

4 FORCE BALLISTIC MISSILE DIVISION
XXXXXXXXXXXXXXXXXXXXXXXXXXXX

26 JUN 1957

WDR

Mr. Frank R. Cook, President
Frank R. Cook Co.
36 South Santa Fe Drive
Denver 23, Colorado

Dear Frank:

I have received your request to discuss WS 1171 power requirements with Jack Carter's group. At the present time, Jack is on a trip to Europe and is not expected to return until June 24th. However, I have contacted Mr. R. M. Salter, Jr., who is in charge of Jack's work and he will be happy to discuss with you your company's possible addition to the work that Lockheed Aircraft Corporation is conducting for Air Force Ballistic Missile Division.

Sincerely,

ORIGINAL SIGNED:
B. A. SCHRIEVER

WDR is
Col. Rispe 1171

WDTL

17 June 1957

MEMORANDUM FOR COLONEL TERHUNE

SUBJECT: Eighth International Astronautical Congress

1. The undersigned respectfully requests permission to make arrangements to attend the Eighth International Astronautical Congress to be held in Barcelona, Spain, 6-12 Oct 1957.

a. Justification

Over a period of time, I have become increasingly involved in various types of planning for the future. Examples are:

(1) Technological forecast, 1955-1975, for use of Gen Schriever on ARDC Ballistic Missiles and Space Vehicles Committee.

(2) R-W Study on Follow-on Missiles, Satellites, and Space Vehicles for AFDAP.

(3) Speech for Gen Schriever to present to Astronautics Symposium at San Diego on the "ICBM - A Step Toward Space Conquest."

(4) Material for Gen Schriever to present to Scientific Advisory Board on "The Future of Ballistic Missiles".

(5) R-W Study of Technical Programs and Management of an AF Guided Missile Center.

(6) Review of ARDC Technical Program Planning Documents from the standpoint of having these documents reflect true ballistic missile and space vehicle technical requirements for the future.

(7) Review of R-W research proposals to determine degree of applicability to immediate and future requirements.

(8) Numerous small studies contributing to plans for the future, such as solid propellants, nuclear vs chemical powered rockets, etc.

This type of activity has required that I keep in very close touch with everything that is going on in this area. My position has helped considerably in this respect, as I have numerous contacts with industry (both in and outside our program), research organizations, and educational institutions. I have also had the opportunity to attend a reasonable number of symposia, all of which have been sponsored or co-sponsored by ARDC agencies with one exception. This exception was a local IAS Meeting for which I was the Chairman of the morning session.

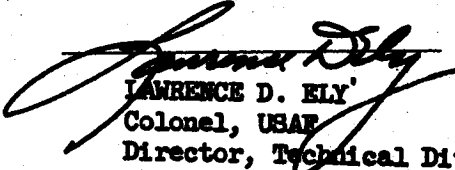
| PLAN | COST TO GOV'T | REMARKS |
|--|--------------------------------|---|
| b. TDY at no expense to Govt - 21 days | Transportation 0 Per Diem 0 | This would provide me with orders permitting MATS transatlantic transportation. All non-military transportation would be at my own expense. |
| c. Leave 30 dys | Transportation 0 Per Diem 0 | I would still plan to use MATS for transatlantic flight on a "space available" basis, therefore require additional time. |

Plan a. does not appear to cost the Government anymore than many trips within the U.S. of equal duration.

Plan b. is proposed in case this is considered somewhat of a "boondoggle".

Plan c. is proposed in case the trip is considered a complete "boondoggle". I will lose approximately three weeks leave this fiscal year, so taking this trip on a leave status is of no major concern to me as contrasted with Plan b.

Plan a. is, of course, preferred. If I went under Plan c., I would feel no responsibility for submitting a trip report, although, I would still obtain the desired information.


 LAWRENCE D. ELY
 Colonel, USAF
 Director, Technical Divisions
 Weapon Systems

NOTE

21 May 1957

MEMORANDUM FOR THE RECORD

SUBJECT: Call from Colonel Hamilton to Colonel Abela

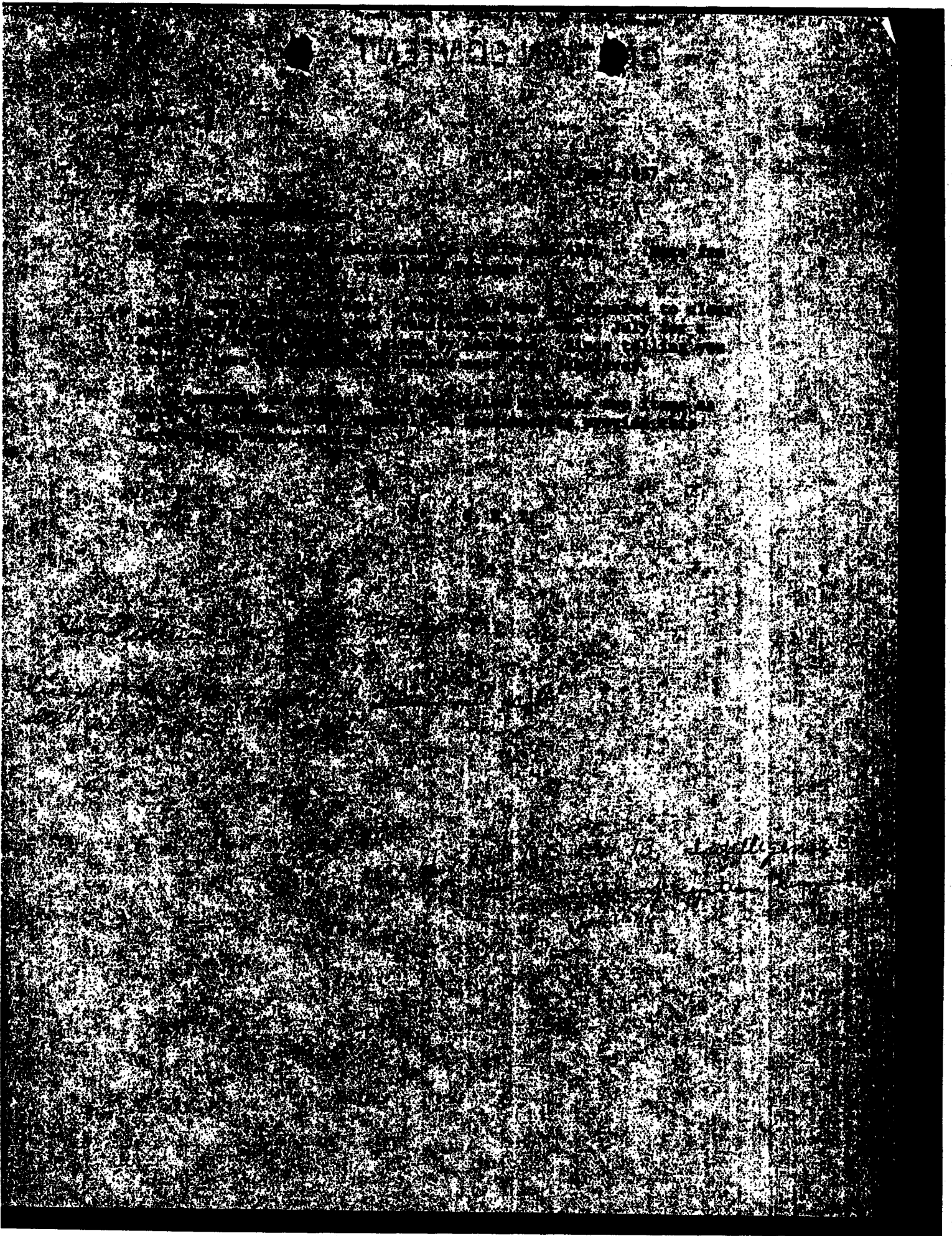
1. Briefing on 24 May. The purpose of the call to Colonel Abela was to advise him of the arrangements we have made to furnish the four (4) copies of the outlines and any briefing charts used at the subject briefing to AFCAV as requested. Colonel Hamilton advised that the four copies of the outlines were mailed yesterday (20 May) to Colonel Abela. The charts, however, were not ready so we have arranged for each individual sponsor to carry into Washington their own charts. Colonel Oser will collect these after the briefing and turn them over to Colonel Abela who will see that they get to AFCAV.

