

DISPOSITION FORM

SECURITY: RFC: (U/CONF)

FILE NO.

SUBJECT

WEEKLY DIARY - 16 Aug Thru 22 Aug 57

TO

MCPT

FROM

MCPTA

DATE

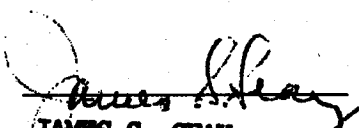
22 Aug 57

COMMENT NO. 1

1. LOCKHEED AIRCRAFT CORP. - L/C AF 04(647)-97 (UNCL)

a. Expenditure Limitations for FY 58 - Pursuant to AF policy to reduce expenditures for FY 58, and a TMX directive requiring expenditure reduction on this contract, discussions were held with the Comptroller as to the amounts necessary to be reduced. A plan was worked out, based on a rate of invoicing, which is not necessarily an appropriate reflection of expenditure rate since this program is in an early phase. Invoicing is still at a very low level but would have risen sharply in the next quarter. However, the expenditure rate established for FY 58 was based on the current billing rate and the Contractor has been notified to adjust his program accordingly. The Contractor has also been requested to advise as to the affect this reduction in expenditure rates will have on the program schedules.

b. Propulsion System - Further discussions were held with the AFPR, Convair, Fort Worth, with relation to the transfer of termination inventories from the B-58 Bell Subcontract for XLR-81 engines to the WS-117L program. This discussion included some arrangements with respect to delivered engines, GSE, and work in process.


JAMES S. GRAY
Lt Colonel, USAF
Chief, WS-117L Branch

DISPOSITION FORM

SECURITY # (if any)

FILE NO.

SUBJECT Weekly Diary for the Period 23 Aug - 29 Aug 57

TO MCPT

FROM MCPTA

DATE 30 Aug 57 COMMENT NO. 1

Lt Col Seay/maw/1171

1. Lockheed Aircraft Corporation Missiles System Division has submitted the cost proposal covering the definitive work statement for the 117L advanced reconnaissance system. Subject proposal is currently being reviewed by the Project Office, however, no action will be taken until official word has been received as to the amount of the FY 58 budget for the 117L weapon system.

JAMES S. SEAY
Lt Colonel
Chief, 117L Branch

DISPOSITION FORM

SECURITY C IPSCA (if any)

FILE NO.

SUBJECT

WEEKLY DIARY - 6 Sept thru 12 Sept 57

TO

MCPT

FROM

MCPTA

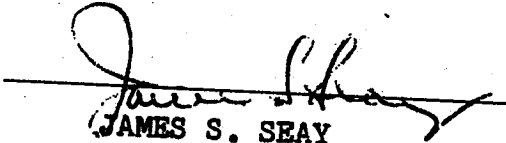
DATE 12 Sep 57 COMMENT NO. 1

1. FUNDING PROBLEM: (UNCL)

Lockheed Missile Systems Division was advised on 6 September 1947, during a staff visit by the Chief, 117L Branch, that no more than \$30,000,000 could be expected by LMSD during FY 58. This amount represents approximately \$20,000,000 less than the current contractor cost proposal for the same period of time. LMSD was instructed, therefore, to insure that contractor commitments for the current fiscal year would be within the above goal of \$30,000,000.

2. LOCKHEED TEST PLAN: (UNCL)

The Weapon System Project Office has prepared a formal reply to LMSD taking exception to the contractor test plan for the WS 117L. The main objection lies in the fact that LMSD is proposing to do manufacturing and component testing of items that could be manufactured and tested at less expense by competent subcontractors. This would also eliminate to a great extent contractor's need for special test equipment.


JAMES S. SEAY

Lt Colonel, USAF

Chief, WS 117L Branch

Deputy Director/Ballistic Missiles

Directorate/Procurement & Production

DISPOSITION FORM

SECURITY C PIC. (If any)

FILE NO.

SUBJECT

WEEKLY DIARY - 13 thru 19 Sept 57


TO MCPT

FROM MCPTA

DATE 20 Sep 57 COMMENT NO. 1
Capt J. R. Hall/he/1177

FY 58 FUNDING OF WS 117L PROGRAM (UNCL)

A TWX outlining basic details of P-100 and P-200 FY 58 requirements for the WS 117L was furnished MCPZ on 12 September 1957, as a result of their request. These requirements were based upon a very austere program totaling some \$25,000,000. Information has since been received that considerably larger funds will be made available for use on this program in FY 58.


JAMES S. SEAY
Lt Colonel, USAF
Chief, WS 117L Branch
Deputy Director/Ballistic Missiles
Directorate/Procurement & Production

DISPOSITION FORM

SECURITY ~~REF~~ N (if any)

FILE NO.

SUBJECT

WEEKLY DIARY - 20 thru 26 Sept 57

TO

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FROM

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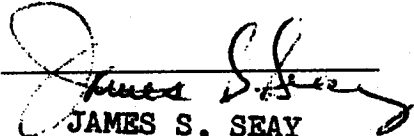
DATE 26 Sep 57 COMMENT NO. 1

1. Visit to Lockheed Aircraft Corp - WS 117L Program (UNCL)

A visit will be made this week by members of the WS 117L Branch to the Lockheed Aircraft Corporation facility at Palo Alto, California in order to discuss costs of this program. Primary determinations to be made during this visit include the actual work to be programmed for this fiscal year, the allocation of this work between LAC and their subcontractors, the development of a schedule for this work which will be commensurate with the funds allocated for this fiscal year, and the initiation of negotiations leading to definition of this contract.

2. Cost of Booster for WS 117L Program (SECRET)

An investigation conducted by members of the WS 117L Branch into the probable costs of the WS 107A-1 Booster to be utilized in the WS 117L program during CY 60 has developed that overall funding requirements are approximately \$3,270,000 for each Booster less the nose cone. These costs include all field services necessary through actual firing of the missile. In contrast, it was developed that the missile, as delivered at the factory, will cost approximately \$2,300,000.



JAMES S. SEAY
Lt Colonel, USAF
Chief, WS 117L Branch
Deputy Director/Ballistic Missiles
Directorate/Procurement & Production

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

Cy #1
57MCP-4059

DISPOSITION FORM

SECURITY SIF N (if any)

FILE NO.

SUBJECT

WEEKLY DIARY - 27 Sept thru 3 Oct 57

TO

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FROM

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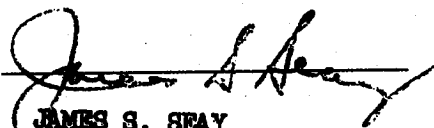
DATE 3 Oct 57 COMMENT NO. 1

1. WS 117L Cost Proposal: (UNCL)

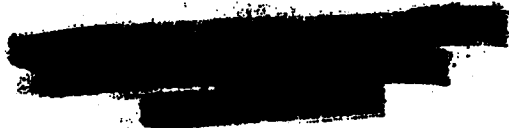
The contractor has been requested to forward those IMSD task sheets and related manpower figures which were the basis for the figures used in Cost Proposal submitted by IMSD. Subject information will be reviewed by the Subsystem Project Officers and the WSPO to help ascertain the validity of the cost estimate.

2. Expenditure Ceiling: (UNCL)

The ACO for IMSD has advised the 117L WSPO that Lockheed Aircraft Corp has been given an over-all expenditure ceiling of 69% of that forecast by the contractor for FY 58. The determination is now being made as to how this ceiling is to be apportioned among the various contracts at IAC.



JAMES S. SEAY
Lt Colonel, USAF
Chief, WS 117L Branch
Deputy Director/Ballistic Missiles
Directorate/Procurement & Production



DISPOSITION FORM

SECURITY CLASSIFICATION (If any)

FILE NO.

SUBJECT

TO

MCPT

FROM

MCPTA

WEEKLY DIARY - 11 thru 17 October 1957

DATE 17 Oct 57

COMMENT NO. 1

WS 117L Program - Lockheed Aircraft Corporation - L/C AF 04(647)-97

1. Incremental Funding: (UNCL)

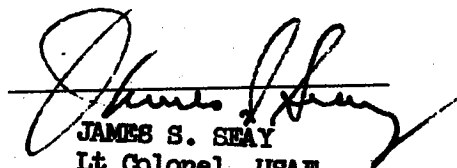
DOD Directive 7200.4 establishes certain limitations concerning the use of incremental funding procedures on contracts. One of these limitations is to the effect that where hardware, including prototypes, is to be fabricated, incremental funding may not be used. This program contemplates certain prototype hardware. Therefore, an exemption from the requirements of the referenced directive has been granted by AFMPP, authorizing the use of incremental funding for Contract AF 04(647)-97, by means of TWX dated 11 October.

