that cumulative expenditures to date for FY 58 approximate 1.0 million dollars. It is also to be recognized that a definitization of letter contract AF04(647)-97 is anticipated during the first half of FY58, which will further result in payment of accrued fee and costs. These factors should be taken into consideration in developing expenditure rates which will comply with imposed ceilings.

3. The contractor is requested to advise the Weapon System Project Office as to the effect of these expenditure ceilings in the program as set forth in Work Statement WDTR 57-131.

/s/ Eugene S. Silberman

EUGENE S. SILBERMAN  
Contracting Officer

COPY

**AIR FORCE BALLISTIC MISSILE DIVISION**

30 July 1957

WDTR

**SUBJECT:** Program Planning Guidance for WS 117L

**THRU:** Commander  
Air Research and Development Command  
ATTN: RDZGW  
P.O. Box 1395  
Baltimore, Maryland

**TO:** Deputy Chief of Staff, Development  
Headquarters, USAF  
Washington 25, D. C.

1. Deputy Chief of Staff, Development, letter of 10 December 1956, subject "Requirement for Additional FY 1957 Funds for WS 117L" stipulated that neither a mockup for inspection or a complete experimental test item be constructed "until further advised".

2. Air Force Ballistic Missile Division is currently in the process of definitizing the Lockheed prime contract for WS 117L. This contract is being written for a twenty-two month period beginning July 1, 1957. In order to begin orbital testing in 1960 (DCS/D letter, "Planning and Funding Requirements for WS 117L", dated 6 March 1957), it will be necessary because of the lead times involved, to include in this contract construction of a mockup and ground and non-orbital flight test vehicles. It is requested that authority be granted to initiate timely action on these items compatible with the 1960 orbital flight date.

**FOR THE COMMANDER:**

SIGNED  
CHARLES H. TERRONE, JR  
Colonel, USAF  
Deputy Commander  
Weapon Systems

WDTR 57-244

DCNNGRATED AT 12 YEAR  
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DECLASSIFIED. DOD DIR 5200 10

COPY

DEFENSE AIR FORCE  
HEADQUARTERS UNITED STATES AIR FORCE  
WASHINGTON 25, D. C.

3 Sep 57

SUBJECT: (Uncl) Program Planning Guidance for WS 117L

TO: Commander  
Air Research and Development Command  
Post Office Box 1395  
Baltimore 3, Maryland

1. Reference is made to your 1st Indorsement dated 13 August 1957 to letter from Ballistic Missile Division dated 30 July 1957, subject: Program Planning Guidance for WS 117L, and to letter this headquarters, subject: Requirement for Additional FY 1957 Funds for WS 117L dated 10 December 1956.

2. Your request that authority be granted to construct a mock-up and ground and non-orbital flight test vehicles for WS 117L is approved to the extent dictated by sound engineering requirements within minimum essential funds expenditures.

3. In letter from this headquarters dated 6 March 1957, subject: Planning and Funding Requirements for WS 117L, you were advised that the estimates under consideration for FY 1958 were as follows:

P-100	15.0
P-200	10.0
P-600	10.0

To date only the \$10,000,000 of P-600 funds has been approved. Efforts will continue to obtain the desired P-100 and P-200 funds for WS 117L within this fiscal year.

4. All activity on WS 117L must be limited to the ten million of FY 58 P-600 funds presently available.

/s/ D. L. Putt  
D. L. PUTT  
Lieutenant General, USAF  
Deputy Chief of Staff,  
Development

WD 57-04009

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INTE VA'S; NOT AUTOMATICALLY  
DECLASSIFIED. DOD DIR 5200.10

[REDACTED]

[REDACTED]

SEP 19 1957

WDTR

SUBJECT: WS 117L Funding FY 58 and FY 59

TO: Director of Research and Development  
ATTN: AFDED-SS - Major Francis Dillon  
Hq. USAF  
Washington 25, D. C.

1. Reference TWX AFDED-SS 42256.
2. The fund requirements and justification for the FY 58 desired budget are contained in WS 117L - MR#4 dated 7 March 1957, a copy of which is in your possession. The only change from MR #4 is the deletion of FY 58 P-300 requirements.
3. Summary forms for FY 58 Austere Budget, FY 59 Austere Budget and FY 59 Desired Budget by Subsystem and Budget Program are inclosed. Also inclosed is a copy of Summary Justification for the FY 58 and FY 59 austere budget submitted to MCPB, 12 September 1957, for AMC use in replying to a request from DCS/M.
4. Justification for the FY 59 desired budget by subsystem is essentially the same as for the FY 59 austere budget with the main differences as follows:
  - a. The major difference in totals required in the P-100 and P-200 area are occasioned by the difference in the number of SM-65 missiles and supporting equipment to be procured under the two budgets. The impact of the austere budgets for FY 58 and FY 59 is a substantial delay in the initiation of the flight test program. The ground test program in subsystem areas will be increased somewhat to achieve a greater reliability of system components during the stretch out time interval leading to flight test.
  - b. It is to be noted that there is a difference in P-600 requirements for the two FY 59 budgets. This is occasioned by

[REDACTED]

[REDACTED]

WDTR 57-336

DOWNGRADED AT 12 YEAR  
INTERVALS; NOT AUTOMATICALLY  
DECLASSIFIED FOR DISSEMINATION

reduction of effort to be placed on the research and development of an advanced version of WS 117L in the austere program.

5. It is strongly recommended that funding at the rate of the desired budget be furnished for the balance of FY 58. It is estimated that a pro rata amount of the desired FY 58 budget or approximately forty-eight million dollars, would allow initiation of the flight test program by the middle of calendar year 1959.