To be certain that instructions were on file on these people, the following names were given Colonel Abela for the briefing:

| | |
|--|---|
| Major General E. A. Schriever - TS | Colonel G. H. Terhune - TS |
| Colonel E. F. Bissinger - TS | (in the event he finds it possible to make the briefing.) |
| Colonel F. G. E. Oser - TS | |
| 1st Lt J. G. Herther | |
| Dr. Simon Ramo - TS | |
| Dr. Jas. C. Fletcher - TS | |
| Dr. John R. Sellers - S (only one of group not TS) | |
| J. H. Carter, Lockheed | |
| Robt. H. Baker, Lockheed | |
| Forbes Tuttle, Eastman Kodak | |
| Richard Lechner, Eastman Kodak | |

The above four contractor representatives are to be standing by in the event Colonel Oser, who also talked on the call, needs them for his 117 portion of the briefing.

117 Briefing. At this point Colonel Oser stated he needed some definite word as to how the Committee really wanted him to approach his subject. It is to be either (1) slanted along the VANGUARD/follow-on line or (2) a repeat of last year's 117 pitch with some talk of progress to date. The Lockheed and Eastman Kodak people listed above would support Colonel Oser if the first approach is to be taken, but if the second approach is what is wanted, he must immediately notify some other people to come in. Colonel Abela had heard nothing definite about the 1st approach and promised to contact Mr. Seckler to ascertain their desires. He will phone Colonel Oser this afternoon.



*C
*O
*P
*Y

13 May 1957

Memo for: Col Terhune

thru: Genl. Pittard - "O.K."

1. I would like a briefing early in June on :----
 - a. Convair-Lockheed relationship. Where are starts and stops on Booster and Powered nose cone.
 - b. Same between 117L and 438L.

B.A.S.
B. A. SCHRIEVER
Major General, USAF

*see WDR letter to Lockheed - Sunnyvale, Calif
dated 21 May 57*

WDT
CA TERRY HUNE

MEMORANDUM FOR THE RECORD

21 FEBRUARY 1957

SUBJECT: TELEPHONE CALL FROM MR. JACK CARTER
TO GENERAL RITLAND

MR. CARTER ADVISED THAT COLONEL ODER IS VERY MUCH CONCERNED ABOUT GOING IN AND CHANGING OUR PITCH ON THE 117. FURTHER DISCUSSION WITH THE COLONEL REVEALED THAT GENERAL SCHRIEVER IS GOING IN ON MONDAY TO ATTEMPT TO GET SOME KIND OF RESOLUTION ON THE ORIGINAL REQUEST.

GENERAL RITLAND ADVISED THAT GENERAL SCHRIEVER WILL BE TAKING WITH HIM AN HISTORICAL RECORD OF EVENTS OVER THE PAST SIX MONTHS AND WILL ATTEMPT TO GET SOME KIND OF COMMITMENT OR INDICATION FROM MR. HORNER AND POSSIBLY FROM MR. QUARLES AND GENERAL PUTT AS TO THEIR REACTION IN ORDER TO GET SOME BASIS FOR PLANNING. IN THE MEANWHILE, WE WILL PROCEED WITH THE MINIMUM PLAN AS PREVIOUSLY DISCUSSED. THE DECISION HAS ALREADY BEEN MADE THAT WE WILL GET NO MORE THAN WE HAVE NOW.

MR. CARTER QUESTIONED THE WISDOM OF STRIKING RIGHT NOW WITH A DEFINITE PLAN. THEY ARE PRESENTLY WORKING UP A SUMMARY OF WHAT THEY HAVE COME UP WITH SO FAR AND CONTEMPLATE PUTTING IT IN THE FORM OF A PRESENTATION AND SUBMITTING IT TO WDD FOR APPROVAL. HE SUGGESTED THAT IT BE TAKEN INTO WASHINGTON. HIS ATTITUDE WAS TO GIVE THEM SOMETHING SUBSTANTIAL AND GET THEIR REACTION TO IT.

GENERAL RITLAND REITERATED THAT THE ENTIRE PURPOSE OF GENERAL SCHRIEVER'S FORTHCOMING TRIP WAS TO GET THEIR REACTION AND A FEEL FOR THE SITUATION.

MR. CARTER ADVISED THAT HE WOULD BE VISITING CONYAIR ON MONDAY AND WOULD BE IN L.A. SUNDAY AFTERNOON ABOUT 1500 IF THERE WAS ANYTHING HE COULD BRING DOWN WITH HIM.



AFBMD FIELD OFFICE
AIR FORCE BALLISTIC MISSILE DIVISION
HEADQUARTERS
AIR RESEARCH AND DEVELOPMENT COMMAND
UNITED STATES AIR FORCE
Post Office Box 29, Palo Alto, California

WDZWL

20 October 1958

SUBJECT: Establishment of System Test Working Group

TO: See Distribution

1. Announcement is made of the establishment of a System Test Working Group at Lockheed Aircraft Corporation, Missile System Division, Palo Alto, California, for the purpose of evaluating and approving procedures, policies and techniques to be used in WS 117L systems tests. The System Test Working Group will be responsible for insuring that detailed test planning is accomplished and that approved documents are issued covering all phases of the WS 117L system test program. The System Test Working Group will evaluate results of each test and will make necessary changes in procedures and techniques to correct all known deficiencies. The System Test Working Group will be composed of the following permanent members:

Lt Colonel Charles G. Mathison, AFBMD Field Office,
CHAIRMAN

Major William C. Bumm, AFBMD Field Office, Member

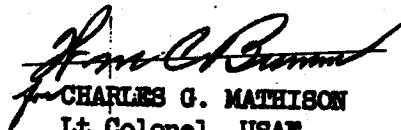
Mr. Ralph D. King, LMSD, Member

Mr. Stanley K. Hutchin, LMSD, Member

Mr. Larry A. Smith, LMSD, Member

Mr. L. Frank Morgan, LMSD, Member

2. The System Test Working Group will convene at the call of the Chairman.


CHARLES G. MATHISON
Lt Colonel, USAF
Chief, AFBMD Field Office

DISTRIBUTION:

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Incl 1

*Secondary
Suspension*

1678

17 August 1959

MEMORANDUM FOR THE RECORD

SUBJECT: Telephone Conversation between Gen Terhune & Col Kiessling

Col Kiessling said the Sentry cable situation has reached the level of General LeMay and Dr. Charyk. Apparently everyone is of the opinion that Dr. York is favorably disposed. He said that General Schriever would like to have this discussed privately with Dr. York when he visits AFBMD, and have his reactions called into ARDC Thursday.

2 June 1959

MEMORANDUM FOR THE RECORD

SUBJECT: Call from Colonel Sinax to Major Poe

1. Colonel Sinax advised that prior to the NASA meeting on 1 June, Dr. Glennan seemed to be agreeable on having an over-all working agreement; however, this had changed. Mr. Wood ran the meeting and had been in to get some direct instructions from Dr. Glennan, who established as policy the fact that he did not want to have agreement on anything now that does not absolutely have to be agreed upon. Colonel Sinax felt Dr. Glennan was seeing the matter as one that could be handled by case by case agreement. Colonel Martin, who represents the Air Staff in NASA dealings, pointed out that although NASA wants to work directly with the people doing the work (EMD, etc.) but they don't want to have an understanding with the Air Force or other activities--this is inconsistent. The NASA feeling is--nothing is wrong with it, it is working all right now, so why sign anything? NASA does recognize that there are some specific problems in procurement, and they will work out a solution on these problems. However, they do not want to commit themselves on a working agreement or policy.
2. A paper was left in NASA hands and they are to pick out what they would agree to--which looks like nothing according to Colonel Sinax. Colonel Martin was given a NASA paper which had been prepared on procurement--there was no policy involved, just procedures. The paper was turned over to DCS/M Procurement and is being staffed there. Colonel Martin stated the paper would have to be reviewed, but we did not have to agree to it. Colonel Sinax did not know what the Air Staff's position would be.
3. Colonel Sinax advised of an NOI on Weapons Board Monitoring System--he believes the NOI is important and will be more effective as time goes on. (Copy of NOI 21-15 received in WDCE on 3 June.) Although AFEMD's ballistic missile systems are under the Gillette procedures, Sentry is under the Weapons Board and any other space programs which go into operation will be under the Board. IE Hq USAF had their way about it, all weapon systems would be under this Board.
4. Colonel Sinax advised that he was sending in a paper which would interest General Rittland as General Schriever had talked with him about it. A Weapon System Study Group has been set up to review weapon system management and come up with recommendations. General S. E. Anderson is chairman of the group. Other members include General Schriever, General Dean Strother, General Roscoe Wilson, General H. J. Acensio, General Elmer Rogers and General Mark Bradley.
5. Colonel Sinax referenced a three page TWX, personal from General White to General Schriever, on the Atlas D series problem. The reply to the TWX was prepared by Colonel Worchuzan. General Groer helped compose the wire (General White told him what he wanted) and has said he would be interested in the back up that AFEMD would like to send in as he is right there to support our case. General White wanted General Schriever's assurance on the matter. Colonel Sinax had passed this information to Colonel O'Neill.