2. Contract Funding: ~~(CONF)~~

Some delays have been experienced in receipt of program approval for FY 58 funds. As a result of this delay, the contract funds will have been expended some time in November. However, a procurement authority was received this week authorizing 35.1 million dollars of P-100 funds of the FY 58 program requirements for this contract. A PR has been initiated requesting 15 million dollars of this amount for immediate obligation on the contract. It is anticipated that P-600 and P-200 funds will also be made available shortly, in sufficient amounts to fund the contract thru FY 58.

3. Preliminary Operational Concept: (UNCL)

A draft of the preliminary "Ops Concept" has been received and is being studied by the WSPO at this time.



JAMES S. SEAY
Lt Colonel, USAF
Chief, WS 117L Branch
Director/Ballistic Missiles
Directorate/Procurement & Production

DOWNGRADED BY 15 YEAR
INTERIM SECURITY CLASSIFICATION
DECLASSIFIED BY 15000

DISPOSITION FORM

SECURITY C. TIC I (If any)

FILE NO.

SUBJECT

TO

MCPT

FROM

WEEKLY DIARY - 18 thru 24 October 1957

MCPTA

DATE 24 Oct 57 COMMENT NO. 1

WS 117L Program - Lockheed Aircraft Corporation - L/C AF 04(647)-97

1. Expenditure Ceilings: (UNCL)

Information has been received from Hq AMC that the WS 117L Program should be considered in the same status as the Ballistic Missiles Programs with respect to expenditure ceilings. This branch has therefore developed a schedule of expenditure ceilings, in conjunction with the AFMD Comptroller, which will be consistent with the program needs. This table of expenditure ceilings, by month, will be forwarded to the ACO for his guidance.

2. Definition of Air Force Policy to the Contractor With Respect to His General Test Plan and Related Facilities and Equipment: (UNCL)

The contractor had submitted a test plan which included a provision that the Government would furnish special test equipment. This plan was reviewed and was believed to conflict with a basic concept that the contractor would furnish all facilities items. It was apparent that the contractor's definition of special equipment was somewhat broader than the Air Force definition. Thus, the contractor had a number of items which could conceivably be called special test equipment but which could also be described as facilities. Therefore, a policy statement was drafted establishing definitions for these items which would conform to overall Air Force policies, and which would provide guidance to the contractor in determining the items which must be contractor furnished as facilities, and the items which could be considered special test equipment for charging against the contract. The Statement of Policy was received by the contractor and some discussions took place. As a result of this, the contractor submitted a revised list of special test equipment. The original list had been priced at \$1,243,560. The revised list has been reduced to \$446,025. It is believed that the Statement of Policy will be useful throughout the life of the contract as a guide to the contractor in determining the allowability of costs for test equipment.

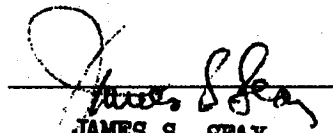
3. Definitization of Letter Contract: (UNCL)

The contractor's first cut at a definitive proposal was examined. It was found that the proposal did not provide sufficient supporting data to accept the contractor's cost estimates. As a result of conferences on this subject, the contractor is preparing a completely revised proposal. The format of the revised proposal has been reviewed and it appears to conform to the requirement to permit a full and complete analysis of costs. Upon the basis of this review, a tentative negotiation date of 12 November has been established. This date will permit definitization within the present scheduling.

D/F to MCPT, Subj: Weekly Diary - 18 thru 24 October 1957,
dtd 24 Oct 57

4. Security (UNCL)

Discussions have been held with WDSIR toward redefining the visitor clearance procedures in connection with visits to contractors involved in the WS 117L Program. This matter is somewhat more complex than it would seem, since the various ARDC Centers award prime contracts in connection with the program, in addition to the major systems contract, which is awarded and managed from this Headquarters. There is a need for exchange of information between the various contractors in the program, which must be limited to a strict "need to know" basis. At the same time, these visitor clearances must be accomplished promptly if the program is to progress in a satisfactory manner. Procedures to this end are being developed.



JAMES S. SEAY
Lt Colonel, USAF
Chief, WS 117L Branch
Deputy Director/Ballistic Missiles
Directorate/Procurement & Production

DISPOSITION FORM

SECURITY CONFIDENTIAL ON (if any)

FILE NO. [REDACTED]

SUBJECT

WEEKLY DIARY - 25 thru 31 October 1957

TO MCPT

FROM MCPTA

DATE 31 Oct 57 COMMENT NO. 1

WS 117L Program - Lockheed Aircraft Corporation - L/C AF 04(647)-97

1. Definitization of Letter Contract: (UNCL)

The contractor has submitted a revised proposal for the definitization of his letter contract. The original proposal prepared by the contractor was found to be inadequate for definitization purposes, and the revised proposal is presumed to have the necessary data to permit analysis. The negotiation conference is scheduled for 12 November, and it is now believed that complete definitization of this letter contract can be accomplished approximately February 1958 or earlier.

2. Systems Test Facility (STF): (UNCL)

The contractor is building a Systems Test Facility on his property at Santa Cruz, California. By arrangements between the WSFO and the contractor, this facility is being constructed at the contractor's expense. The Air Force participation in this construction is limited to special test equipment, vertical test tower, and possibly some special tankage. The ACO has submitted the contractor's construction plans and the proposed subcontract for construction of the STF for review. The review indicated that the contractor's plan would result in a satisfactory test facility for WS 117L, and it was, therefore, approved.

3. Early Orbital Capability - (SECRET)

A teleconference was held with AFDCSD concerning the possibility of making the first flight of the WS 117L an orbital flight. Original planning provided for the first flight to be a test flight. However, DCSD was advised that an orbital try could be made with the first flight providing necessary funding could be made available.

James S. Seay
JAMES S. SEAY
Lt Colonel, USAF
Chief, WS 117L Branch
Deputy Director/Ballistic Missiles
Directorate/Procurement & Production

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

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WEEKLY DIARY - 1 thru 7 November 1957

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7 Nov 57

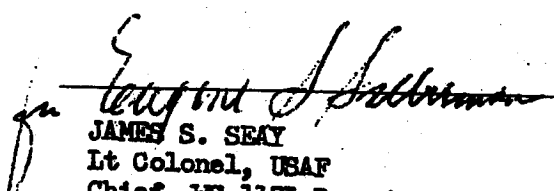
WS 117L Program - Lockheed Aircraft Corporation - L/C AF 04(647)-97

SAT → 1. Definitization of Letter Contract: (UNCL)

The WSFO has been actively engaged in valuation of the contractor's proposal for definitization of the letter contract. Cost analysis is being performed by the EMO Pricing Office, in coordination with the AGO. Pre-negotiation presentation is scheduled to be made to MCPT on the 8 November. This definitization operation is on schedule, and is expected to be complete by February 1958.

SAT → 2. Contract Fund Program: (UNCL)

Procurement Authority for F100 Fy program was received some weeks ago, with an administrative limitation on obligation of the total to approximately one half of the total. This administrative limitation has now been removed by Hq USAF, and the entire amount is available for obligation.


JAMES S. SEAY
Lt Colonel, USAF
Chief, WS 117L Branch
Deputy Director/Ballistic Missiles
Directorate/Procurement & Production

DISPOSITION FORM

SECURITY SIFM (if any)

FILE NO.

SUBJECT

WEEKLY DIARY - 8 thru 14 November 1957

TO

MCPT

FROM

MCPTA

DATE 14 Nov 57

COMMENT NO. 1

WS 117L Program - Lockheed Aircraft Corporation - L/C AF 04(647)-97

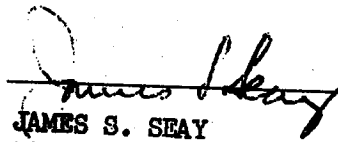
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Propulsion System: (UNCL)

This branch has been working with the Hustler WSFO in the transfer of termination inventory on the XLR-81 engine from the B58 Program to WS117L. In conjunction with the ACO at Lockheed, a trip was made to Bell Aircraft and arrangements were made for transferring the work-in-process inventory at an approximate saving to the WS 117L Program of \$570,000.

2. Negotiation Conference: (UNCL)

Negotiations for definitization of the subject contract have been in process all week, and while no conclusions have been arrived at, progress on this negotiation is considered satisfactory.



JAMES S. SEAY
Lt Colonel, USAF
Chief, WS 117L Branch
Deputy Director/Ballistic Missiles
Directorate/Procurement and Production

DISPOSITION FORM

SECURITY SECRET (If any)

FILE NO.

SUBJECT

WEEKLY DIARY - 15 thru 21 November 1957

TO

MCPT

FROM

MCPTA

DATE 21 Nov 57 COMMENT NO. 1

WS 117L Program - Lockheed Aircraft Corporation - L/C AF 04(647)-97

1. Definitization Negotiations: (UNCL)

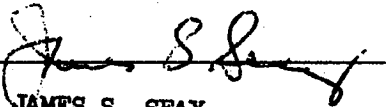
This branch has been negotiating with the contractor for the past two weeks for the purpose of arriving at an agreement on the definitization of the subject letter contract. These negotiations are proceeding at a satisfactory pace, and no major difficulties have been encountered. However, no agreement has been reached with respect to fee. It is expected that the definitization will take place on schedule.