SIGNED

4 Incls:

1. FY 58 Fin Plan  
Summary-1 pg (S)  
WDTR 57-337
2. FY 59 Fin Plan  
Summary-1 pg (S)  
WDTR 57-337
3. FY 59 Fin Plan  
Summary Desired  
Budget-1 pg (S)  
WDTR 57-337
4. Cy TWX-MCPTA-9-1-E  
(S) 7 pgs-WD 57-03980

O. J. RITLAND  
Brig. Gen., USAF  
Vice Commander

WDTR  
Maj. Zelenka

iz

WDTR 57-336

C O P Y

TWX

Oct 10 00 35 '57

PRIORITY  
PRIORITY

X

AF

COMDR, AFEMD, INGLE, CALIF

COFS  
HQ USAF  
WASH, DC

COMDR, ARDC  
BALTO, MD

COMDR, AMC  
WPAFB, OHIO

~~CONFIDENTIAL~~ FROM WDTR 10-8-E FOR COLONEL NUNZIATO-AFDDC: INFO AT  
HQ USAF FOR COLONEL CULBERTSON-AFDDC: COLONEL HARVEY POWELL-AFMPP:  
INFO ARDC FOR COLONEL WORTHMAN-RDZGW: INFO AMC FOR MCPZ PD  
ANALYSIS OF COMMITMENTS BY LOCKHEED ON WS 117L PRIME CONTRACT AF  
04(647)-97 INDICATES THAT EIGHTY FIVE PERCENT OF THE PRESENT CONTRACT  
FUNDS WILL BE COMMITTED BY LOCKHEED AS OF 1 NOV 57 PD IT IS  
ANTICIPATED THE CONTRACTOR WILL STOP ALL WORK ON THAT DATE UNLESS  
ADDITIONAL FUNDS HAVE BEEN OBLIGATED AGAINST THIS CONTRACT PD  
PENDING APPROVAL OF THE TOTAL FY 58 P-100 AND P-200 PROGRAM FOR WS  
117L CMM IT IS URGENTLY REQUESTED THAT AN INTERIM PROCUREMENT  
AUTHORITY IN THE AMOUNT OF AT LEAST \$4 MILLION OF P-100 FUNDS AND  
\$1 MILLION OF P-200 FUNDS BE ISSUED TO ARRIVE AT THIS HQ NO LATER

WDTR

Captain David Bradburn

1171-72

1

2

OCT 57  
/s/ Charles H. Terhune, Jr.

CHARLES H. TERHUNE, JR.  
Colonel, USAF  
Deputy Commander  
Weapon Systems

DOWNGRADED AT 12 YEAR  
INTERVALS; NOT U.S. OFFICIALLY  
CLASSIFIED DOD DIR 5200.10

COPY

TWX (continuation sheet)

Oct 10 00 35 '57

COMDR, AFBMD, INGLE, CALIF

25 OCT 57 PD IT IS EMPHASIZED THAT A WORK STOPPAGE WILL OCCUR  
UNLESS ADDITIONAL FUNDS ARE PLACED ON THIS CONTRACT BY 1 NOV 57 PD

WDTR

2 2

dh

C O P Y

MEMORANDUM FOR GENERAL LEMAY

10 October 1957

SUBJECT: WS 117L

I have approved the program recommended by the Air Council as a planning objective with the understanding that I will have the opportunity to again review the program in the amount of funds required in FY 58 based on the funds proposed and that Mr. Quarles, D. S. D. will also have the opportunity to review the program. This will probably have to go to the President.

/s/ JAMES DOUGLAS  
Secretary of the Air Force



[REDACTED] [REDACTED]

WS 117L Acceleration

WDTO

WDTR

25 Oct 57

1. Reference 1 a: Hq USAF Telecom 8 Oct 57  
1 b: AFBMD TWX of 9 Oct 57  
1 c: Briefing of Soper Team

Paragraphs WS 117L:

Further analysis of the effort proposed by reference 1 a and as answered by references 1 b and 1 c as well as discussions with members of Colonel Soper's team reveals no change in the requirements for acceleration of the WS 117L program. It should be noted that the fund requirements cited in reference 1 b for WS 117L are total fund requirements of \$99.2 million in FY 1958 and \$121.7 million in FY 1959. As presented to members of Colonel Soper's team the principal effects of such funding would be to:

- a. Make possible first orbit flight of the WS 117L vehicle in the second quarter of Calendar Year 1959 rather than at the end of that year.
- b. Advance the availability of the visual subsystem by approximately six months.
- c. Advance the availability of the ferret subsystem by nine to twelve months.
- d. Provide earlier construction of the earliest need facilities.
- e. Provide earlier procurement of the SM 65 missiles used as boosters for the WS 117L.

2. Inasmuch as WS 117L is not as far along as are the other major weapon systems covered in this letter further definition as to acceleration cannot be reliably estimated at this time.

**SIGNED**

FREDERIC C. E. ODER  
Colonel, USAF  
Director WS 117L

WDTR 57-376

[REDACTED]

[REDACTED]

DOWNGRADED AT 12 YEAR  
INTERVALS; NOT AUTOMATICALLY  
DECLASSIFIED. DOD DIR 5200.10

[REDACTED]

Extracted from -- TWX dtd Oct 9 1957

FM COMDR AFBMD HQ ARDC INGLEWOOD CALIF  
TO COFS USAF WASHINGTON D C  
INFO COMDR ARDC BALTO

~~SECRET~~ COFS FOR AFCGM

REFERENCE TELECON 8 OCTOBER 1957 FROM GENERAL MC CORKLE TO GENERAL RITLAND WHICH REQUESTED A MAXIMUM PROGRAM EFFORT AND ESTIMATED RESOURCES REQUIRED FOR FY 58 and FY 59 TO FURTHER ACCELERATE THE ICBM AND IRBM PROGRAMS. INCLUDED IS ESTIMATE FOR WS 117L.