Col. Evans:

OPM
This represents our best
effort in time available on the
material you requested on 5th participation

Oct. 2

DRAFT

10 Feb 1959

WS 117L PROGRAM AND FUNDING CHRONOLOGY

- 1946-47 RAND Corporation investigated the feasibility of a satellite as a reconnaissance vehicle. These studies continued through 1953.
- 12 Jan 48 General Hoyt S. Vandenberg, in a policy statement on a satellite vehicle, noted that R and D on a satellite vehicle should be pursued as rapidly as state of the art permitted.
- 1951 Air Force let feasibility studies for critical satellite subsystems to RCA, NAA, Bendix, Flader, Chalmers and Vitro Companies.
- Feb 54 Final RAND report on Advanced Reconnaissance System. Feasibility established. Development recommended.
- 27 Nov 54 ARDC published System Requirement No. 5 on Advanced Reconnaissance System.
- 16 Mar 55 Air Force issued GOR 80(SA-2c) for a strategic reconnaissance satellite weapon system.
- Mar 55 Design study proposals solicited from LAC, RCA, Martin, Bell Telephone. Bell declined to propose.
- May 55 NSC action 5520 directed the Department of Defense to develop capability of launching small scientific satellite by 1958. Effort not to prejudice or interfere with other satellites for research or intelligence. Emphasize peaceful purposes. Would be a technical step to demonstrated satellite achievement, with prestige and psychological benefits. Cost estimated as \$15-20M. (Vanguard the result).
- Oct 55 General Power directed that Advanced Reconnaissance System development program be transferred to WDD.
- 13 Jan 56 Memorandum of Understanding on transfer of Advanced Reconnaissance System from ARDC Detachment No. 1 to WDD. Generals Schriever and Estes agreed WDD office would be established about 15 February 1956, take over Advanced Reconnaissance System program.

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INTERVALS; NOT AUTOMATICALLY
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WDGEM-59-1

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WS 117L CHRONOLOGY

- 14 Jan 56 WDD published a WS 117L Preliminary Development Plan in response to a request from Hq ARDC. Based on a possible need to demonstrate an orbital capability within the IGY, total cost was estimated at \$95.5M.
- 2 Apr 56 WDD published WS 117L Advanced Reconnaissance System Development Plan. R and D contract funds for system estimated at: FY 56, \$7.M; FY 57, \$32.1M; FY 58, \$75.6M.
- 24 Jul 56 WDD Development Plan for WS 117L approved by Hq USAF.
- 3 Aug 56 USAF (DCS/D) issued Development Directive No. 85 on WS 117L, Advanced Reconnaissance System. WS 117L given 1A priority, 1-6 precedence rating "Because of fund limitations, only \$3M of FY 57 P-600 series funds are available to your Command to initiate this development".
- 28 Aug 56 WDD pointed out the effect of FY 1957 WS 117L fund limitations on WS 117L development, and requested \$21.9M additional FY 1957 funds for the program.
- Oct 56 Missile Systems Division, Lockheed Aircraft, awarded prime contract on WS 117L.
- 23 Oct 56 USAF again cited limitations on WS 117L P-600 funds. Guidance given WDD included: 1) prolong development, 2) maintain minimum balanced rate of development progress on vehicle and components instead of on Development Plan target completion dates. TWX stated that Hq attempting to reprogram \$7M more P-600 FY 1957 funds.
- 21 Nov 56 WDD submitted FY-57 WS 117L fund requirements totaling \$17.8M in P-100 and 200 to DCS/D.
- 29 Nov 56 SAF Donald Quarles briefed on WS 117L status and program.
- 10 Dec 56 Lt General D. L. Putt, DCS/D, informed ARDC that FY 57 P-600 funds for WS 117L had been increased from \$3M to \$5M, and efforts were under way to reprogram \$5M more. For management planning, WDD should count on \$10M total P-600 for FY 58 also. Other efforts will be made to get P-100 and 200 funds. Other guidance: 1) develop and test components, 2) do not make mock up until advised, 3) do not plan launch before FY 1961.

[REDACTED]

[REDACTED]

WS 117L CHRONOLOGY

- 30 Jan 57 Comdr, WDD, informed DCS/D that lack of FY 57 P-100 and 200 funds was preventing procurement of material and equipment essential to maintaining a balanced system oriented development program, and that P-600 funds ceilings for FY 58 were considered inadequate to meet the program minimum component development and test needs.
- 9 Feb 57 Answering a DOD request, WDD furnished DCS/D with material on possible use of WS 117L as IGY satellite. Indicated it could be done at cost of \$66M by late 58 or early 59 if ATLAS development was satisfactory. WDD not enthusiastic about approach because of possible interference, short development time, order of confidence.
- 11 Feb 57 WDD warned LMSD that they had \$8.5M on contract through 30 Jun 1957, and that they should not overcommit.
- 6 Mar 57 ARDC received guidance letter from DCS/D, USAF on planning and funding requirements for WS 117L. Indicated that P-100 and 200 FY 1957 funds were over-programmed. Decision had been made to slow down the system. \$10M P-600 funds available. Indicate no orbital testing in development prior to January 1960. Development of WS 117L should be conducted along conventional lines. Establish a WSPO at WDD. Emphasize component development to insure maximum success. For FY 1958, estimates were that a total of \$35M would be available for WS 117L.
- 2 Apr 57 WDD published Systems Development Plan, Advanced Reconnaissance System, WS 117L, for various degrees of operational uses, 1960-1965. Funding needs estimated through 1965 totalled \$223.7M.
- 8 Jul 57 LMSD informed BMD they needed \$7.9M to fund the WS 117L program between 15 August and 30 November 1957.
- 10 Jul 57 WS 117L assigned unclassified nickname New Horizon.
- 13 Aug 57 LMSD informed by BMD that WS 117L FY 58 funds totaling \$3.9M were available to carry the program through 30 October 1957. Adjust program accordingly.
- 21 Aug 57 BMD informed LMSD that WS 117L FY 58 P-600 funds could not exceed \$9.6M, with no more than 50% expended in the first six months.

WS 117L CHRONOLOGY

- 3 Sep 57 BMD informed by DCS/D that only \$10M P-600 FY 57 WS 117L funds were available, and as yet no P-100 or 200 funds, though efforts were being made. Limit activity to \$10M funds. Authority to mock up vehicles granted.
- 19 Sep 57 BMD submitted WS 117L FY 58 and 59 austere funding requirements to DCS/D. Stated that \$40M in FY 58 would allow initiation of the flight test program by mid CY 58.
- 9 Oct 57 Following Sputnik, in answer to Hq USAF request as to efforts and resources required to accelerate the IC and IREM, an estimate was made for WS 117L. AFEMD pointed out that a large amount of funds would be needed to regain lost time due to fund strictures and lack of firm program approval. With \$99.2M FY 58 and \$121.7M FY 59 funds program could be advanced 6 months to one year if priority is given effort.
- 10 Oct 57 BMD requested interim FY 58 procurement authority of at least \$4M P-100 and \$1M P-200 funds by 25 October to prevent a work stoppage.
- 10 Oct 57 SAF James Douglas approved the WS 117L program as presented to the Air Council as a planning objective, subject to Mr. Quarles' review.
- 15 Oct 57 \$35.1M (FY 58) P-100 funds authorized WS 117L by DCS/D. Later (19 Oct) AFEMD told to limit obligations on this procurement authorization to \$15.5M through January 1958. This was rescinded in November. No P-200 funds to date.
- 16 Oct 57 DS/D Donald Quarles again briefed on WS 117L.
- 27 Nov 57 BMD requested that ICEM/IREM overtime policies be extended to WS 117L, replacing the existing 2% of programmed manhours overtime limitation.
- 6 Jan 58 LMSD submitted a program acceleration plan for WS 117L (LMSD-2832) as requested by BMD in November 1957. Based on THOR-boosted early flight with a recoverable capsule as proposed by RAND. Flights to begin in late 1958. Increase manufacture of LMSD vehicles. ATLAS-boosted flights to begin in early 1959. General Schriever approved in principle, subject to reviews of special areas.