2. Logistics Requirements: (UNCL)

The contractor has been briefed on the EMO/EWD logistic procedures, in anticipation that the WS 117L Program will be included in the logistic system established for the other programs in this complex. As a first step in the operation of this system, the contractor has been requested to prepare "consumption and failure rate" reports pursuant to Exhibit WDT 57-3.

3. Current Delivery Schedule Information to AFMMP: (UNCL)

At the request of Hq USAF, this office submitted to AFMMP the current delivery schedule for 117L weapon systems. Subject information will be used to prepare the 57-4 WM schedule so as to include the 117L ARS.


JAMES S. SEAY
Lt Colonel, USAF
Chief, WS 117L Branch
Deputy Director/Ballistic Missiles
Directorate/Procurement and Production

DISPOSITION FORM

SECURITY SUPC. 1 (X only)

FILE NO.

SUBJECT

WEEKLY DIARY - 22 thru 28 November 1957

TO

MCPT

FROM

MCPTA

DATE 29 Nov 57 COMMENT NO. 1

WS 117L Program - Lockheed Aircraft Corporation - L/C AF 04(647)-97

1. Negotiation of Definitization of Letter Contract: (UNCL)

For the past several days, this branch has been negotiating the definitization of L/C AF 04(647)-97 for the WS 117L system. Negotiation of costs has been completed satisfactorily. However, the matter of fee is still unresolved, and no agreement has been reached to date. It is expected that the scheduled definitization date will be met.

2. WS 117L and WS 107A-1 Basic Integration Meeting: (SECRET)

Colonel Oder, WS 117L Director, and staff convened with Mr. Dempsey (Convair) and Mr. Carter (IMSD) to discuss base integration plan of the two systems for AFMTC operations. The basic plan, under the joint agreement of WDTC and WDIR essentially calls for:

a. All elements of the WS 107A-1 program required for 117L testing will be GFE to Lockheed as prescribed by the flight test program.

b. The WS 107A-1 program office will procure the required elements to be funded by the WS 117L on a reimbursement basis.

c. IMSD will be responsible for overall conduct of WS 117L flight tests and thus act as Test Conductor at AFMTC under the direction of the AFEMD WS 117L Test Conductor.

d. WS 117L flight testing will begin at AFMTC in June 1959 with one flight every other month for approximately six months.

e. Test ground support equipment presently in being at AFMTC in support of XSM-65 will be utilized in this proposed test. Mr. Dempsey and Mr. Carter both mutually agreed to reconvene as soon as possible with their test groups to resolve and ratify all known problems and publish a joint agreement for review by BMD.

3. Monthly Briefing on the WS 117L: (UNCL)

A meeting was held at IMSD on 25 and 26 November to discuss details related to the monthly briefing which will be conducted by Lockheed preparatory to the WSPO's participation in the Commander's Monthly Internal

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INTERVALS; NOT AUTOMATICALLY
DECLASSIFIED. DOD DIR 5200.10

DD FORM 1 FEB 50 96

REPLACES HKT FORM 96, 1 OCT 1957

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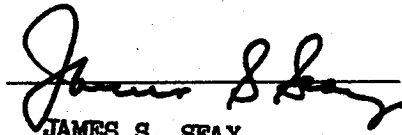
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MCPTA

D/F to MCPT dtd 29 Nov 57, subj: Weekly Diary -22 thru 28 Nov 57 (Contd)

Management Conference. Each month the Lockheed Missile Systems Division will brief the WSPO in all aspects of the WS 117L using the same briefing aids which will be used by cognizant members of the WSPO in the Black Friday session. The first dry run will be held at Lockheed on 19 December 1957.



JAMES S. SEAY
Lt Colonel, USAF
Chief, WS 117L Branch
Deputy Director/Ballistic Missiles
Directorate/Procurement & Production

DISPOSITION FORM

SECURITY CLASSIFICATION (if any)
~~SECRET~~

FILE NO.

SUBJECT

WEEKLY DIARY - 29 November thru 5 December 1957

TO

MCPT

FROM

MCPTA

DATE

5 Dec 57

COMMENT NO. 1

WS 117L Program - Lockheed Aircraft Corporation - L/C AF 04(647)-97

1. WS 117L Support at Camp Cooke: - (SECRET)

Increased emphasis placed on the SM-65 operation at Camp Cooke and its impact on the WS 117L tests has created a requirement for an additional vertical launch complex solely to support WS 117L. This requirement was substantiated on the basis that launch complex 65-1 at Camp Cooke would be in full use and not available for WS 117L occupancy. Details on installation support and operation of this new proposed launch site are being formalized jointly by the WS 117L, 107A-1 projects and WDI. Results of this effort will serve as the basis for a directive wherein responsibilities and action required will be cited.

2. WS 117L Structural Tests: - (SECRET)

WS 117L project members, Major Billick and Mr. Runge accompanied Mr. Reidner (IMSD) to Convair, San Diego on 3 December to participate in a joint meeting related to mating the WS 117L adapter to the SM-65 nose ring for structural dynamic tests. It was originally intended to use sections from disposed SM-65 "A" missiles that have completed captive tests. However, the final analysis revealed that the configuration of these parts are not compatible to the 117L design and would necessitate extensive and expensive rework. It was mutually agreed that Convair would fabricate a completely new nose section and weld an additional bulkhead to enable IMSD to conduct structural testing. The test is scheduled to commence April 1958.

3. Negotiation of Definitization of Letter Contract: (UNCL)

Matters of cost have been resolved by negotiation. However, fee is still being negotiated, and no resolution of this problem is in sight at the moment.

4. Authority for Incremental Funding: (UNCL)

Authority was received sometime ago for the use of incremental funding for Lockheed Contract AF 04(647)-97, applicable to the WS 117L Program. However, this authority was limited to that particular contract. A decision was made to procure one of the subsystems by means of a prime contract from RADC. The incremental funding authority does not extend to other primes, and therefore efforts are being made to obtain a broadening of this authority to include the entire WS 117L Program, without limitation to

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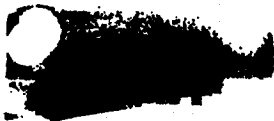

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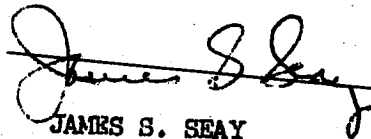
REPLACES NME FORM 96, 1 OCT 48, WHICH IS OBSOLETE

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U. S. GOVERNMENT

 
WEEKLY DIARY - 29 November thru 5 December 1957 (Contd)

one specific contract. As an interim measure, however, action has already been initiated in conjunction with Hq USAF to exempt the RADC procurement from the provisions of DOD Directive 7200.4.



JAMES S. SEAY
Lt Colonel, USAF
Chief, WS 117L Branch
Deputy Director/Ballistic Missiles
Directorate/Procurement & Production

DISPOSITION FORM

SECURITY

(S)

FILE NO.

SUBJECT

WEEKLY DIARY - 13 thru 19 December 1957

TO

MCPT

FROM

MCPTA

DATE 19 Dec 57 COMMENT NO. 1

WS 117L Program - Lockheed Aircraft Corporation - L/C AF 04(647)-97

1. Definitization of Contract: (UNCL)

The definitive contract has been drafted, and will be delivered to MCPC this week for preliminary review.

2. Acceleration of the WS 117L Program: (SECRET)

The contractor is preparing a proposal toward acceleration of the program, pursuant to discussions with the Weapon System Project Office.

The contractor is also preparing a proposal for an augmented program based upon utilization of a THOR booster.

3. WS 117L Program Control Meeting at IMSD: (SECRET)

BMD/BMO members convened at Lockheed on 18 December 1957 to review Lockheed's program control charts and exhibits. Opening remarks were made by Mr. Carter implying that these program control charts will be currently used by Lockheed management throughout the period of the contract. Each subsystem has been assigned a manager to be responsible for reporting complete engineering and financial status. This involved presenting schedules, milestones and test status for both in-plant activity and sub-contracts. This presentation revealed critical problems in facilities installations, i.e., Cooke Air Force Base and site selection at Hawaii. The meeting adjourned at 1800.

✓ 4. WS 117L/107A-1 Integration Plan. (UNCL)

The 107A-1 Project Office has been directed to effect necessary contractual action with Convair to implement the basic requirements of the integration plan. A joint meeting is scheduled for 20 December to present the proposed action to both Weapon System Directors of Lockheed and Convair. It is anticipated that a letter contract will be implemented during the month of December to enable IMSD to hold full scale coordination with Lockheed for purposes of establishing a definitive joint working agreement.