PART 5. WEAPON SYSTEM 117L

- A. REFERENCE IS MADE TO WS 117L DEVELOPMENT PLAN DATED 16 JULY 1957 PRESENTLY IN DCS/D AFDRD-SS FOR REVIEW AND APPROVAL. THE ACCELERATED PROGRAM PROPOSED HEREIN FOLLOWS THE PROPOSAL CONTAINED IN REFERENCED DEVELOPMENT PLAN EXCEPT THAT THE FIRST ATTEMPT AT ORBITAL FLIGHT IS IN SECOND QUARTER CALENDAR YEAR 1959 INSTEAD OF FOURTH QUARTER CALENDAR YEAR 1959. IN ADDITION CMM THE 16 JULY DEVELOPMENT PLAN ASSUMED A MID-CY 57 CONTRACTOR GO-AHEAD. LACK OF PROGRAM APPROVAL TO DATE HAS RESULTED IN A GENERAL TIGHTENING OF THE DEVELOPMENT EFFORT AND REQUIRES ADDITIONAL FUNDS TO RECOVER LOST TIME. FURTHER CMM WS 117L FUNDING HAS BEEN MODIFIED TO INCLUDE THE COST OF ATLAS BOOSTERS IN FY 1958 AND MCP REQUIREMENTS WHICH MUST NOW BE MOVED INTO FY 1958 TO MEET ACCELERATED PROGRAM. ADDITIONAL ASSUMPTIONS PERTINENT TO THESE FIGURES IN THE ACHIEVEMENT OF THIS SCHEDULE ARE AS FOLLOWS CLN
- /1/ THE BASIC RECONNAISSANCE REQUIREMENT IS UNCHANGED EXCEPT AN EARLY DEMONSTRATION OF LARGE SATELLITE CAPABILITY IS DESIRED.
  - /2/ THE AIR FORCE SATELLITE PROGRAM IS GRANTED THE PRIORITY AND MANAGEMENT AUTHORITY RECOMMENDED IN TOP SECRET LETTER DATED 10 SEPTEMBER 1957 FROM COMMANDER AFBMD TO COMMANDER ARDC CMM SHORT TITLE CLN PROTARS CMM CONTROL NO. WDD-57-TS-75 CMM WHICH HAS BEEN TRANSMITTED BY FIRST INDORSEMENT TO DCS/D CMM HQ USAF.
  - /3/ INITIAL R&D /ORBITAL/ LAUNCHINGS WILL BE MADE FROM PATRICK AFB IN MID 1959 AND WILL BE FOLLOWED IN LATE 1959 BY HIGH LATITUDE ORBITAL LAUNCHINGS FROM COOKE AFB.
- B. TOTAL FUNDING REQUIREMENTS FOR THIS PROGRAM ARE CLN
- |         |                 |
|---------|-----------------|
| FY 1958 | \$99.2 MILLION  |
| FY 1959 | \$121.7 MILLION |

[REDACTED]

WDG-57-79

[REDACTED]

DOWNGRADED AT 12 YEAR  
INTERVALS; NOT AUTOMATICALLY  
DECLASSIFIED DOD DIR 5200.10

[REDACTED]

HFWD02  
PP INGL 7466  
DE RJWPNF 18F  
P 151110Z  
FM CHIEF OF STAFF USAF WASH DC  
TO COMDR AFBMD ARDC INGLEWOOD CALIF  
BT

~~SECRET~~ CITE AFDRD-SS 51476. THIS IS CATEGORY AC MESSAGE.  
REF WDTR-10-8-E DTD 10 OCT 57. PROCUREMENT AUTHORIZATION 58-95 ARS  
WS 1171, CONTROL SYMBOL 58-131-15 IN THE AMOUNT OF 35.1 MILLION  
DOLLARS P-100 FUNDS WAS ESTABLISHED ON 11 OCT 57 AND TRANSMITTED TO  
COMDR AMC, ATTN CLN MCFF. P-200 FUNDS NOT YET AVAILABLE AND WILL BE  
RELEASED AS EARLY AS PRACTICAL  
BT  
15/1730Z OCT RJWPNF

WDSSAT 57-697

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[REDACTED]

C O P Y

MEMORANDUM FOR THE RECORD

25 October 1957

SUBJECT: Briefing of Deputy Secretary of Defense, Mr. Quarles on  
WS 117L (ARS) on 16 October 1957

1. The purpose of this memorandum is to record the gist of the actions occurring during and after the subject briefing. In addition to Mr. Quarles those present (this is to the best of my knowledge since I wasn't introduced to them all) were:

Mr. James Douglas, Secy. of the Air Force  
Gen. Curtis E. LeMay, VC of S, USAF  
Dr. Foote, ASD (R&E)  
Mr. W. H. Francis, ASD (M, P&R)  
Lt. Gen. D. L. Rutt, DCS/D, USAF  
Mr. R. E. Horner, ASAF (R&D)  
Mr. J. B. Macauley Dep ASD (R&E)  
Dr. H. R. Skifter Spec. Asst. to ASD (R&E)  
Dr. Townsend, OASD (R&E)  
Brig. Gen. O. J. Ritland, AFEMD (ARDC)  
Col. B. H. Harris, Jr. OASAF (R&D)  
Col. E. A. Kiessling, Asst for GM, Hq ARDC  
Col. R. J. Nunziato, Asst for Spec. Proj. DCS/D, USAF  
Col. F. C. E. Oder, AFEMD (ARDC)

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2. In his introduction to the briefing by the undersigned, General Rutt reviewed the history of WS 117L from 1945 to the present, the recommendations of the Air Council as of approximately 16 September 1957, the fact that the program under consideration was developed prior to the recent Soviet launching of an earth satellite ("Sputnik") and that the basic purpose that WS 117L was to provide a reconnaissance capability. This latter point was emphasized by General LeMay who stated that during its deliberations the Air Council reviewed all proposed reconnaissance systems planned for the period subsequent to 1962 and had unanimously agreed that WS 117L should be given maximum effort and other less promising approaches had been terminated.

3. The undersigned covered the following points: current technical status of the program, possible future military applications of satellite vehicles (included by direction of Hq USAF in par 1 of their Secret TWX cite AFDDC-SP 51419, date-time 112141Z October) and the details of the program envisaged for FYs 1958 and 1957. Mr. Quarles raised several specific questions during the briefing which were answered to Mr. Quarles' apparent satisfaction. Mr. Quarles took very strong and specific exception to the inclusion in the presentation of any thoughts on the use of a satellite as a (nuclear) weapons carrier and stated that the Air Force was out of line in advancing this as a possible application of the satellite. He verbally directed that any such applications not be considered further in Air Force planning. Although both General LeMay and General Rutt voiced objection to this direction on the grounds that we had no assurances that the USSR would not explore this potential of satellites and could be expected to do so, Mr. Quarles remained adamant.