WS 117L CHRONOLOGY

- 21 Jan 58 BMD notified that Asst' Sec AF (Material) had approved use of overtime on WS 117L "as may be necessary to meet the approved objective".
- 23 Jan 58 C/S USAF approved acceleration of WS 117L Program. FY 58 funds will be provided when actually required.
- Feb 58 Hq USAF considered expanding Project ABLE to include WS 117L test vehicles. AFEMD recommended against this because 1) ABLE configuration not yet proven; 2) would disrupt ABLE schedules. After several ABLE successful launches, their use as WS 117L test vehicles could be reprogrammed if authority to proceed were given immediately.
- 3 Feb 58 President Dwight D. Eisenhower directed that highest and equal national priority be given to ballistic missiles, satellites and defense programs. (ICBM, IIRBM, WS 117L, WS 224A)
- 24 Feb 58 Secretary of Defense Neil McElroy approved in principle the proposed acceleration of WS 117L to be conducted under direction of ARPA. BMD to submit a development plan.
- 26 Feb 58 WS 117L Site Selection Board convened at AFEMD. Board chaired by Colonel F. C. E. Oder, members from BMD, SAC, ANU, Hq USAF. Board to select tracking and data acquisition sites for the system.
- 28 Feb 58 Mr. Roy Johnson, ARPA, in a memo to the Sec/AF concluded that:
- a. ATLAS/WS 117L Project should be accelerated and given highest national priority in order to attain IGC at earliest date.
 - b. THOR-boosted interim reconnaissance system with light weight recoverable capsule was a duplication of "a". Do not pursue.
 - c. To attain early flights of Lockheed second stage, AF may find it desirable to use THOR-boosted test firings. THOR-boosters cheaper and available sooner than ATLAS, also can be used with second stage Lockheed vehicle for experimental recovery flights with animals.
- Mar 58 Activity in interim visual reconnaissance program (II A) terminated in accordance with Mr. Johnson's message of 28 February.

[REDACTED]

WS 117L CHRONOLOGY

- 4 Mar 58 Chief of Staff, USAF, directed that WS 117L and other space projects which depend on the use of IC/IREM's be administered in same manner and with same procedures as IC/IREM programs. ("Gillette procedures") AFCCM to be central point of contact, coordination. Approved development plans would constitute action documents.
- 4 Mar 58 OSD approved acceleration of WS 117L to include launching satellite test vehicles based on THOR booster.
- 12 Mar 58 Lockheed notified that Hq USAF had disapproved the WS 117L recoverable reconnaissance payload program. (WS 117L Program IIA). LMSD notified to reorient THOR-booster WS 117L program for acceleration using THOR-boosted flights for early WS 117L tests--orbital flights for exercise of ground-space communication network, concept for recoverable capsule, for aero-medical research flights.
- 14 Mar 58 AFMCC reviewed accelerated WS 117L program, agreed on use of THOR booster for system test in orbital satellites.
- 19 Mar 58 BMD informed that all statements on the nature and timing of ARPA missile and satellite projects will come from OSD.
- Apr 58 BMD requested by USAF to revise 15 March WS 117L Development Plan financial annex to downward from 214 to \$152M. Keep program flexible.
- Apr 58 Biosatellite programs added to Advanced Reconnaissance System--recoverable capsule.
- Apr 58 UMDH engine development initiated.
- 28 Apr 58 DOD directed interchange of technical information and visits on satellites and space programs between US Army and Air Force up to SECRET. Refer other cases to headquarters.
- 30 Apr 58 NORAD expressed interest in infrared capability of WS 117L as an air defense attack alarm against ICBM launches.
- May-Jun 58 Ft Stevens, Oregon, selected as location of WS 117L NW tracking and data acquisition station.
- May 58 Advanced Reconnaissance System renamed SENVRY.

WS 117L CHRONOLOGY

- 9 May 58 Lt General Francis H. Griswold, V/CinC/SAC, in a letter to Comdr, ARDC, pointed out that SAC has enthusiastically supported WS 117L. Reconnaissance features a tremendous potential, especially infrared, photographic, electronic. Also a requirement for a communications satellite, high altitude (22,000 miles) advanced surveillance systems.
- 19 May 58 Cognizance over WS 117L assigned to ARPA. (DOD Directive 3200.5)
- 21-22 May 58 First meeting, ARS Weapon System Phasing Group.
- 20 Jun 58 USAF informed major commands that WS 117L carried highest national priority, DX rating of .011 Brickbat, precedence rating of 1-1. Informed commands that field activities would begin in early 1959.
- 30 Jun 58 ARPA Order No. 9-58 issued. Announced Sec Defense had approved the assumption of responsibility for the Advanced Reconnaissance System (WS 117L) by ARPA. EMD to continue the project; to submit a detailed development and financial plan to ARPA. \$22.7M made available initially.
- 1 Jul 58 AFMMD Advanced Reconnaissance System (WS 117L) "New Horizon" Development plan published. Funding program FY 58, \$60M; FY 59, \$215M, later revised to FY 58, \$67M; FY 59, \$198M. Plan contained both THOR-boosted version for component test and demonstration of orbital capability, and ATLAS-boosted reconnaissance program.
- Jul 58 Initial arrangements made by EMD to organize a unit capable of aerial recovery of WS 117L capsules. 9/CL19J aircraft to be used. "Aerial Snatch" called Project Hot Hand. Aircraft to come from TAC, 6593d Test Squadron (Special) activated by ARDC GO 38, effective 1 August 1958. Unit to be based at Hickam AFB.
- Jul 58 WS 117L Site Selection Board selected NE tracking and data acquisition station site at New Boston Gunnery Range, N. H. Only site which met criteria and BOD needs.
- 8 Jul 58 ARPA noted to Secretary of Defense that the question of the operating agency for WS 117L should be reviewed in the light that many agencies have an interest in the information.

WS 117L CHRONOLOGY

- Jul 58 ARPA expressed interest in features (subsystem G) of WS 117L as an infrared attack alarm system.
- 15 Jul 58 ARPA directed that monthly and quarterly progress reports on WS 117L be forwarded directly to them. Form prescribed by ARPA.
- 17 Jul 58 ARPA Order No. 9-58 funds increased to \$30.7M to purchase four WS 117L upper stages. (Amendment No. 1)
- 18 Jul 58 AF authorized by ARPA to procure long lead time items to support THOR-WS 117L firing schedule which is to begin in Nov 58.
- 20 Jul 58 ARPA requested briefing on WS 117L with special reference to applicability of subsystems and components to other uses such as communications, weather, and scientific measurements, use of ground components for general satellite tracking. Also wanted information on advanced reconnaissance satellite--engines, television, infrared, power supplies.
- 20 Jul 58 Director, ARPA, informed Sec Air Force \$215M was programmed for WS 117L in FY 1959. \$30.7M available to BMD. Balance subject to Congressional action, BOB apportionment. Total included bio-medical project. BMD informally requested to submit a new development and funding plan within these limitations, and to indicate how they would use more money if additional funds are available.
- 22 Jul 58 ARDC GG No. 38 designated and organized 6593d Test Squadron (Special). (In place at AFFTC for training, Aug-Dec 58, then to Hickam AFB, Hawaii.) Squadron assigned to Det #2, ARDC, AFEMD, for administrative and operational control.
- 22 Jul 58 Ottumwa, Iowa (Naval Air Station) picked for location of WS 117L Central Tracking and Data Acquisition station.
- Aug 58 New Boston Bombing Range, Grenier AFB, N. H., approved as site of Northeast tracking and data acquisition station.
- 4 Aug 58 ARPA Order No. 9-58 funds increased to \$50.7M. (Amendment No. 2)