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

James S. Seay
JAMES S. SEAY
Lt Colonel, USAF
Chief, WS 117L Branch
Deputy Director/Ballistic Missiles
Associate/Procurement & Production

DD FORM 1 FEB 50 96

REPLACES HMK FORM 86, 1 OCT 50

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U.S. GOVERNMENT PRINTING OFFICE: 1955 O-289085

57MC P-25929 0041

DISPOSITION FORM

SECURITY CLASSIFICATION (U) [REDACTED]

FILE NO.

SUBJECT

WEEKLY DIARY - 27 December 1957 thru 2 January 1958
DATE 2 January 1958 COMMENT NO. 1

TO MCPT

FROM MCPTA

WS 117L Program - Lockheed Aircraft Corporation - L/C AF 04(647)-97

1. Definitization of Contract: (UNCL)

The definitized letter contract has been submitted to MCPC for preliminary review. It is anticipated that the ~~file~~ will be forwarded to the contractor for signature in approximately 10 days.

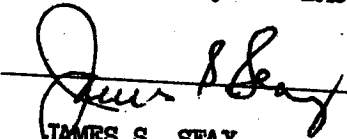
2. WS 117L/107A-1 Flight Test Integration: ~~(SECRET)~~

A joint WS 117L/WS 107A-1 project meeting was held with Convair and Lockheed test groups on 20 December 1957 to firm up detailed requirements of the combined systems tests at Patrick AFB. 1 February 1958 is the tentative schedule for completing the preliminary work statement and test plan with cost estimates to be available on or about 15 February. The 107A-1 Project Office has processed a letter to Convair authorizing them to proceed with those tasks necessary to meet the above schedule. A letter contract will be implemented immediately upon submission of the work statement and cost estimates.

Three major points that remain to be unresolved are:

- a. Duration of the flight test at Patrick AFB.
- b. The firing rate.
- c. Assignment of launch pad (#12 or #14).

These points are undergoing further discussion by the FMD groups.


JAMES S. SEAY
Lt Colonel, USAF
Chief, WS 117L Branch
Deputy Director/Ballistic Missiles
Directorate/Procurement & Production

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

58MCP-22

Copy #1

WDGS

NOV 5 1956

WDTR

SUBJECT: Presentations by Missile Systems Division on WS 117L

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

1. Your attention is invited to the attached copy of a letter dated 31 October 1956 from Information Services Officer, Western Development Division, to the Director of Public Relations, Lockheed Aircraft Corporation.

2. It is requested that the policies enumerated in the inclosed letter be applied with those requests received by Missile Systems Division from both military and other Governmental Agencies. An example of the former is a recent request from the Air University to Lockheed Aircraft Corporation for a presentation on WS 117L.

3. Since I believe that you can readily appreciate the need for these policies and the resulting control procedures, their implementations should not prove to be any handicap to the development responsibilities of your corporation in the WS 117L Program.

SIGNED

1 Incl.
Ltr. cc, fr D.L. Perry
Lt. Col., USAF, to LAC
dtd 31 Oct 56
(WDGS-56-34 Cy # 3)

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

When inclosures are withdrawn the
classification of this correspondence
shall be controlled by the
in accordance with AFM 200-1.

WDTR 56-212

WDTR

Lt. Col. Oder

dh

1343

[REDACTED]

MEMO

NOV 5 - 1956

SUBJECT: Information Pertaining to WS 117L

TO: Director of Research and Development
Hq. USAF
Attn: AFDRD-SS
Washington 25, D. C.

1. Reference is made to the request contained in your TWX AFDRD-SS, 29 October 1956, for certain TOP SECRET information presented by representatives of the Western Development Division to the Coordinating Committee on Guided Missiles, OASD (R & D) on 26 October 1956.
2. Two (2) TOP SECRET charts were used during the presentation:
 - a. One of these is that found on page 8 of the TOP SECRET Supplement to the WS 117L Development Plan, 2 April 1956 which has been previously furnished to your headquarters. You are authorized to reproduce four (4) copies of this specific chart.
 - b. In accordance with your request referred to in Paragraph 1 above, four (4) copies of the other TOP SECRET charts used in the presentation are being forwarded to you under separate cover.
3. It is requested that the Secretary of the Coordinating Committee on Guided Missiles be advised in writing that the information contained on the two (2) TOP SECRET charts in question is only tentative due to the present uncertain status of the Development Schedule for WS 117L.

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DECLASSIFIED. DOD DIR 5200.10

[REDACTED]

[REDACTED]

4. It is further requested that the Western Development Division, Attn: WDTR, be furnished a list of those personnel and their official positions who attended both the dry run of the WS 117L presentation on 25 October 1956 and the actual presentation to CCGM on 26 October 1956.

FOR THE COMMANDER:

HAROLD W. NORTON
Colonel, USAF
Asst Deputy Commander

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

WDTR
Lt. Col. Oder

dh
13 [REDACTED]

[REDACTED]

WDT

5 November 1956

MEMORANDUM FOR RECORD:

SUBJECT: 117L Program (Uncl)

1. Pursuant to the 117L Development Plan published on 2 April 1956, AFMTC was instructed by Hq AFDC to proceed with the design criteria for the launch facility called out in that plan.
2. Since AFMTC lacked sufficient information from which to prepare such criteria, on 20 September 1956, they requested WDD, through the Field Office, to provide additional information.
3. This office in turn requested such information on 10 October 1956 from the 117L Systems Office.
4. On 24 October 1956, we received from Lt Colonel Odar an information copy of a reply, sent through WDI, which purported to be a completely revised and approved plan for the 117L Program that called for use of the SM-65 facilities, launchers, assembly building and guidance, starting in March 1958. Attached to this document was a buckslip which indicated that General Schriever had not personally approved this plan and that it was not to be released to AFMTC until he had. His review was expected to be accomplished by the end of November 1956.
5. Immediately upon receipt of this document, Commander Erux was advised, in Lt Colonel Odar's absence, that this action would not meet the AFMTC requirement for information. In subsequent discussion it became apparent that the plan as proposed had not been fully coordinated within WDT.
6. As a result of the foregoing, the proposed plan was discussed with Colonel Glasser who expressed himself as being strongly opposed to its provisions due to interference with the critical guidance phase of the SM-65. He concurrently advised Colonel Terhune as to his position and the reasons therefor.
7. In subsequent discussions with Colonel Horton, it was at first thought possible to release this plan to AFMTC for "information only", but the final decision by Colonel Horton on 2 November 1956 was that nothing additional concerning the 117L Program should be provided AFMTC at this time.

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INTERVALS; NOT AUTOMATICALLY
DECLASSIFIED. DOD DIR 5200.10

Major Peabody/rms/441/567

[REDACTED]

[REDACTED]

WDHF Memo for Record, Subj: 117L Program (Uncl)

3. Prior to this decision, the content of Lt Colonel Odey's memo was discussed with Lt Colonel Mathison, during his visit to WFO, with the definite understanding that the information it contained was not to be divulged to AFMTC in accordance with Lt Colonel Odey's specific request.

SIGNED

FREDRICK B. PEABODY
Major, USAF

WDTD

2 November 1956

MEMORANDUM FOR COLONEL ODER

SUBJECT: Systems Integration - 117L

In order to keep the 117L office abreast of occurrences, changes and happenings in the 107A-1 System, it is suggested that you do the following:

- a. Have a representative of your office attend the Convair TD meeting as an observer,
- b. Have a representative attend the weekly 107A-1 coordination meeting, again as an observer,
- c. Make yourself aware at the earliest possible time of TD's that are to be issued in the 107A-1 Program,
- d. Lastly, insure that you are on the distribution list of all TD meeting minutes and issued TD's.

SIGNED

HAROLD W. HORTON
Colonel, USAF
Assistant Deputy Commander
Technical Operations

cc: WDTC (Col Glasser)

WDTD

Col Horton

lms

696

GENERAL SCHRIEVER

2 November 1956

Colonel Terhune asked me to pass this information to you and obtain your viewpoint:

General Futt called General Sassano who called General Boyd who called Colonel Genes who called Colonel Order requesting two 117-L briefings. One to be a dry run for General Futt at 1330, 7 November; the second a briefing to Secretary Quarles at 0930 on 8 November.

The briefing is to cover two areas:

1. The FY 57 spending plan by subsystems, based on P-600 funding. Also what we feel we should have in the non P-600 areas (but have not requested). This is based on the consideration that we will not have a full system approach in FY 57.
2. The requirements for FY 58 based on a full system plan.

Colonel Terhune has the following comments:

1. We cannot prepare this briefing by 8 November.
2. Genes is slated to give this briefing and we are against this.
3. He suggests that you call General Futt to postpone the briefing until some time around 19 November.

Request your comment.