[REDACTED] [REDACTED]

4. In the discussion following the prepared presentation, Mr. Quarles stated that for cold war purposes (i.e., "counter-Sputnik") one should consider a less sophisticated approach (than WS 117L) and that one should not attach much cold war significance to this program. Based upon the view that the program presented was "pre-Sputnik" and was for reconnaissance purposes both Mr. Douglas and General LeMay concurred in this view. Mr. Quarles' expressed views appeared to be somewhat contradictory since on one hand he stated that "this program (ARS) ought to be kept in a planning atmosphere" while on the other he stated that "I agree that there should be an aggressive Air Force project on a reconnaissance satellite". Mr. Douglas and General LeMay again pointed out forcefully that the need for reconnaissance was strong and that the Air Council had carefully considered all reconnaissance programs either proposed or under development for the time period concerned and on the basis of this analysis had recommended that the ARS go ahead as fast as possible, consistent with good management and that other less promising approaches to this critical problem (reconnaissance) had been terminated. Mr. Quarles then said that there were a number of uncertainties in the program (ARS) and that he felt that the Air Force developers were taking an over-optimistic view of the problems involved. To this General Putt pointed out the careful reviews and wholehearted endorsements of the technical aspects of the program by the President's Science Advisory Committee in 1956 and 1957, as well as, continuing review by the Air Force Scientific Advisory Board whose most recent recommendation in the late summer of 1957 was that ARS should be given a priority, second only to the ICBM. General Putt also pointed out that the ARS was under the management of the Air Force Ballistic Missile Division which had an excellent reputation for effective and efficient management. Mr. Quarles then questioned the rate for which funds were proposed for the ARS program and after this was again reviewed in detail he still appeared to resist the level of effort considered essential by the Air Council. Mr. Horner pointed out to him that the next best reconnaissance program (to ARS) which was considered (which is a highly classified program) would cost over three times as much and had even more difficult problems (and less long term utility) associated with it.

5. The meeting was terminated without resolution of the matter at hand. The suggestion was made that Secretary McElroy be briefed on ARS.

6. As a result of a subsequent meeting between Secretary Douglas, General LeMay and General Putt, the undersigned was advised (during a meeting with General Putt, Col. Kieselring, Col. Nunziato and the undersigned) that:

a. This (the reconnaissance satellite) is a national problem and an Air Force budget problem. Mr. Douglas could not take a final position on the program presented but hoped to have this resolved within two weeks. General Putt was of the opinion that this resolution might require as much as two months.

b. Secretary Douglas was certainly amenable to the view that this (the Air Council recommended effort) was a minimum program.

c. AFEMD was asked to determine the funds needed to keep the present contract in force at a better rate than the present rate (this action was taken by a telephone conversation between Col. Nunziato AFDDC-SP and representative of the AFEMD project office on 18 October 1957. A memorandum for [REDACTED] [REDACTED].

[REDACTED]

Record, dated 18 October 1957, Subject, "Telecon between Col. Nunziato, Col. Oder, Lt. Col. Seay, and Major Zelenka", covers this agreement which was confirmed by Hq USAF Confidential TWX cite AFMPP51689 date-time 18205Z October 1957).

d. Factors concerning the possible briefing to Secretary McElroy were discussed but not time, date, nor location was established.

e. Hq ARDC was to establish a group to look at all possible schemes the Air Force could come up with for a counter to Sputnik which might be both unique and quickly done. Col. Kiessling took this as an action item with a 1 November 57 deadline.

f. DCS/D was to prepare a brief statement to review the entire reconnaissance program.

g. AFEMD was to assemble a study which would highlight in more detail the as yet unresolved problems on the ARS, to indicate their nature and schedule for solution including test dates, e.g. the data link, when can we expect to demonstrate the data link, etc. The WS 117L Project Office will assemble this data together with Lockheed Missile Systems Division. No specific deadline was given.

SIGNED

FREDERIC C. E. ODER  
Colonel, USAF  
Director, WS 117L

[REDACTED]

[REDACTED]

WDTR-57-374

C O P Y

WDTR

Oct 18, 1957

MEMORANDUM FOR RECORD:

SUBJECT: Telecon between Col. Nunziato, Col. Oder, Lt. Col. Seay,  
and Major Zelenka, 18 October 1957

1. Col. Seay explained our plans for definitization namely:
  - a. Submission of IAC Proposal 28 October 57
  - b. Agreement on Terms and Work Effort November 57
  - c. Final definitization February 1958

The importance of proceeding on this schedule was emphasized by Col. Seay, and Col. Nunziato agreed we should proceed as outlined.

2. The requirements for funds to cover this program to Final Definitization were submitted as follows:

\$ 15.0 Million	P-100	IAC
.5 Million	P-100	Convair
\$ 15.5 Million	P-100	

3. It was agreed to allow IAC to proceed without P-200 funds until such time as the issues were resolved at USAF Hqs.

4. Col. Nunziato also approved proceeding with commitments in the P-600 area to the total of 4.5 million on a tentative allocation as follows:

RADC	3.5	P-600
AFCRC	.3	P-600
WADC	.1	P-600
MIT	<u>.6</u>	P-600
Total	4.5	

5. Hq USAF does not require a TWX confirming this go ahead, however, they will send us authority to proceed on the above basis.

6. USAF will not withdraw the PA for \$35.1 Million P-100 money, but will place an administrative freeze on \$19.6 Million of the total pending resolution of program issues.