WS 117L CHRONOLOGY

- 5 Aug 58 Procurement of long lead time items authorized. THOR-WS 117L vehicle procurement increased an additional 9 over the 10 authorized to a total of 19. Intent to utilize these for bio-medical and other measurements of space phenomena. Prepare new development plan based on \$215M FY 1959 ARPA program.
- 22 Aug 58 BMD established a Management Survey Team to look into all aspects of WS 117L Program Management at LMSD, LAC. (ARDC SO M-770)
- 25 Aug 58 ARPA Order No. 9-58 funds increased to \$70.7M. (Amendment No. 3)
- Sep 58 WS 117L interim tracking and telemetry facilities beneficially occupied at Vandenberg AFB, Calif.; Naval Air Station, Pt Mugu, Calif., Kaena Point, Oahu, Hawaii, Annette Island, Alaska; Kodiak Island, Alaska.
- Sep 58 Former Naval Air Station at Ottumwa, Iowa, approved as the site of the WS 117L central tracking and data acquisition station.
- 15 Sep 58 AFMMD published Advanced Reconnaissance System (WS 117L) Development Plan. Contained both THOR and ATLAS-boosted phases of program. Funding program, FY 59, \$231M; FY 60, \$296M. Plan is profusely illustrated and explanatory in detail.
- 15 Sep 58 AFMMD published Sentry Operational Annex to Advanced Reconnaissance System Development Plan. Contained operational concept, command responsibilities, system characteristics. Operations, personnel and training, logistics, facilities, schedules, funding program.
- 17 Sep 58 ARPA requested that term Sentry instead of WS 117L be applied to ATLAS Operational Capability previously designated as Pioneer visual, Pioneer ferret. Budget these separately, budget rest of program as improved military space systems.
- 23 Sep 58 In a personal TWX, General Power informed General Le May that he was distressed over the reluctance of agencies to support an early reconnaissance and infrared attack alarm features of WS 117L.
- 25 Sep 58 ARPA Order No. 9-58 funds increased to \$136.2M. (Amendment No. 4)

WS 117L CHRONOLOGY

25 Sep 58

Director, ARPA, informed BMD he was not able to approve current SENTRY Development Plan. Reasons: FY 59 funding plan exceeds ceiling of \$215M; achievements of major program objectives have been substantially delayed in spite of proposed funding level increases; FY 60 budget is in excess of a considered realistic funding level. ARPA sending an Ad Hoc Project Group out to investigate, evaluate and recommend on ARPA SENTRY and follow on program. (Cesaro, Lind Irvine, Truax)

29 Sep 58

Responsibility for execution of ARPA Order No. 9-58 transferred from Comdr, AFEMD to Comdr, ARDC. (Amendment No. 5)

7 Oct 58

In a personal message, General Le May informed General Power that the Air Staff was solidly behind WS 117L, but basic budgetary restrictions prevent reprogramming response to this problem in a manner similar to wholly AF Programs. In his opinion ARPA was also sympathetic but was suffering under the curse of an arbitrarily imposed financial ceiling. Assured Power USAF was providing support for ICEM attack alarm system.

10 Oct 58

ARPA directed BMD to cancel all actions in WS 117L SENTRY program directed toward an ATLAS launch capability at AFMTC, but not to cancel boosters since they may be used at Vandenberg AFB.

1 Nov 58

DCS/D authorized \$2.4M FY 58 P-244 funds for WS 117L.

25 Nov 58

ARDC directed to eliminate two of the small primate shots from the DISCOVERER test series. Two mouse, one small primate shot are authorized. The two cancelled small primate boosters are to be reassigned.

4 Dec 58

Mr. Roy W. Johnson, Director, ARPA, informed the Under Secretary of the Air Force that a program to develop a number of systems and techniques which will be employed in the operation of space vehicles had been inaugurated. This program, to be known as DISCOVERER, was to include THOR launchings associated with WS 117L plus other similar projects not operationally oriented. Separate out DISCOVERER-THOR costs from WS 117L program (SENTRY). Prepare separate development plans and progress reports for each. Tentative reallocation of funds is:

WS 117L CHRONOLOGY

DISCOVERER; FY 59, ██████████ FY 60, ██████████ SENTRY; FY 59, ██████████ FY 60, ██████████ Secretary of Defense and ARPA agreed to assign IOC for SENTRY to ARDC "for the next several years and until final objectives are obtained". Tentative "centers" for the program will be operated by ARDC.

5 Dec 58

Mr. Roy W. Johnson, Director, ARPA, informed Under Secretary of the Air Force that reorientations of the Discoverer and Sentry programs were proposed, and a study and review would be made. For this review, AF was to assure that ██████████ was available in FY 59 and ██████████ in FY 60. AFMD should not exceed these resources. In areas where cancellations were contemplated, no procurements beyond those absolutely necessary should be made.

11 Dec 58

Responsibility for execution of ARPA Order No. 9-58 transferred from Comdr, ARDC to Secretary of the Air Force (Amendment No. 6)

15 Dec 58

AFMD briefed AF and ARPA on WS 117L reorientation in response to 4-5 December ARPA directives. HMD also submitted alternate program reorientation suggestions.

16 Dec 58

ARPA Order No. 48-59 to Sec AF. Requested Sec AF to continue study, development, and launch operations originally associated with the THOR phase of SENTRY program under ARPA Order No. 9-58, as an independent project identified as DISCOVERER-THOR project. Earlier costs will be transferred to the new project. Prepare a new financial plan by 15 January 1959.

17 Dec 58

Mr. Roy Johnson, in a memorandum for the U/Sec AF, stated that the fundamental objectives of the ARPA SENTRY R and D program should be development of improved area reconnaissance with recovery techniques, point reconnaissance development. Surveillance should be based on planned film read out, reconnaissance on film recovery. Fly recoverable ATLAS-boosted capsule early in 1961, with surveillance camera system in mid 1961. Funds for ARPA SENTRY: FY 59, ██████████ FY 60, ██████████ 1959 figure includes 13 Discoverer flights. To meet fund limitations, USAF requested to delete: 1) high energy fuels program for second stage; 2) development and test of 6 "read out camera, and to consider use of recoverable ATLAS space vehicle as test

[REDACTED]

[REDACTED]

WS 117L CHRONOLOGY

bed for surveillance camera and ferret systems; and to consider use of ATLAS with 1960 operational recovery program for additional uses, etc.

Mr. Johnson announced that ARPA supported USAF proposed operational program as presented.

Late Dec 58

First THOR-boosted DISCOVERER on pad at Vandenberg AFB awaiting launch.

Dec 58-Jan 59

Intense activity at AFEMD. in separating out various phases of the program, preparing separate development plans on THOR-DISCOVERER, SENTRY, MIDAS, and CARROUSEL phases of the program.

21 Jan 59

First launch attempt of a THOR-DISCOVERER from Vandenberg AFB. Launch terminated at T-60 as a result of inadvertent firing of the ullage rockets.

(C)
[Redacted]

1 Feb 59

ADVANCED RECONNAISSANCE SYSTEM FUNDING
(WS 117L, DISCOVERER/SENTRY)

| <u>FISCAL YEAR(S)</u> | <u>MILLIONS</u> | <u>SUBTOTAL MILLIONS</u> | <u>GRAND TOTAL MILLIONS</u> |
|------------------------------|---------------------------------|--------------------------|-----------------------------|
| 1946-59* | | | 236.7 |
| 1946-53 | 1.5 | | |
| 1953-56 | 8.9 | 10.4 | |
| 1957 | 3.9 10.0 | | |
| 1958 | 41.5 7.6 1.6 9.9 .5 | 13.9 | |
| | 1027 | 61.1 | |
| 1959* | | | |
| ARPA Order No. 9-58 | 136.2 | | |
| ArPA Order No. 41-59 | 9.8 | | |
| MIDAS (Arpa Order No. 38-59) | .75 | | |
| AF Super "G" | 3.355 | | |
| Biomedical | 1.2 | | |
| | | 151.3 | |

*Thru January 1959

(C)
[Redacted]

[Handwritten initials]

JAN 28 1959

DOWNGRADED AT 12 YEAR
INTERVALS SINCE OCTOBER 1950
DECLASSIFIED 1008 01/28/00

WDTR 59-4

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Copy 1 of 1 copies

[REDACTED]

UNITED STATES GOVERNMENT, FEDERAL BUREAU OF INVESTIGATION, WASHINGTON, D. C., 20535

ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED
DATE 11/19/01 BY 60322 UCBAW/STP/STP

EXEMPT FROM AUTOMATIC DOWNGRADING AND
DECLASSIFICATION

[REDACTED]

13/ General Johnson

[REDACTED]

UNITED STATES GOVERNMENT
FEDERAL BUREAU OF INVESTIGATION
WASHINGTON, D. C. 20535

[REDACTED]

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WDTI 59-4

WILLIAM W. WILSON
DRAGON
29 1954

THE ADVANCED RECONNAISSANCE SYSTEM
PROGRAMMING AND CONTROL SYSTEM

On November 10, 1954, the following is the program for the Advanced Reconnaissance System (ARS) and the program for the ARS Control System (ARCS). The ARS and ARCS will be used to provide reconnaissance data for the ARS. The ARS and ARCS will be used to provide reconnaissance data for the ARS. The ARS and ARCS will be used to provide reconnaissance data for the ARS.