DAN E. BABCOCK
Captain, USAF
Assistant Executive Officer

WDGHA

Jean Booth

Capt D E Babcock

221

[REDACTED]

[REDACTED]

SUBJECT: Selection of WS 117L Guidance Schedules and/or Contractor

TO: WDIR

FROM: WDIH

DATE: 31 Oct 56 - COMMENT NO.3
Lt. Dahlen/gt/1177

1. This office supports in principle your recommendation for use of an ACSP-MIT Guidance system in WS 117L. You can, therefore, expect our fullest cooperation in attempting to make available ACSP system as GFAC to LAC.

2. As our sub-system requirements cannot be defined until our program schedules become firm it is impossible for WDIH to commit ACSP production capacity for your program at this time.

3. It is expected that another two weeks will be required before our requirements are sufficiently well defined to permit a concrete recommendation from WDIH.

SIGNED

EDWARD N. HALL, Lt. Col., USAF
Assistant for WS-315A

cc: WDIHG

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DECLASSIFIED AFTER 12 YEARS.
DOD DIR 5200.10.

[REDACTED]

[REDACTED]

[REDACTED]

WDIR-96-178

Comment No. 1 From WDER to WDTLG, WDEI (in turn) Date 15 Oct 56

SUBJECT: (U) Selection of WS 117L Guidance Scheme and/or Contractor

TO: WDEI FROM: WDTLG

DATE: 30 Oct 56

COMMENT NO. 2

Capt Thompson/lps/1202

1. This office recognizes it would be in the best interest of the US Air Force for a guidance contractor presently in the Ballistic Missile Program to provide the guidance equipment required for the WS 117L. This is predicated upon the development costs associated with the equipment as well as the probability of successfully developing and testing a suitable guidance system in the time scale allowed. It is our understanding that the WS 117L development plan provides for the first flight in April 1959, and that present discussions are considering a flight several months earlier than that set forth in the development plan.
2. The work thus far performed by the Instrumentation Laboratory at MIT on WS 117L has not in any way interfered with the work performed by MIT on the Ballistic Missile Program which is under the cognizance of this office. We strongly believe that the Instrumentation Laboratory can and should contribute to the WS 117L program and that there is no conflict of interests in the 117L and Ballistic Missile Program at MIT.
3. Use of the AC Spark Plug guidance systems, with AC modifications, could be a serious problem unless special care were taken to avoid any interference with WS 315A. However, use of the WS 315A systems being produced by AC Spark Plug and modification of these systems by an outside source should not present any insurmountable problems. It is our understanding that it is not necessary at this time to establish AC Spark Plug participation in the modification, if any, of their present guidance equipment to fulfill this potential requirement for the WS 117L program. Furthermore, it would not be necessary that AC be immediately informed of the specific requirement for their present equipment in the 117L program.
4. Although production tooling and industrial facilities are planned to be available to support a production facility greater than that now required in the WS 315A schedules (October budget schedules), the availability of the guidance systems at the time required is one primarily for WDEI. WDTLG is not now prepared to relinquish any guidance systems planned for engineering purposes to the WS 117L flight schedule.
5. If such a plan involving AC in the 117L program is implemented, it is recommended that the additional equipment required be added to the AC Spark Plug contract AF04(645)-19 and supplied as GF&E to Lockheed under this contract. Under this arrangement WDER would be required to budget money in sufficient quantities to cover their requirements for AC Spark Plug guidance systems.

EARL M. THOMPSON
Captain, USAF

FRANCES M. BOX
Lt Colonel, USAF
Chief, Guidance and Control Group

1 Incl: n/c

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INTERVALS; NOT AUTOMATICALLY
DECLASSIFIED. DOD DIR 5200.10

WDTL

25 October 1956

SUBJECT: Comments on "Research and Development of Guided Missiles and Space Vehicles Over the Time Period 1955-1975" (G)

TO: Commander
Air Force Missile Test Center
ATTN: Lt Col R. S. Royce
Patrick Air Force Base
Florida

1. Inclosed are comments made by Dr. Milton U. Clauser, Head of the Ramo-Wooldridge Aeronautical Research Laboratory. These comments were not received in time to include with others received from the R-W and WDD staff, which Gen Schriever hand-carried to the 25 October meeting of the Ballistic Missile and Space Vehicle Committee at AFITC.

2. I have a great deal of respect for Dr. Clauser's opinions, and, although, these comments are quite critical, I feel that they have been made objectively and with the best interest of the Air Force in mind; and therefore, should be seriously considered by the Committee in revising the draft copy of the report.

FOR THE COMMANDER:

SIGNED

1 Incl
IOC, R-W, 24 Oct 56,
(S) WD 56-04222

LAWRENCE D. ELY
Colonel, USAF
Asst for Technical Groups
Deputy for Technical Operations

When inclosures are withdrawn the classification of this correspondence will be downgraded to Secret in accordance with AFR 205-T.

WDTL

Col Ely

bm

1513

WDTL 56-51

WDTL

23 October 1956

MEMORANDUM FOR COL ELY

SUBJECT: Comments on the Final Draft of the Paper to be Submitted by the Guided Missiles and Space Vehicles Committee, Entitled, "Research and Development of Guided Missiles and Space Vehicles Over the Time Period 1955-1975", dated September 1956.

1. Page 1-3, para. 1.4. Subparagraphs a and b are not criteria but are rather objectives or goals that are being attempted. Subparagraph c states an assumption that was used, unless the second and third reports of the Space Committee are considered to have proved it as a fact. In any case, it is not a criterion. It is recommended that paragraph 1.4 in its entirety be included under para. 1.5 as part of the method of investigation.

2. Page 2-2, para. 2.2. The reference to Fig 1 should read, "Fig 2-1". It is believed that this Figure should be used with caution and that care should be taken to assure the reader that the Committee does not feel that speeds will continue to increase with time at the increasing rate shown in the curve.

3. Page 2-2. Reference to Figure 2 should read, "Figure 2-2". Page 2-3. Reference to Figure 3 should read, "Figure 2-3". These two charts were produced by WDD and are UNCLASSIFIED.

SIGNED

DAVID L. CARTER
Major, USAF
Deputy Assistant
Technical Operations

WDTL

bm

Maj Carter

1513



WDTL

23 October 1956

MEMORANDUM FOR LT COL R. S. ROYCE, Recorder, Ballistic Missile and Space Vehicle Committee

SUBJECT: Comments on Draft of "Research and Development of Guided Missiles and Space Vehicles Over the Time Period 1955-1975"

1. Twelve copies of the draft of "Research and Development of Guided Missiles and Space Vehicles Over the Time Period 1955-1975" were received late on 17 October and distributed early on 18 October with the instructions shown on inclosed memorandum. Distribution was as follows:

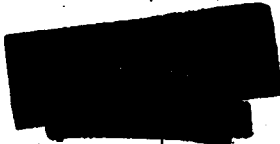
<u>NAME</u>	<u>FOR COMMENTS ON</u>
Mr. J. Irving, R-W	Technological Forecast, Research Facilities, and General Format
Dr. M. Clauser, R-W	Technological Forecast, Research Facilities, and General Philosophy
Dr. R. A. Cornog, R-W	Technological Forecast of Types of Vehicles
Dr. F. L. vander Wal, R-W	General Comments
Dr. M. V. Barton, R-W	Structures, Mechanics, Vibration and Materials Facilities
Maj Prentice Peabody, WDTA	Development and Test Facilities
Lt Col John Dodge, WDTLA	High Speed, High Temperature Test Facilities
Lt Col Roy J. Wellman, WDTLP	Propulsion Test Facilities and Propulsion Technological Forecast
Lt Col J. Bogert, WDTO	Funds
Maj Paul Haret, WDSF	Manpower
Col W. E. Leonhard, WDI	Installations
Col L. D. Ely and Maj D. L. Carter, WDTL	General Technological Comments

2. Comments are submitted as received. I feel that the working committee should consider these comments in detail. Even though they were prepared in a very short time, they were prepared by well-qualified personnel. The attention of the working committee should also be directed to the following comments concerning the Holmes and Harver feasibility study. These comments are pertinent for those

When inclusions are withdrawn the classification of this correspondence will be downgraded to _____ in accordance with AFR 205-1.

WDTL

bm



Col Ely

1513

WDTL 56-50

portions of the Holmes and Harver report still retained in the draft of the Committee report.

a. Comments by WDT Guidance and Control Group, submitted by letter, dated 16 Oct 56, subject, "Comments Concerning Feasibility Study for a Guided Missile Development Center", to Commander, AFMTC, ATTN: Lt Col Scott Royco.

b. Comments on the Holmes and Harver Study of a Guided Missile Center for MADC by Dr. Simon Kamo, dated 26 July 1956. (Not submitted in this form previously, but basic thoughts were transmitted in the report, "Review and Evaluation of the Report, 'Feasibility Study for a Guided Missile Development Center' by Holmes and Harver, Inc. sent to Commander, AFMTC, 16 Aug 1956.)