/s/ Raymond Zelenka

Raymond Zelenka  
Major, USAF



RECEIVED  
WDD ARDC  
19 OCT 1957

NFW002  
PP RJWPNF  
DE RJWPNF 6F  
P 1820257  
FM COFS USAF WASH DC  
TO ZEN/COMAMC WPAFB OHIO  
INFO RJWPNF/COMAFBMD ARDC INGLEWOOD CALIF

BT  
~~/CONFIDENTIAL~~/FROM AFMPP CITE 51689. COMAMC FOR MCFPD  
REFERENCE PA 58-95 /ARS WS 117L/. YOU ARE HEREBY DIRECTED TO LIMIT  
OBLIGATIONS AND COMMITMENTS ON REF PA58-95 to \$15.5 MILLION THRU  
JAN 1958. THE BALANCE OF FUNDS ON REF PA 58-95 WILL BE HELD IN  
ABEYANCE PENDING REVIEW OF PROGRAM BY HIGHER AUTHORITY. THIS LIMITATION  
IS NOT REPEAT IS NOT INTENDED TO REDUCE PLANNED RATE OF EFFORT THRU  
JAN 1958.

BT  
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DE RJWPNF 23F

P 012034Z

FM CHIEF OF STAFF HQ USAF WASHDC

TO ZEN COMDR AMC WEAFB

COMDR AFEMD INGLEWOOD CALIF

INFO COMDR AFEMD INGLEWOOD CALIF

BT

/CONFIDENTIAL/ CITE AFMPP 52291/COM AMC PASS TO MCFF FOR ACTION AND TO  
MCSR FOR INFO. THIS MSG IN 2 PARTS

PART 1. PROCUREMENT AUTHORIZATION NO 19-240-58 FOLLOWS CLN YOU ARE  
AUTHORIZED TO ESTABLISH P-244 CATEGORY I CSN 58-244-720A /GROUND HANDLING  
EQUIP WS -117L/ IN THE PROGRAM AMOUNT OF \$2,400,000. THIS ACTION WILL  
INCREASE THE P-244 CATEGORY I PROGRAMMED COST ESTIMATE IN THE AMOUNT  
OF \$2,400,000 FROM THE FORMER TOTAL OF \$402,800,000 TO A NEW REVISED  
TOTAL OF \$404,800,000. THE FY 58 PROGRAM TOTAL FOR P-240 IS \$430,676,900  
IN CATEGORY I, AND \$71,600,000 IN CATEGORY II.

PART 2. PROCUREMENT AUTHORIZATION NO 14-260-58 FOLLOWS CLN THE FY 58

PAGE TWO RJWPNF 23F

PROGRAM TOTAL FOR P-260 IS \$173,926,850 IN CATEGORY I. THE RESULTS FROM  
CLN /A/ CATEGORY I CSN 58-261-700 IS REDUCED FROM \$32,800,000 TO  
\$30,400,000 /B/ IN AMOUNT OF \$2,739,000 INCLUDED FOR DEWLINE MAIN  
IS WITHDRAWN, /C/ OF THE AMOUNT OF \$400,000 ESTABLISH FOR P-265, CATEGORY  
I, \$343,150 IS WITHDRAWN AWAITING FINAL DIRECTION P-265. THE DIFFERENCE  
IS PROCUREMENT AUTHORIZATION NO 13. CATEGORY 2 TOTAL OF \$23,800,000  
REMAINS UNCHANGED. BUDGET HAS COORDINATED

BT

THIS AC MSG

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DE RJWPNF 14F

R 051538Z

FM HEDUSAF WASHDC

TO ZEN/COMAMC WPAFB OHIO

INFO RJWPNFB/COMAFEMD HQ ARDC INGLEWOOD CALIF

BT

~~/CONFIDENTIAL~~/CITE AFMPP 52392. COMAMC FOR MCFP. AFMPP  
MSG 516689 18 OCT 57 LIMITING OBLIGATION AND COMMITMENT AUTHORITY  
TO \$15.9 MILLION THRU JAN 1958 ON PA 58-95 /ARS WSL17-L/ IS HEREBY  
RESCINDED.

BT

THIS "AC" MSG

06/0045Z NOV RJWPNF

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DEC 17 57

PRIORITY

COMDR, BMD, INGLEWOOD, CALIFORNIA

COMDR, ARDC  
BALTIMORE 3, MARYLAND

~~SECRET~~ FROM WDTR 12-7-E FOR W. P. JASTREMSKI RDSIP

PART I PD IN ACCORDANCE WITH YOUR TELEPHONE REQUEST OF 16 DECEMBER 1957 THE FOLLOWING INFORMATION IS SUBMITTED WITH REFERENCE TO WS 117L P-300 PROGRAM ACCELERATION PD A TOTAL OF 13.5 MILLION P-300 FUNDS WILL BE REQUIRED IN FY 58 PD THESE ARE BROKEN DOWN AS FOLLOWS GLN 8.5 MILLION DOLLARS MOVED FORWARD TO FY 58 FROM THE CURRENT FY 59 MCP PD 5.0 MILLION DOLLARS ADDITIONAL TO PROVIDE A NEW LAUNCH FACILITY AT COOKE AIR FORCE BASE FOR WS 117L PD PART II PD THE FY 59 MCP ASSOCIATED WITH THE FY 58 PROGRAM OUTLINED IN PART I ABOVE WILL BE 13.0 MILLION DOLLARS TO CONSTRUCT FACILITIES PREVIOUSLY PROGRAMMED IN FUTURE YEARS PD PART III PD THE TOTAL PROGRAM FACILITY REQUIREMENTS FOR 117L WILL PROBABLY NOT EXCEED THE TOTALS SHOWN IN THE WS 117L DEVELOPMENT PLAN CMM 16 JULY 1957 CMM HOWEVER CMM THEY WILL BE REQUIRED EARLIER PD

WDTR 57-467

17  
DEC 1957

WDTR

Lt Col Quanten A. Riepe/iz  
2533

1 1

FREDERIC C. E. ODER  
Colonel, USAF  
Director, WS 117L

~~SECRET~~

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C O P Y

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DECLASSIFIED. DOD DIP 5200.10

MCPTFM

27 November 1957

SUBJECT: Overtime Policy - 117L Program

TO: Department of the Air Force  
Chief of Staff, Hq USAF  
ATTN: AFCCM  
Washington 25, D. C.