The Program

1. THE RECONNAISSANCE - Reconnaissance satellites on a low altitude orbit are required for the ARS. The ARS will be used to provide reconnaissance data for the ARS. The ARS will be used to provide reconnaissance data for the ARS.

DRAFT

[REDACTED]
[REDACTED]
[REDACTED] of the program. Total of 19

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] of reconnaissance satellite,

[REDACTED] with research and develop-

[REDACTED] (electronic turret) and

[REDACTED] with high accuracy

[REDACTED] flights

[REDACTED] March 1960, [REDACTED] January

[REDACTED]

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AIR FORCE BALLISTIC MISSILE DIVISION
HEADQUARTERS

Air Research and Development Command
Air Force Unit Post Office
Los Angeles 45, California

MEMORANDUM FOR:

Col. Bratman

DATE

22 Jan 59

Re our discussion
yesterday
Ben Schriever

Here is your revised
letter. Lt Col Green
suggests we send the
original letter and bring
up our alternatives at
the meeting provided we
feel the Douglas approach
still inadequate

B. A. SCHRIEVER
Major General, USAF
Commander

Boots

117L

[REDACTED]

22 JAN 1959

WDZW

SUBJECT: GOR No. 80

DOWNGRADED AT 12 MONTH INTERVALS; NOT AUTOMATICALLY DECLASSIFIED. DOD DIR 410

TO: Commander
Air Research and Development Command
ATTN: RDZB
Andrews Air Force Base
Washington 25, D. C.

1. Reference is made to letter, subject as above, dated 23 October 1958, and two messages of clarification from your headquarters, RDZGW 10-44-E and RDZGW 10-48-E. In accordance with your instructions, GOR 80 dated 15 March 1955, revised 26 September 1958, with four addendums, No's 1 through 4, dated 26 September 1958, has been reviewed and compared with the 15 September 1958 Weapon System Development Plan. Due to reprogramming action the comparison is no longer valid.

2. The reprogramming action was the result of Memorandum Report for Director, Deputy Director, and Chief Scientist, ARPA, subject: Reorientation of 117L Program, Office of the Secretary of Defense, dated 1 December 1958. As a result of the ARPA memorandum the program structure of WS 117L as described in the 15 September 1958 Development Plan has undergone radical change. The new structure will call for four or more separately identified and documented programs. At the present time these new development plans are being prepared and they will be available to your headquarters in early February. The requirements of GOR 80 will be included in appropriate development plans with the following exceptions:

a. The Basic GOR 80

(1) Paragraph VII, E, Self Destruction

No provisions for satellite on orbit self destruction are contemplated as vehicle could not survive re-entry. If this requirement of the GOR intends that the satellite contain a ground command actuated destruct system, it is requested that we be so instructed.

[REDACTED]

WDZW 59-36
Cy 3 of 6

[REDACTED]

[REDACTED]

(2) Paragraph VI, 1, a [REDACTED]

This paragraph of the GOR states a requirement to return the intercepted information from the electronic reconnaissance subsystem in a secure manner to an appropriate location. It has been our interpretation that the digitally coded data transmitted from the satellite to ground readout stations on the North American Continent and within territorial waters of Hawaii is considered as secure. If this interpretation is incorrect and the requirement implies a cryptographic capability for satellite space to ground transmissions, then the development plan will be amended to incorporate this added feature upon your instructions. The work will be undertaken within the limitations imposed by program funding.

FOR THE COMMANDER:

SIGNED

J. E. HAMILTON
Colonel, USAF
Executive Officer

[REDACTED]

[REDACTED]

WDZW 59-36
Cy 3 of 6

20 Jan 57

QUESTIONNAIRE - WS 117L

1. How does the WS 117L Program today compare with that of a year ago?

a. In the past year the WS 117L Program has undergone a series of important changes. In general, all of these changes have been additive to the program in that the scope and size of the program has been definitely increased. In addition to the expansion of the program, a marked acceleration has been achieved. The expansion and acceleration of the WS 117L Program began in late January of last year with the addition of ten Thor boosted flights. Subsequently, nine more Thor boosted flights were added to the program bringing the total Thor boosted flights to nineteen. To accomplish the acceleration a total of \$10M was added to the program. The first of the Thor flights was scheduled for firing in late December 1956 or early January 1957. Effectively, the addition of the Thor Program moved the first firing date for the WS 117L Program six months ahead of previously planned schedules.

b. As an additional technical requirement, a Biomedical Recovery Capsule Program was added as an objective for the Thor boosted flights. This addition added the requirement to organize, train and deploy an air-borne recovery force. This force, consisting of nine G-119 aircraft with crews, supported by WC-121 early warning radar aircraft of the Air Defense Command for tracking of the Biomedical Recovery Capsule, and Navy destroyers, has been organized, trained and deployed to Hawaii.

c. Additional tracking stations have been added to the program principally to support the recovery operations and secondly to provide additional tracking information. These stations, located at Annette Island, Alaska; Chiniak, Alaska; Kaena Point, Hawaii, have been planned, constructed and made ready for operation during this time period.

d. As a result of increased on-orbit payload requirements, work has been undertaken to modify the satellite vehicle engine to use a more powerful fuel combination. The rocket engine is being converted to use unsymmetrical dimethylhydrazine (UDMH) in lieu of JP4 jet fuel. This program has proceeded very satisfactorily and we hope that we will be able to use the improved engines early in the Thor-boosted Discoverer Program.

e. Another important step in the WS 117L Program has been the work leading to the technical determination of a potential Infrared ICBM Warning System. Through this work it has been determined that anti-ICBM Infrared Satellite Warning System (MIDAS) is possible and feasible. We are proposing and are prepared to undertake (if adequate funds are made available) an expanded Infrared Program which will consist of three phases.

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

FORM 30-24
CY 1 of 1

[REDACTED] [REDACTED]

The first two phases are concerned with the development of a satellite-based detection system which will be capable of detecting the launching of ballistic missiles any place on the face of the earth and relaying this information back to control agencies in this country instantaneously. The third phase of the program will be to place on orbit a sufficient number of satellites with the developed sensory equipment aboard to provide adequate coverage of the earth's surface. This will require some twenty active satellites on orbit at one time.

f. Another recent change to the WS 117L Program is the addition of a recovery capsule to the satellite vehicle that will use the Atlas as the first stage booster. Additionally, a mapping capability is being incorporated into the program. Technically this change does not present a serious problem. The system was designed with payload flexibility in mind and the mapping capability can be achieved quite economically by the addition of appropriate camera systems.

g. In the last year, while not representing a program change, one area in which significant progress has been made is in the delivery of system hardware. Some examples are:

- (1) Five complete tracking and acquisition stations with equipment installed, checked out and available for operation.
- (2) Two completed satellite vehicles with thirteen additional vehicles in various stages of manufacture.
- (3) Complete ground support equipment complex to support satellite launches.
- (4) A launch complex.
- (5) Developed Biomedical Recovery Capsules.
- (6) Modified downrange telemetry ship (Pvt. Joe E. Mann).

2. What have you done in the past year to accelerate WS 117L?

The WS 117L Program is an accelerated program. It has undergone changes described above which have contributed to an increased pace of accomplishment. The important thing is that the program during FY 1959 receives the adequate financial support to maintain its rate of progress. A loss of momentum through inadequate funding at this crucial time would seriously delay future work.

3. Is further acceleration possible? How?

It is our opinion that the WS 117L Program is proceeding about as rapidly as it can from a technical viewpoint. The thing that will insure that the present rate of accomplishment is maintained is program stability and adequate funding at the accelerated level.