3. If there is anything else that I or my Technical Groups can do in connection with the work of the Committee, do not hesitate to let me know.

SIGNED

LAWRENCE D. ELY
Colonel, USAF
Asst. for Technical Groups
Deputy for Technical Operations

12 Incls:

1. Memo, WDTL, 18 Oct 56,
(U) "Review of Draft
Copy of "Research and
Development of Guided
Missile & Space Vehicles
Over the Time Period
1955-1975", WDTL 56-54
2. DF, WDTLA, 22 Oct 56,
WDTLA 56-213
3. Memo, WDTLP, 19 Oct 56,
WDTLP 56-185
4. DF, WDTDO, 22 Oct 56
WDTDO 56-150
5. DF, WDTT, 23 Oct 56
WDTT 56-245
6. IOG, R-W, 26 July 56 (U)
"Comments on the H&H Study
of a Guided Missile Center
for MADC" (C)
7. Memo, WDTL, 23 Oct 56
WDTL 56-46
8. Memo, WDTL, 23 Oct 56
9. DF, WDI, 22 Oct 56, WDI 56-218
10. DF, WDS, 19 Oct 56
11. IOG, R-W, 22 Oct 56, WD 56-04222
12. IOG, R-W, 23 Oct 56, WD 56-04222

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will be downgraded to _____
in accordance with AFR 205-1.

WDTL 56-50

WDTL

23 October 1956

MEMORANDUM FOR COL ELY

SUBJECT: Comments on the Final Draft of the Paper, Entitled,
"Research and Development of Guided Missiles and Space
Vehicles Over the Time Period 1955-1975" (u)

1. The following comments were received verbally from Mr. Irving of R-3:

a. Page 2-3. With regard to the statements on minimum energy trajectories, he feels that there is an implication in this paragraph that nuclear propulsion is the way to get other than minimum energy trajectories. He feels that this is not necessarily true and instead depends upon your approach to the problem; i.e., you may want a high acceleration for a short period of time for some purposes and a lower acceleration for a long period of time for other purposes. Furthermore, a minimum energy trajectory for Mars would certainly be greater than minimum if used to get to the Moon. In summary, he felt that the references to nuclear propulsion contained in this paragraph are not necessary to make the point of the paragraph and moreover that these references contain an implication that may be misleading. (S)

b. Page 2-8. In the last sentence in the paragraph at the top of the page, nuclear propulsion is mentioned again. Mr. Irving feels that nuclear propulsion should be discussed separately from surface to surface missiles, and, that, in fact, nuclear propulsion may not have great advantages when applied to improved ballistic missiles. He feels that nuclear propulsion should be discussed possibly under paragraph 2.3.5, where reference is made to true space vehicles. (S)

c. Page 2-11. Mr. Irving feels that the list of scientific data that could be obtained by landing test instruments on the Moon is weak, and in some cases, not clear. For example, No. 2, he believes, should read, "Mass of moon by observation of trajectory of missile". No. 10, "Lunar vibration rate", is not understood. Further, in No. 11, "Lunar orbital velocity", it is not clear how a Lunar Instrument Carrier will provide more accurate data. Perhaps, some amplification of the items listed would enforce the reasons for obtaining these data. (S)

SIGNED

DAVID L. CARTER
Major, USAF
Deputy Assistant
Technical Operations

WDTL
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INTERVALS; NOT AUTOMATICALLY
DECLASSIFIED. DOD DIR 5200.10
WDTL

Maj Carter

WDTL 6A.16

WDTL

23 October 1956

MEMORANDUM FOR GENERAL SCHRIEVER

THRU: WDT

SUBJECT: Material for 25 October Meeting of ARDC Ballistic Missile and Space Vehicle Committee

1. On 3, 4, and 5 October, I worked with Lt Col Royce, AFMTC, and Maj Cherry, Headquarters, ARDC, on a draft of the final report for the approval of the Ballistic Missile and Space Vehicle Committee. A considerable amount of the material that I had previously prepared was fitted into the draft.

2. Upon Lt Col Royce's return to AFMTC the following week, he had published in draft form the report, "Research and Development of Guided Missiles and Space Vehicles Over the Time Period 1955-1975". He sent 12 copies to me for the review and comments of WDT and K-W personnel who had commented on the Holmes and Narver report or had contributed in other ways. These copies were distributed on 18 Oct with the request that comments be submitted by 1700, 22 October. Due to the fact that most of the comments were not submitted until this morning, I have not had the opportunity to correlate comments but am submitting them as received in the attached folder. I had hoped to accomplish this correlation on the trip to AFMTC.

3. After the Committee has turned in its report, there are many actions that are necessary before the technological forecast will even come close to realization. The most important action, I feel, is that some organization be charged with "following through" on Committee recommendations. WDD seems to be the most logical choice, at least, as an interim measure, and I believe, that the recommendations made in report, "Ballistic Missiles, Satellites, and Space Vehicles, 1956 to 1975" are good. An additional problem to be considered is the problem of fitting the applied research program to the systems development program, and by considering lead times, determining which research programs have to be started first.

1 Incl
Folder of Comments for
Lt Col R. S. Royce,
Recorder (S)

SIGNED

LAWRENCE D. ELY
Colonel, USAF
Asst for Technical Groups
Deputy for Technical Operations

When inclosures are withdrawn the classification of this correspondence will be downgraded in accordance with AFR 205-1. ELY

WDTL
COL ELY

1513

WDTL 56-47

[REDACTED] [REDACTED]
SUBJECT: Info Request, WS-117L Launch Facility

TO: WDI
WDTT
(In Turn)

FROM: WDIR

DATE: OCT 23 1956
COMMENT NO. 3
Lt Col Riepe/ls/1344

who?

1. Reference Comment No. 1 dated 27 September 1956.
2. The Western Development Division has determined that the facilities in existence and those planned at the AFMTC for the WS 107A, SM 65 test program will have sufficient flexibility in test scheduling to support the early test programs of WS 117L. The SM 65 launch facilities with minor modifications described in inclosures to this letter, can be made suitable for WS 117L testing. Therefore, WS 117L will not require the construction of separate launch facilities at AFMTC.
3. It is requested that Forms 161, dated 15 August 56, previously submitted to Hq ARDC for FY 56 RCP on WS 117L be rewritten and resubmitted to Hq ARDC to reflect the latest WS 117L Facilities Requirements for AFMTC.
4. Test and Test Requirements for the planned WS 117L Test Program at AFMTC are being determined and will be submitted on approved format as soon as completed.
5. Facilities requirements, descriptions, justification and dates required are submitted as an inclosure to this letter. It is hoped that this information will be sufficient to allow AFMTC to prepare necessary Facilities Design Criteria for WS 117L and allow preparation of revised Forms 161.
6. Copies of this correspondence are being forwarded to Hq ARDC with AF Forms 161 for the justification of WS 117L west coast facilities described in the WDD Development Plan WS 117L.

SIGNED

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

2 Incl
WS 117L Launch Track &
Telemetry Facilities
4 pages (S) 2 copies
WDIR 56-179

Cy DF dtd 20 Sep 56)
Comment Nos 1 and 2)

DECLASSIFIED AT 12 YEAR
INTERVALS UNLESS OTHERWISE SPECIFIED
DECLASSIFIED. DOD DIR 5200.10

WDIR
Lt Col Riepe

ls
1344

2

WDIR 56-179

[REDACTED] [REDACTED]

WS 117L Launch Track & Telemetry Facilities
(Purpose - Location - Justification)

1. In line with the USAF approved WS 117L Development Plan, flight testing will be performed initially at AFMTC and later at a West Coast launch site, probably at Camp Cooke.
2. A modification of the WS 117L Development Plan test schedule has been approved within the Western Development Division. The possibility of using spare SM 65A missiles for non-orbit testing seems sufficiently firm to plan a WS 117L flight test program.
3. The WS 117L launch facilities will be required to support the following flight test schedule:

Present plans schedule approximately one WS 117L launching per quarter from WS 107A-1 facilities at AFMTC throughout CY 1958, and the first quarter of CY 1959; one launching per month from AFMTC in the second quarter of 1959; one launching per month from SM 65 ICG facilities at Camp Cooke from July 1, 1959 until WS 117L launch facilities at Cooke are completed (estimated fall-winter CY 1959). The above scheduling action is with the understanding that the overriding priority of the WS 107A program could lead to cancellation or deferment of WS 117L flights if the situation existing at the time indicates that significant gains to the 107A program would result from such action.