1. At the present time, the 117L Program is governed by the overtime restrictions as defined in Air Force Procurement Circular #10 dated 8 October 1957, which limits overtime on Air Force Programs other than Ballistic Missiles to two percent of programmed manhours.

2. The Advanced Reconnaissance System (117L) described in the development plan, was designed to fulfill the military requirement outlined in GOR #80 (SA-2c), 16 March 1955, ARDC SR #5, 17 October 1955, USAF DD #85, 3 August 1956 and ARDC SDD #117L, 17 August 1956. The system will provide a surveillance capability which will be global in scope. Such a system is a natural companion of the Ballistic Missile program. Not only will its employment serve to reveal any preparation for attack well in advance of the event, but in addition, it will provide a means of obtaining accurate up-to-date target information. Bomb damage assessment and other current target information is an essential ingredient in the effective deployment of any strategic weapon.

3. The inter-relationship between the two programs indicates that timely development and production is as important in the 117L Program, as it is in the Ballistic Missile Program. An essential factor in the development picture is one of overtime policy. It is, therefore, felt that the overtime policy presently applied to the ICBM/IRBM Program should be broadened to include the 117L Program. In respect to the overtime policy, authority is requested to consider the 117L Program as a portion of the Ballistic Missile Program.

FOR THE COMMANDER:

cc: Lt Col Seay, MCPTA

ORIGINAL SIGNED BY  
SHERMAN E. ELLIS  
Colonel, USAF  
Chief, Production Staff Division  
Deputy Director/Ballistic Missiles  
Directorate/Procurement & Production

WD-57-06076

57 MCP 25577

(Series B) Copy 1 of 3

"3"

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3

**LOCKHEED AIRCRAFT CORPORATION**

MISSILE SYSTEMS DIVISION • SUNNYVALE, CALIFORNIA

In Reply Refer to:  
**LMSD/40895**



13 December 1957

**Subject:** Letters of Inquiry from Senate Preparedness Investigating Subcommittee and Lockheed Missile Systems Division Reply Thereto

**To:** Commander  
Air Force Ballistic Missiles Division  
Air Research and Development Command  
Attention: Colonel F. C. E. Oder, WDTR  
Post Office Box 262  
Inglewood, California

**Thru:** Assistant Air Force Plant Representative  
Sunnyvale, California

*Harold R. Meadows*  
**HAROLD R. MEADOWS**  
Major, US F

**Ass't. AF Plant Representative**

**Enclosure:** (a) Letter from Senate Preparedness Investigating Subcommittee, Dated 2 December 1957  
(b) Letter from Senate Preparedness Investigating Subcommittee, Dated 5 December 1957  
(c) Lockheed Missile Systems Division Letter, Dated 13 December 1957

1. Attached as enclosures (a) and (b) are copies of two letters addressed to the Lockheed Missile Systems Division from the Senate Preparedness Investigating Subcommittee requesting certain information concerning our government programs.

2. In order that you may be advised of our reply to the Subcommittee a copy of our response is attached as enclosure (c).

**LOCKHEED AIRCRAFT CORPORATION**  
**MISSILE SYSTEMS DIVISION**

DEC 11 1957  
*L. H. Root*

**L. H. Root**  
Vice President and General Manager

LER:JES:pp

RECORDED

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PRESCOTT BUSH, CONN.  
FRANK A. BARNETT, WYO.

HARRY I. WINGATE, JR., CHIEF CLERK

## United States Senate

COMMITTEE ON ARMED SERVICES

December 2, 1957

Dear Sir:

The Preparedness Subcommittee of the Senate Armed Services Committee is presently engaged in an intensive inquiry into the missile and satellite programs of the Department of Defense. The principal purpose of the inquiry is to determine the present status of those programs, the reasons why those programs have not proceeded at a faster rate, and what actions can be taken to accelerate such programs.

In connection with this investigation we are now writing to each of the principal manufacturing companies which have been engaged in research and development or production, or both, of missiles covered by the program, in order to ascertain certain information which is necessary to shed light on the past and present status of the programs and the future development thereof. While the information we seek must, of course, be answered with reference to particular missiles, it is not our purpose to identify particular manufacturers but rather to get an overall picture of our past, present and future missile situation.

We would, therefore, greatly appreciate it if you would answer the following questions with respect to your participation in the missile program. These questions should be answered separately with respect to each missile project in which your company is engaged. Wherever directives are involved, please indicate the dates, numbers and pertinent provisions.



**I. RESEARCH AND DEVELOPMENT**

- A. With respect to each missile on which you are working, when did you start research and development work?
- B. What is the present status of research and development with respect to each missile on which you are working?
- C. Has there been any limitation imposed at any time on your use of overtime? If so, has there been any change with respect thereto?
- D. Have you been hampered directly or indirectly in your research and development work by lack of funds? If so, please explain.
- E. Have you at any time been hampered in your research and development work by lack of sufficient manpower? If so, please explain.
- F. Has your research and development work been delayed by change orders? If so, please explain.
- G. What other principal bottlenecks, if any, have you encountered in your research and development work on each missile?

**II. PRODUCTION**

- A. With respect to the production of each missile, please specify when a letter of intent was issued, when the contract was executed and when production was started.

- B. Please furnish the original production schedule on each missile. Indicate what changes, if any, have been made in such schedule. Indicate what production has been obtained to date.
- C. What have been the principal factors limiting or deterring production of each missile?
- D. Has there been any limitation imposed at any time on your use of overtime? If so, has there been any change with respect thereto?
- E. Has production been hampered directly or indirectly by lack of funds? If so, please explain.
- F. Have you at any time been hampered in production by lack of sufficient manpower? If so, please explain.
- G. Has production been delayed by change orders? If so, please explain.

### III. RECOMMENDATIONS

Please outline your recommendations for accelerating the development and production of the missiles which you are developing or producing.

As you know, the Subcommittee has set for itself a very rigid schedule so that its investigation can be completed at the earliest possible date consonant with a thorough investigation. It is the hope of the Subcommittee that it will be able to make its conclusions and recommendations to the Senate shortly after Congress reconvenes.