[REDACTED] 40 [REDACTED]

4. Could you use more money in WS 117L? For what? How much?

a. Yes. At the present we are facing a serious funding shortage particularly with respect to FY 1960. In our programming documents we forecast a requirement for approximately \$300M to continue the WS 117L Program at the accelerated rate. In our opinion this requirement is still completely valid.

b. As you know, the WS 117L Program was placed under the Advanced Research Projects Agency in June 1958. This change resulted in a fund ceiling being placed on the program for FY 1959 and FY 1960. The reason for this ceiling was the result of ARPA fund limitations. In FY 1959 the difference between the fund ceiling and our requirements was relatively small; however, in FY 1960 available ARPA funds represent approximately half of the money required to continue the program at an accelerated pace. In this instance the ARPA fund ceiling is \$160M compared with our requirement of almost \$300M for continuation of the program at the proposed level in FY 1960.

c. At the present time the only relief in sight which will serve to partially solve our problem is to acquire some additional funds from Air Force operational agencies to support, out of their own funds, those portions of the program which are pointed toward an operational capability. This solution does not in any way relieve the need for the additional research and development funds required.

5. Has money for WS 117L been held back? How much? By whom?

a. With regard to the FY 1959 funding, money has not been held back to date; however, we have been incrementally funded almost on a month to month basis during this fiscal year. Frequently, delays in the incremental funding have caused considerable difficulty and contractor dissatisfaction. Further, delays in funding are a serious problem in the financial management of these contracts. The difficulty is twofold; e.g., increments are provided in a "spoon-feeding" process which is both uneconomical and time consuming; and further, this condition is aggravated by "last minute" funding of these increments.

b. Good financial management requires that funds be made available on a programmed basis, but in any event not less than quarterly. In actual practice funds are made available usually in monthly increments, and in some cases even shorter periods of time. This type of funding has far-reaching economical consequences to the Program. The Lockheed contracts are approximately fifty percent subcontracted, and these subcontractors in turn have a great many second-tier subcontractors. Most of these subcontractors are funded in the same manner as the prime contractor. Contractors faced with fund uncertainties on a month-to-month basis are prevented from ordering materials in the most economical quantities and hesitate to make other commitments required by good business practice. This difficulty in ordering materials will also have an adverse effect on delivery of items toward the most advantageous schedules to the over-all program.

[REDACTED] [REDACTED]

VIEW 79-26
07 / 02 6

[REDACTED] [REDACTED]

c. The above described "open-feeding" process has been further aggravated by the fact that even these small increments of funds are not made available until the Contractor is completely out of funds, for commitment purposes. This problem can best be illustrated by the current situation. The contract funds were fully committed 15 January 1978. On 14 January an amount to tide the Contractor over for five days was received by the Contracting Officer and applied to the contract. Funds beyond that five day point are not available at this headquarters. This withholding of funds to the last day gives no recognition to the fact that there is a certain amount of procurement processing time, with respect to the prime contract, and with the many subcontracts which must also be funded in the same way. During the period between receipt by this headquarters of obligation authority, and processing of the contractual document to apply the funds, the Contractor is forced to make necessary commitments at his own risk. In fact, it has been repeatedly necessary for this headquarters to send urgent TWIs and telephone calls to the Pentagon to advise of a possible stoppage of the program if funds are not available.

d. This program is, for the most part, funded by AUSA; and the delays in receipt of obligation authority are occasional at that headquarters. It is considered essential that the funding of NS 117L contracts be organized in a manner to avoid the undesirable conditions described above. This can be accomplished by AUSA, through the establishment of a procedure to provide funds on a programmed basis, but not less than a quarterly basis. And, further, it is absolutely essential that, regardless of the basis used, funds must be received at least thirty days prior to the date when the existing funds will have been committed.

6. Have decision lags delayed the program? Why?

a. Decision lags or decisions inadequate to meet the requirements of particular problems have produced situations that may cause serious future program delays. Our operation has certainly been made more expensive and a great deal more difficult than necessary by poor decision making processes. During the calendar year 1978 we have had the continued problem of changing objectives in the accelerated program. These changes have been directly the outgrowth of AUSA direction and orders and AUSA changes in the program. Failure on the part of the AUSA to either approve or disapprove the MIRM Program has delayed the contractor in establishing an adequate organization for the conduct of the Infrared work. The MIRM Program has been funded incrementally in such a fashion as to prohibit program stability and continuity.

b. A development plan was submitted to the AUSA in September 1978 for the conduct of the program under their direction. No approval or disapproval of this development plan was received. In December 1978, the AUSA directed a reorientation of the entire NS 117L Program to include an AUSA sponsored recovery capsule and eliminated a photographic readout program completely in existence.

1/1/79

[REDACTED] [REDACTED]

[REDACTED] [REDACTED]

c. One notable example of a case wherein a decision lag may eventually cause a delay in future firing schedules is associated with the WS 117L missile assembly building. In this instance the ARPA deferred decision as to whether or not the missile assembly building would be located at Pt. Arguello which is part of the Naval Air Missile Test Center, or at Vandenberg Air Force Base. The ARPA withheld a decision until approximately two months after the originally scheduled initiation of construction. This in turn will delay completion of the facility by a similar amount of time. Unfortunately, the requirement for this facility was time-scheduled to coincide with an increased firing schedule requirement.

7. What has ARPA contributed to the program?

a. The ARPA has provided funds for the nine additional Thor flights bringing the total to nineteen.

b. One of the most difficult problems associated with ARPA management has been the need to rejustify the engineering approach and re-explain the WS 117L Program to the ARPA. For example, a considerable amount of effort was involved in defending the use of the WS 117L approach to the satellite tracking and command problem in preference to using the Azusa tracking system at ARPA direction. The continued necessity of being required to justify oneself and defend the technical approach to the WS 117L Program has created a particularly unfavorable situation with regard to program stability both within the Air Force and associated WS 117L contractors.

c. As noted previously, the incremental funding of this program has added unnecessarily to our difficulties and those of the contractors. It would appear that the ARPA feels that by "spoon-feeding" available funds they can maintain closer control of the technical work in progress. Since the technical efforts and level of expenditure is established contractually for a given period of time, the "spoon-feeding" action by ARPA serves no useful purpose.

d. The following is a summary list of ARPA orders associated with the WS 117L Program:

- (1) ARPA Order No. 9-58: WS 117L Program placed under ARPA
- (2) ARPA Order No. 38-59: MIDAS
- (3) ARPA Order No. 41-59: Sentry Launch Complex, Pt. Arguello
- (4) ARPA Order No. 48-59: Discoverer-Thor Project

[REDACTED]

WDEW 59-86
Cy 1 of 6

[REDACTED]

Unclas



14 JAN 1959

127

SUBJECT: W3 117L Management Survey

TO: Commander
Air Research and Development Command
Andrew Air Force Base
Washington 25, D. C.

1. A management survey was conducted by selected AFHQ/ADC personnel of the Lockheed Missile Systems Division (LMSD) during the week of 23 August 1958. All facets of the W3 117L Program were reviewed with management personnel to insure that schedules could be met. Particular emphasis was given to the organization of the Division and its ability to accomplish the program objectives at minimum cost.

2. The findings were presented to me on 23 September 1958 and were given to Mr. Root and his staff by the Chairman of the survey team on 29 September 1958. It was recognized that there were three major problem areas: general instability of the Sentry Program; poor organization; and financial management difficulties.

3. I met with Mr. Root and his key staff the action program by the Command and this was confirmed by letter on 20 November 1958. A copy of LMSD's action is enclosed. The corrective steps already initiated and planned to be taken, I feel, will correct the major deficiencies brought out by the survey team.

ORIGINAL SIGNED:
B. A. SCHRIEVER

B. A. SCHRIEVER
Major General, USAF
Commander

1 Encl
Forwarded by LMSD 29 Sept 58
Attd: 20 Nov 58, 2053
Report of Corrective Action
on W3 117L Management Survey
1st, 2nd (C) 29-101 (2053)

If inclosures are withdrawn (or not attached) the classification of this correspondence shall be

Uncl



Unclas

WD 53-08213
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WJGE copy

[REDACTED]

9 JAN 1977

WDSM

DOWNGRADED AT 12 YEAR
INTERVALS. DECLASSIFIED
DECLASSIFIED. DOD DIR 5200.10

Mr. R. E. Gradle
Government Communications Manager
American Telephone and Telegraph Company
801 Nineteenth Street, N. W.
Washington 6, D. C.