4. WS 117L launch facilities requirements, therefore, can be divided geographically into AFMTC and a West Coast Launching Site. Based on the above launch schedule, the earliest possible WS 117L launch would occur at the AFMTC in March 1958. The BOD date on this "Modified" SM 65 launcher and associated guidance site is January 1958.

a. It is anticipated that modifications will be made to the presently existing or currently planned WS 107A-1 launch complex and associated facilities in order to accommodate the WS 117L requirements. The following is a description of the WS 107A-1 facility modifications required at AFMTC:

(1) Guidance Facility:

It is anticipated that an existing SM 65 G.E. radio guidance station at AFMTC will be used essentially "as is" for ascent tracking up until vernier cut off. It is possible that the WS 117L trajectory difference from the standard SM 65 may require an equipment modification to the Burroughs computer in the event the G.E. System is used as an override on the WS 117L all-inertial ascent guidance system. This modification, if required, will be in the form of new computer trays and will require no action by AFMTC. WS 117L modified trays to serve our requirements will be provided by Burroughs through Lockheed. At any rate, it is planned that the G.E. Airborne equipment will be in the WS 117L SM 65 boosters for performing the identical tracking functions as is planned in the WS 107A-1 program.

[REDACTED]

(2) Launcher:

It is currently planned to use the SM 65 launcher "as is". The missile service tower will require an additional length to accommodate the placement of the longer WS 117L nose cone. The WS 117L vehicle is currently visualized as being about 24 feet long and about 6 feet in diameter. The SM 65 nose cone adaptor section may be lengthened by about 3 feet. Thus, clearance of approximately 30 feet above the SM 65 Tower Station 95. should be provided. Additional servicing platforms should be provided on this service tower extension. Exact elevation of these platforms will be specified at a later date. Water spray protection for personnel and temporary weather cover, including security covers are desired. Standard electrical power is required in the form of 25 volts D.C., 110 volts A.C., 60 and 400 cycles in moderate amounts in the order of 5 to 10 K.V. maximum. Provision for running power and instrumentation lines from either platform to the ground and, in turn, to the blockhouse, are required. Normal air and pneumatic lines (up to 3000 PSI) will be needed. It is anticipated that these lines will be of a semi-portable type furnished by the WS 117L contractor.

(3) Blockhouse:

An area of approximately 400 sq. ft. reserved for the special WS 117L equipment should be provided in the regular SM 65 blockhouse. Additional blockhouse to launcher cabling will be required to the extent of approximately 100 pairs.

(4) Propellant Support:

The existing or currently planned WS 107A-1 facilities will be used unmodified for meeting all SM 65 fueling requirements.

(5) SM 65 Assembly Building

The existing or currently planned WS 107A-1 facilities will be used unmodified for assembly of WS 117L boosters.

(6) All other facilities required to support SM 65 launchings (for WS 107A-1) will be utilized "as is" for WS 117L launchings, except those related to WS 107A-1 nose cone support, which will not be used.

b. Additional Facilities required for WS 117L over and above WS 107A-1:

(1) Communications:

Communications between the launcher, the upper level of the gantry crane, the blockhouse, the guidance control center, and remote telemetry and instrumentation locations are required. A closed circuit wire link, independent of the SM 65 communications should be installed.

[REDACTED]

WDTR 56-179

[REDACTED] [REDACTED]

(2) Missile Assembly Building: A WS 117L missile assembly and checkout area equivalent to one half of a standard missile assembly building will be required. Hangar (type 1 or equiv. - 15,000 sq. ft. approx) will be required. An overload crane suitable of handling a 5 ton load (plus associated safety factor) will be required in the above specified assembly and checkout area.

(3) Engineering and Office Area: 3000 sq. ft.

(4) Shop Area: Shop assembly area of 5,000 sq. ft. with normal power and compressed air is required. An additional 500 sq. ft. of air conditioned and temperature controlled area for telemetry and other critical electronic equipment calibration, is also required. In this latter area, 60 and 400 cycle AC plus 28 V. DC is needed in small amounts (total, 5 kw.).

(5) Storage and Stock Area: 1500 sq. ft.

(6) Outdoor Storage and Parking Area: 2000 sq. ft. - Security protected.

(7) Propellant Servicing Requirements: No special 3rd stage propellant servicing problems are visualized at this time. Portable tanks, plus normal handling and loading equipment, for WFNA and UDMH, will be furnished by the WS 117L contractor. Storage space for approximately 12,000 lbs WFNA and 5000 lbs UDMH (in producer-to-user shipping tanks or drums) will be required at CCAAFB. No specially constructed storage tanks will be required at CCAAFB - only space for regular shipping containers filled with propellants with storage environment appropriate to the specific type of propellant. Propellant loading for the WS 117L vehicle will have to be coordinated with that of the WS 107A-1 booster. Actual propellant loading - ground to-in-place WS 117L vehicle will probably be accomplished by portable delivery lines or raised loading tanks. Neither technique will require any great facility modifications beyond temporary line attachments. Hazards involved in fueling high above ground level will require incorporation of adequate safety equipment and measures.

(8) Vehicle Tracking, Control and Telemetry:

(a) The presently installed down-range instrumentation for the SM 65 program will be used "as is". These stations will provide tracking and telemetry contact with the WS 117L vehicles and thus provide data on the space and ground subsystem components.

(b) The use of the AFMTC and down-range station facilities is required so that early non-orbital and orbital tests of WS 117L subsystems can be accomplished at a minimum cost and interference.

[REDACTED]

WDTR 56-179

[REDACTED]

[REDACTED] [REDACTED]

(c) Additional Vehicle Tracking & Telemetry Facilities Required for WS 117L Over And Above WS 107A-1.

1. AFMTC is to provide at down-range station number 10, St. Lucia Island, a concrete pad facility to accommodate a van-mounted tracking unit equivalent to a Mod II tracking radar and telemetry antennas. The equipment to be installed on the pad will be provided by the WS 117L contractor.

2. AFMTC is to provide a bore-sight tower, a communications link to the St. Lucia terminal of the down-range communication system.

3. AFMTC is to provide base support facilities at St. Lucia for from 15-20 people.

4. This additional facility is required to provide tracking data & telemetry on vehicle performance on entry into orbit. This facility will serve as an overall ascent performance check.

c. Security

This program will carry classifications up to and including Secret and must be treated on an appropriate manner required as appropriate security regulations. Adequate screening, barricades, and proper siting of buildings must be considered to meet these special requirements.

[REDACTED]

[REDACTED]

WDTR 56-179

WDTR

23 October 1956

SUBJECT: To Identify Lt Colonel Frederic G. E. Oder, 7684A,
as an Official TOP SECRET Courier

TO WHOM IT MAY CONCERN:

This will authorize Lt Colonel Frederic G. E. Oder, 7684A,
to remove three (3) TOP SLIDES, 3 1/2"x4", controlled under
WDD-56-TS-48B, WDD-56-TS-41.2A and WDD-56-TS-98C, from Western
Development Division, P. O. Box 262, Inglewood, California for
period 23-26 October 1956. These slides will be used by Lt Col
Oder in WS 117L presentations to be held at Hq USAF during the
above period.

O. I. RITLAND
Colonel, USAF
Vice Commander
B. A. SORRELLIER
Major General, USAF
Commander

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

Research and Development of Guided Missiles and
Space Vehicles Over the Time Period 1955 - 1975

WDPL

WDPLA

22 Oct 56
Col Dodge/at/1507

1. The following are comments and recommendations of WDPLA relative to the above subject:

a. Para 2.3.3, page 2-9: The wording of the next to the last sentence of this paragraph is not clear. Our understanding is that the feasibility study involves recovery of either the re-entry body or the test instrument canister. If this correct, a rewording is suggested.

b. Para 3.3.2, page 3-11: We do not understand this proposed combination of a pebble bed heater or solar furnace in conjunction with the shock tube. There is always a possibility of heating the gas in the driver section of the shock tube to raise the initial temperature but the mechanism for accomplishing this would in our opinion involve other techniques than those suggested and would probably be sufficiently straightforward as to eliminate the necessity for any large research program. The cost estimate of \$2,000,000 for an eight inch diameter four hundred foot shock tube may be low. For example, the present cost of the GE six inch shock tube which combines a test nozzle with the tube is currently estimated at \$1,300,000.

c. Para 3.3.3d, page 3-13: This paragraph should specify whether the tunnel contemplated is for continuous or intermittent operation. This decision has a tremendous bearing on cost. It should also specify whether the tunnel will use air as the testing fluid.

d. Para 3.3.3g, page 3-14: The assumption in the first paragraph of this section that tunnels with speeds up to Mach 10, capable of testing eight inch models are standard requires reconsideration. I know of no facility in the country now in operation that is capable of meeting these requirements.

e. Para 3.3.4, page 3-15: The first sentence at the top of the page should be reworded since the EM gun is only being studied by GE not being developed. With present budgetary limitation, it is probable that the study will not be carried beyond the design and feasibility study of an 18,000' per second accelerator.

f. Para 3.11.4, page 3-41: There appears to be a word missing in the first sentence. Possibly it should read "is the large unit".

g. Para 3.13.1, page 3-46: In our opinion, future propulsive methods for space vehicle should include the study of magnetohydro dynamics. In the opinion of many people, this is a definite possibility for flight in the upper and outer atmosphere. While it provides a fairly small thrust, it may also be possible to achieve this with very low weights. It should certainly be considered for use of the satellite.