The next set of hearings for the presentation of testimony and data to the Subcommittee has been fixed for Friday, December 13, 1957. We should like very much to have the requested information ready for presentation to the Subcommittee at the opening

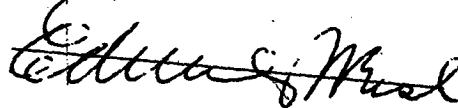
Mr. Eugene Root

- 4 -

December 2, 1957

of these hearings. We should, therefore, appreciate it very much if you would give this your prompt consideration and attention.

Sincerely,



Edwin L. Weisl, Special Counsel  
Senate Preparedness Investigating  
Subcommittee

Mr. Eugene Root, Division Manager  
Lockheed Aircraft Corporation  
Palo Alto, California

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**United States Senate**  
COMMITTEE ON ARMED SERVICES

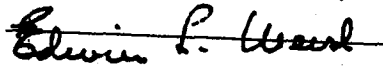
December 5, 1957

Dear Sir:

Supplementing my letter to you of December 2, 1957, I would appreciate very much if in connection with the information requested, you furnish the Subcommittee with copies of any directives issued by the Department of Defense or the military service from and after October 4, 1957, having as their purpose the acceleration of the production programs or the research and development programs being conducted by your company or which provide for increased funds for such programs.

Thank you for giving this request your prompt attention.

Sincerely,



Edwin L. Weisl, Special Counsel  
Senate Preparedness Investigating  
Subcommittee

Mr. Eugene Root, Division Manager  
Lockheed Aircraft Corporation  
Palo Alto, California

December 13, 1957

Mr. Edwin L. Weisl, Special Counsel  
Senate Preparedness Investigating  
Subcommittee  
United States Senate  
Washington, D. C.

Dear Mr. Weisl:

Attached is the information which you requested in your letter of December 2, 1957 and your supplementing letter of December 5, 1957.

You will note that data is provided only under your Research and Development category. This is due to the fact that the missiles on which the Lockheed Missile Systems Division has contracts are all under development at this time and have not yet entered the production phase. Answers to your alphabetical items are submitted under each missile program. To supply the information requested in your supplementing letter we have added Item "H" under the Research and Development category. As you will note, answers to Items B, C, D, E and G are identical for they apply to each missile program. The information for Lockheed Missile Systems Division missile programs is contained in enclosures as listed below.

Enclosure 1	Fleet Ballistic Missile, Polaris
Enclosure 2	WS-117L, New Horizon
Enclosure 3	X-7A, Ramjet Test Vehicle
Enclosure 4	XQ-5, Supersonic Drone
Enclosure 5	Recommendations

I trust that the enclosed information provided will be of value to the Senate Armed Services Subcommittee.

Sincerely,

L. Eugene Root  
Vice President and General Manager

Attach.  
Encls. 1, 2, 3, 4, & 5

PLAZER BALLISTIC MISSILE POLARIS

I. RESEARCH AND DEVELOPMENT

- A. Research and development work started in October, 1956.
- B. Research and Development work is generally on contract schedule.
- C. All cost reimbursement type contracts such as those held by the Lockheed Missile Systems Division contain certain restrictions covering the use of overtime. Until mid 1957, it had been the prerogative of the local administrative contracting agencies of the government to approve, prior to its being worked, such overtime as was reasonable and necessary. At that time, however, certain instructions and directives from the Department of Defense to the various agencies eliminated the use of all overtime except on ballistic missile production thereby restricting other vital research and development work to a routine 40-hour week. The implementation of these directives caused some confusion and re-planting with respect to many important projects. Approvals for overtime were difficult to secure and were for limited amounts. Recent action on the part of the Department of Defense has indicated vast improvements concerning this overtime situation.

Pertinent overtime directives are:

Memorandum addressed to Material Secretaries from Assistant Secretary of Defense (Supply and Logistics) dated 16 May 1957 subject, "Curtailement of Overtime", eliminated overtime except for very special purposes. Overtime policy was reinstated in DOD-4305.45, 19 June 1957 and DOD-4303.45 repeated October 1, 1957 entitled, "Overtime Policy for Reimbursement Contracts."

- D. The contractor has operated at the maximum rate permitted by the funds available. Had there been additional monies available the schedules for development and testing could have been set at a faster pace.
- E. There is a nation-wide heavy demand for highly qualified managerial and scientific personnel and it is difficult to acquire such personnel on a timely basis, although in general we are able to meet our personnel requirements.
- F. Change orders have delayed the Polaris development. The complexity of governmental procedures for processing changes are costly in time and effort.
- G. Research and Development effort in our missile work proceeds most effectively when it is carried out under a well planned long-term program.

Item "G" Cont'd

The support of our programs by annual funds makes difficult the orderly programming of long-term effort because of uncertainties and variations in the funding support level available from year-to-year.

A governmental security system which would provide for more expeditious processing of security clearances would be of material assistance.

- H. The contractor has received classified technical instructions from the Department of the Navy which in effect serve to accelerate the POLARIS Program. Due to the Security classification of these instructions the contractor is not at liberty to provide copies.

I. RESEARCH AND DEVELOPMENT

- A. Research and development work started in July, 1955.
- B. Research and Development work is generally on contract schedule.
- C. All cost reimbursement type contracts such as those held by the Lockheed Missile Systems Division contain certain restrictions covering the use of overtime. Until mid 1957, it had been the prerogative of the local administrative contracting agencies of the government to approve, prior to its being worked, such overtime as was reasonable and necessary. At that time, however, certain instructions and directives from the Department of Defense to the various agencies eliminated the use of all overtime except on ballistic missile production thereby restricting other vital research and development work to a routine 40-hour week. The implementation of these directives caused some confusion and re-planning with respect to many important projects. Approvals for overtime were difficult to secure and were for limited amounts. Recent action on the part of the Department of Defense has indicated vast improvements concerning this overtime situation.

Pertinent overtime directives are:

Memorandum addressed to Material Secretaries from Assistant Secretary of Defense (Supply and Logistics) dated 16 May 1957 subject, "Curtailment of Overtime", eliminated overtime except for very special purposes. Overtime policy was reiterated in DOD-4105.43, 19 June 1957 and DOD-4105.43 repeated October 1, 1957 entitled, "Overtime Policy for Procurement Contracts."

- D. The contractor has operated at the maximum rate permitted by the funds available. Had there been additional monies available the schedules for development and testing could have been set at a faster pace.
- E. There is a nation-wide heavy demand for highly qualified managerial and scientific personnel and it is difficult to acquire such personnel on a timely basis, although in general we are able to meet our personnel requirements.
- F. Change orders per se have not delayed the WS-117L Program but changing objectives have had a delaying effect.
- G. Research and Development effort in our missile work proceeds most effectively when it is carried out under a well planned long-term program.



Item 'B' Cont'd

The support of our program by annual funds makes difficult the orderly programming of long-term effort because of uncertainties and variations in the funding support level available from year-to-year.

A governmental security system which would provide for more expeditious processing of security clearances would be of material assistance.

5. No accelerating directives or increased funds for the purpose of accelerating this contract have been received.

The Air Force has requested the contractor to prepare a proposal for acceleration of the program. The contractor's initial proposal will be submitted to the Air Force prior to the end of the year.

X-7A, RAMJET TEST VEHICLE

I. RESEARCH AND DEVELOPMENT

- A. Research and development work started in February, 1943.
- B. Research and Development work is generally on contract schedule.
- C. All cost reimbursement type contracts such as those held by the Lockheed Missile Systems Division contain certain restrictions covering the use of overtime. Until mid 1957, it had been the prerogative of the local administrative contracting agencies of the government to approve, prior to its being worked, such overtime as was reasonable and necessary. At that time, however, certain instructions and directives from the Department of Defense to the various agencies eliminated the use of all overtime except on ballistic missile production thereby restricting other vital research and development work to a routine 40-hour week. The implementation of these directives caused some confusion and replanning with respect to many important projects. Approvals for overtime were difficult to secure and were for limited amounts. Recent action on the part of the Department of Defense has indicated vast improvements concerning this overtime situation.

Pertinent overtime directives are:

Memorandum addressed to Material Secretaries from Assistant Secretary of Defense (Supply and Logistics) dated 16 May 1957 subject, "Curtailement of Overtime," eliminated overtime except for very special purposes. Overtime policy was enunciated in DOD-4105.43, 19 June 1957 and DOD-4105.43 repeated October 1, 1957 entitled, "Overtime Policy for Procurement Contracts."

- D. The contractor has operated at the maximum rate permitted by the funds available. Had there been additional monies available the schedules for development and testing could have been set at a faster pace.
- E. There is a nation-wide heavy demand for highly qualified managerial and scientific personnel and it is difficult to acquire such personnel on a timely basis, although in general we are able to meet our personnel requirements.
- F. Change orders have not hampered research and development work.
- G. Research and Development effort in our missile work proceeds most effectively when it is carried out under a well planned long-term program.

Item G" Cont'd

The support of our programs by annual funds makes difficult the orderly programming of long-term effort because of uncertainties and variations in the funding support level available from year-to-year.

A governmental security system which would provide for more expeditious processing of security clearances would be of material assistance.

- A. No accelerating directives or increased funds for the purpose of accelerating this contract have been received.

XQ-5 SUPERSONIC DRONE

I. RESEARCH AND DEVELOPMENT

- A. Research and development started in May, 1954.
- B. Research and Development work is generally on contract schedule.
- C. All cost reimbursement type contracts such as those held by the Lockheed Missile Systems Division contain certain restrictions covering the use of overtime. Until mid 1957, it had been the prerogative of the local administrative contracting agencies of the government to approve, prior to its being worked, such overtime as was reasonable and necessary. At that time, however, certain instructions and directives from the Department of Defense to the various agencies eliminated the use of all overtime except on ballistic missile production thereby restricting other vital research and development work to a routine 40-hour week. The implementation of these directives caused some confusion and replanning with respect to many important projects. Approvals for overtime were difficult to secure and were for limited amounts. Recent action on the part of the Department of Defense has indicated vast improvements concerning this overtime situation.

Pertinent overtime directives are:

Memorandum addressed to Materiel Secretaries from Assistant Secretary of Defense (Supply and Logistics) dated 16 May 1957 subject, "Curtailement of Overtime," eliminated overtime except for very special purposes. Overtime policy was enunciated in DOD-4105.43 19 June 1957 and DOD-4105.43 repeated October 1, 1957 entitled, "Overtime Policy for Procurement Contracts."

- D. The contractor has operated at the maximum rate permitted by the funds available. Had there been additional monies available the schedules for development and testing could have been set at a faster pace.
- E. There is a nation-wide heavy demand for highly qualified managerial and scientific personnel and it is difficult to acquire such personnel on a timely basis, although in general we are able to meet our personnel requirements.
- F. Change orders have not delayed our research and development work.
- G. Research and Development effort in our missile work proceeds most effectively when it is carried out under a well planned long-term program.

Item "G" Cont'd

The support of our programs by annual funds makes difficult the orderly programming of long-term effort because of uncertainties and variations in the funding support level available from year-to-year.

A governmental security system which would provide for more expeditious processing of security clearances would be of material assistance.

- H. No accelerating directives or increased funds for the purpose of accelerating this contract have been received.

### III. RECOMMENDATIONS

Streamlined procedures which will allow timely consummation of contractual authorizations.

Adequate and stable long-term funding so that contract objectives may be established and planning and implementation may proceed on an effective basis.

Eliminate overtime restrictions so that management may utilize this important tool when warranted.

Accelerate the process of granting security clearances.

Adequate basic research is fundamental to the expeditious development of new weapons. The contractor firmly believes that company sponsored research constitutes one of the outstanding opportunities for long-term "profit", to the government's defense effort. To encourage this privately sponsored research the government should adopt a much more liberalized view regarding this activity in its contractual requirements. At the present time general research must be negotiated separately on each contract. As a consequence different interpretations are applied to each contract and the contractor is never certain of the government's position with respect to this vital support of its defense program.