[REDACTED] [REDACTED]

h. Items 3.7.2 and 3.7.3 of the facilities chart: It is believed that the location of these facilities is intended to be the missile development center rather than the medical development center.

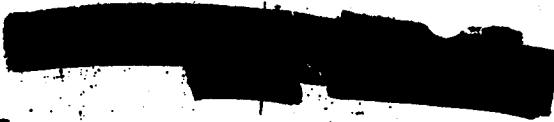
JOHN A. DODGE, Lt Colonel, USAF
Chief, Armament Group

1 Incl
Ed Ek
Draft Cy of Research & Development
of Guided Missile and Space Vehicle
Over Time Period 1955-1975

[REDACTED] [REDACTED]

until SB-54

OC 371



OCT 19 19 03 '56

PRIORITY

X AF

COMDR WDD, INGLEWOOD, CALIF AC—PARAPHRASING NOT REQUIRED EXCEPT PRIOR TO CATEGORY B ENCRYPTION—PHYSICALLY REMOVE ALL INTERNAL REFERENCES BY DATE-TIME GROUP PRIOR TO DECLASSIFICATION—NO UNCLASSIFIED REFERENCE IF DATE-TIME GROUP IS QUOTED."

COFS, USAF
WASH. D. C.

INFO: HQ, USAF, WASH. D. C.
COMDR ARDC, BALTO, MD AEC
NEPA OFFICE, REACTOR DIV. / WASH. D. C.

SECRET FROM WDTR 10-5 FOR AFDRD-MAJ DILLON; AFCCM-A; EDZPI AND
RDZGW; ATTN: COL ARMSTRONG
REFERENCE IS MADE TO LETTER PAREN:SECRET PAREN FROM ASST SEC DEFENSE
PAREN R & D PAREN THRU CHAIRMAN CMM MLC TO CHAIRMAN AEC CMM 15 AUG
55 CMM FILE RDDASH CAE 112 SLANT 7 PD UNDER AUTHORITY OF REQUEST
CONTAINED IN REFERENCED LETTER AEC CURRENTLY DEVELOPING REACTOR AND
RADIOISOTOPE HEAT SOURCES FOR USE IN AUXILIARY POWER SUBSYSTEM PAREN
APS PAREN OF WS 117L PAREN THE ADVANCED RECONNAISSANCE SYSTEM PAREN
PD IN THE INTEREST OF REDUCING COMPLEXITY OF THE MANAGEMENT OF
DEVELOPING NUCLEAR APS AND MOST ECONOMICALLY INSURING THAT HEAT
SOURCE AND ELECTRICAL POWER CONVERSION EQUIPMENT ARE COMPATIBLE CMM
REQUEST THAT ACTION BE INITIATED THRU OASD PAREN R & D PAREN TO

19 Oct
1956

WDTR

FREDERIC C. E. ODER, LT. COLONEL, USAF
1343

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

SIGNED

O. J. RITLAND
Colonel, USAF
Vice Commander

dh

SECRET



WDTR 56-183

[REDACTED]
[REDACTED]
COMDR WDD, INGLEWOOD, CALIF

09719 19 03 '56
ASK AEC TO

AEC REQUESTING THAT REFERENCED LETTER BE MODIFIED TO ASK AEC TO
UNDERTAKE DEVELOPMENT OF COMPLETE NUCLEAR APS INCLUDING CONVERSION
EQUIPMENT PD PRESENT SCHEDULE CALLS FOR NUCLEAR APS TO BEGIN
ORBITAL FLIGHT TEST AND USAGE IN MIDDLE OF 1960 PD FOR PLANNING
PURPOSES THE FOLLOWING ARE APS REQUIREMENTS CLM
A - POWER - TOTAL POWER PAREN WATTS PAREN CLM STEADY LOADS 150-200
GMM PEAK LOADS - 3000-10,000 PD AC POWER REQUIREMENT PAREN WATTS
PAREN CLM STEADY LOAD AND PEAK LOAD - 100 GMM AC FREQUENCY PAREN
CPS PAREN - 2000 GMM VOLTAGES - 6.3 CLM 28-CLM 150 CLM 400 PD
DAILY TOTAL POWER REQUIREMENTS - 6 KWH PD B - OPERATING CYCLE PD
DURATION OF PEAK LOAD - 10 MIN GMM NO OF DAILY PEAK LOADS 6 TO 8 PD
C - HYDRAULIC POWER DURING ORBIT STAGE POWER FLIGHT 3-5 HP PD
D - TOTAL APS WEIGHT - 650 LBS PD E - OPERATIONAL LIFE - SEVERAL
MONTHS TO TWO YEARS PD REVISIONS TO ABOVE GMM AND FURTHER DETAILS
INCLUDING OPERATIONAL ENVIRONMENT CAN BE FURNISHED TO REACTOR
DIVISION AEC BY TECHNICAL LIAISON WITH WDD PD CONSIDER IT
ESSENTIAL THAT AEC BE ASSURED THAT AIR FORCE PLANS TO PROCEED WITH
WS 117L ON REALISTIC BASIS BEGINNING IN FY 57 IN ORDER THAT AEC
DEVOTE NECESSARY RESOURCES TO MEET REQUIREMENT REQUESTED OF THEM PD

1 9

"AC—PARAPHRASING NOT REQUIRED EXCEPT PRIOR TO CATE-
GORY B ENCRYPTION—PHYSICALLY REMOVE ALL INTERNAL REF-
ERENCES BY DATE-TIME GROUP PRIOR TO DECLASSIFICATION—
NO UNCLASSIFIED REFERENCE IF DATE-TIME GROUP IS QUOTED."
WDR 56-100

WDR

WDTR

OCT 18 1956

MEMORANDUM FOR THE RECORD

SUBJECT: AEC Support of Nuclear APS for WS 117L

1. Colonel Jack L. Armstrong, USAF, from the NEPA Office, Reactor Division, AEC (General Keirn's office), discussed with Colonel Norton and Lt Colonel Oder the subject support on 18 October 1956. Major F. J. Dillon, Jr., AFDRD, Project Officer for WS 117L was also present. Colonel Armstrong had previously discussed the problem with Colonel Ritland.

2. Essentially, the problem is that since the AEC Commissioners are aware that WS 117L is only funded to \$3,000,000 as yet in FY 57 and that our FY 57 support of conversion equipment for the nuclear APU has had to be zero thus far in FY 57, they have cut the FY 58 AEC budget for the nuclear APS work from \$10,000,000 (including some \$3.5 million in contractor test facilities) to \$3,000,000. Furthermore, the existing DOD request in this subject from OASD (R&D) to AEC calls for only "further study and limited experimental work".

3. The present management of the nuclear APS development is complicated with five groups involved (AEC, WDD, WADC, AEC Contractors and AF Contractors). This could be reduced to three if AEC were asked to do both the heat source and conversion parts of the APS.

4. Three possible solutions in order of preference were discussed by Colonel Armstrong.

a. DOD ask AEC to do whole job with AEC funds and assure AEC that AF was going to proceed at realistic rate on WS 117L.

b. AF transfer FY 58 funds to AEC for joint effort with AEC contracting for whole job.

c. Continuation of present arrangement. This would, according to Colonel Armstrong, make increase of present AEC FY 58 budget practically impossible and cause slippage in WS 117L scheduled use of nuclear APS.

5. A proposed TWX to Hq USAF proposing 4a, above was prepared.

SIGNED

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

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WDTR. 56-154

(U) Proposed Presentation on WS 117L

WDT
WDG
(In Turn)

WDTR

OCT 17 1956
Lt. Col. Oder/dh/1313

1. It is considered timely to propose that the Commander, Western Development Division and his key staff be given a complete presentation on current status of and plans for WS 117L. The presentation, which will require approximately 2 to 2-1/2 hours, is proposed for some time around 1 November 1956,
if not before 5 Nov 56

2. The following tentative outline is proposed for the presentation:

- a. Introduction (Official status of program, security aspects, etc.)
- b. A brief technical review.
- c. Fy 57 Financial plan by subsystem and budget program.
- d. Fy 58 Budget estimate by subsystem and budget program.
- e. Fund requirement estimate for Fy 59 and Fy 60.
- f. Program schedules (By subsystems)
- g. Facilities Plan.
- h. Test plan, including summary of program impact at AFMTC.
- i. Program personnel
 - (1) Lockheed Aircraft Corporation and Subcontractors.
 - (2) Western Development Division
- j. Management
 - (1) Systems Development Management
 - (2) Over-all Air Force Management
- k. Summary and conclusions

3. It is suggested that the presentation may be also of interest to General Funk.

4. Request WDTR be advised if the presentation is desired, and if so, on what date and time.

SIGNED

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