~~DECLASSIFIED AT 12 YEAR INTERVALS~~
~~DECLASSIFIED AFTER 12 YEARS~~
DOD DIR 5290.10

Dear Mr. Gradle:

The Air Research and Development Command, through its Ballistic Missile Division, recently negotiated with the AT&T Long Lines, associated companies and other independent communications carriers for communications in support of the Sentry project. This project presently is assigned a national priority precedence of 1-1, and the need for extremely reliable and instantaneous communications is established as a critical and vital support requirement.

Since all efforts in the execution of this project are of a research and development nature, future communications requirements will depend upon the results of the initial flight tests. Successful tests in the initial stages will, of course, result in firmer future requirements.

As you are no doubt aware, reliability of the communications complex has caused considerable concern of late. Any failure in our communications complex could very well result in a complete failure of the entire effort. I am sure you are aware of this concern and will continue to aid whenever possible.

Assistance in resolving present problems is being and has been rendered by your very competent officials. Considerable help was given us by your Mr. Coy Mercer, Mr. Charles Davis of AT&T Long Lines, and Mr. Dale Tomhave of P&T on their recent visit to our Field Office at Palo Alto, and also the trip to the Alaskan sites indicates the efforts your companies are expending to provide good service.

[REDACTED]

[REDACTED]

I wish to express my personal appreciation for the cooperation rendered to date, and to assure you that the greatest amount of confidence is placed in you and your people in this important project.

Sincerely,

SIGNED

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

DISPOSITION FORM

[Handwritten signature]

FILE NO.

SUBJECT

Security of Weapon System Information

TO See Distribution

FROM WDSI

DATE 28 Jan 59

COMMENT NO. 1

Capt Ballaro/al/2718

1. Reference WDSI DF's dated 24 October 1958 and 14 November 1958, subject as above, there is evidence that too much information concerning or inferring Sentry Program progress is being transmitted in UNCLASSIFIED messages. A general tightening of communications security measures is desired.

2. All addressees are requested to classify at least CONFIDENTIAL all messages which imply status of Sentry Program and to use EFTO in accordance with sound communications practices.

[Handwritten signature]

GENE COFIELD, Lt Colonel, USAF
Director of Security

Distribution:

- WDC
- WDGE
- WDI
- WDP
- WDS
- WDT
- WDZ
- STL
- R-W
- EMC (LBAA)
- SAC MIKE (AC)
- ATC Proj. Off. (ATTEM)
- BSED (AU)
- NLO
- AEMA

*Walker
Heath
Sentry
note*

FOR OFFICIAL USE ONLY
(AFR 11-30)

DD FORM 96
1 FEB 50

REPLACES NME FORM 96, 1 OCT 48, WHICH MAY BE USED.

ACTION WDCW

29 SEP 68 11 08

INFO: WDC ✓ WDCV
WDGE
WDZ

NR [REDACTED]
FM [REDACTED]

TO COMMANDER AFMID ARDC INGLEWOOD CALIF

~~CONFIDENTIAL~~ REFERENCE FROM ARPA SGT JOHNSON
AS EXPLAINED IN A LETTER ENROUTE TO YOU I HAVE ESTABLISHED AN ARPA AD HOC
GROUP FOR THE PURPOSE OF INVESTIGATING, EVALUATING AND RECOMMENDING AN
ARPA SENTRY AND FOLLOW-ON PROGRAM. MEMBERS OF THE GROUP INCLUDE
MR. RICHARD CLEARS, CHAIRMAN SGT. MR. LAMBERT LIND SGT. MR. JANE
IRVINE SGT. CAPT ROBERT TRANK, USN. I HAVE REQUESTED THIS GROUP TO
VISIT BMD ON SEPT 29 TO ESTABLISH COORDINATION WITH YOUR STAFF AND
COMMENCE WORK ON ITS ASSIGNMENT. YOUR COOPERATION BE BE MOST
APPRECIATED.

RE: THIS IS AN ARDC MATTER
*AC—PARAPHRASING NOT REQUIRED EXCEPT PRIOR TO CASE
WORK'S ENCRYPTION—PHYSICALLY REMOVE THE ORIGINAL REF-
ERENCES BY DATE-TIME GROUP PRIOR TO DECLASSIFICATION
NO UNCLASSIFIED REFERENCES DATE-TIME GROUP IS CHANGED.

[REDACTED]

AJ 2 of 6

MEMO/RECORD

SUBJECT: Call from Colonel Hamilton to General Greer.

1. Colonel Hamilton called General Greer to check on the briefing schedule. EMD is scheduled to give the 117L presentation on 24 September. Our problem is schedule for Air Staff briefing prior to briefing to the AFMCG on the 24th. Tied in with this, the briefers will stop off at SAC Monday morning, 22 September and will then arrive in Washington Monday afternoon. (General Funk wants to stop at AMG, but there probably won't be enough time for this stop.) Colonel Hamilton asked what arrangements, if any, would be necessary for the Air Staff and did General Greer have a date for briefing ARPA. General Greer understood that EMD would be set up with ARPA for the following day; however, the wire on the AFMCG briefing doesn't make this clear. General Greer stated that they hadn't quite gotten this thing tied together.

2. Colonel Hamilton then referred to the two memos written by Mr. Holaday -- one to the JCS and the other to Mr. Douglas. General Schriever talked with Mr. Douglas and Mr. Horner regarding these memos and as a result of his conversation he has agreed to pull together a force structure through 1965. This is to be in final form by early October. It will give force structure thinking and as part of the same parcel, we will answer Mr. Holaday's memos. The fourth part of the briefing would be all inertial for Titan. We are now scheduled on the 17th for the all inertial, but would like to postpone this briefing and do it with the force structure briefing as it works out logically to follow the other. If we can give the Titan All Inertial briefing as a part of the package, we can more easily justify it. General Greer will check to see if Mr. Holaday is pressuring for a certain time on the all inertial briefing -- if not, he will attempt to take that item off and put it in the October pot. However, the site selection briefing (SAC MIKE concern) will still be on for the 17th. Colonel Hamilton asked if we would have to give a specific answer to the JCS next, General Greer stated this might be a problem.

bac.

WDGE

24 December 1958

MEMORANDUM FOR WDZ

SUBJECT: Lockheed Management Survey

Responsibility for all follow-up actions in connection with the Lockheed Management Survey will rest with the WS 1174 Project Office.

SIGNED

J. L. HAMILTON
Colonel, USAF
Executive Officer

Copy furnished:
Colonel Glasser
Colonel Ellis
Colonel Evans

AIR FORCE BALLISTIC MISSILE DIVISION
HQ AIR RESEARCH AND DEVELOPMENT COMMAND
POST OFFICE BOX 262
INGLEWOOD, CALIFORNIA

WDGE

25 November 1958

MEMORANDUM FOR: SEE DISTRIBUTION

SUBJECT: Policy Concerning Attendance at WS 117L Program Reviews
and Visits to Program Sites

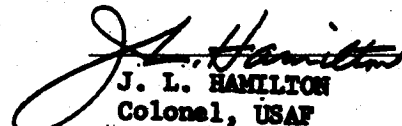
Paragraph 2 a of WDZW Memorandum, dated 12 November 1958, subject
as above, is amended to read as follows:

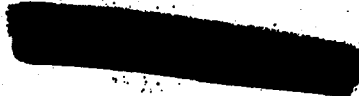
"a. Attendance at WS 117L Program Reviews will be limited
to the minimum necessary personnel from the WS 117L Directorate (WDZW),
AFEMD; the Space Systems Facilities Division (WDIR), AFEMD; the WS 117L
Branch (LBJ), BMC, and the WS 117L Office (DWL), SAC/MIKE. Any additional
personnel must be specifically approved in advance by the Director, WS 117L,
AFEMD."

DISTRIBUTION:

All Directorates and
Staff Offices AFEMD

BMC
SAC/MIKE
Hq ARDC (ATTN: RDZGW)
Hq USAF (ATTN: AFCGM and AFCGM-A)
Director, ARPA


J. L. HAMILTON
Colonel, USAF
Executive Officer



19 Nov 58

Priority Routine

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

COMAFMD, INGLEWOOD, CALIF

COFS, HEDUSA, WASH, D. C.

COMAEDC, ANDREWS AFB, MD
COMAMC, WRIGHT-PATTERSON AFB, OHIO

CONFIDENTIAL FROM WDPC-11-1 PD (AFCON)

PERSONAL FROM SCHRIEVER TO MOORHEAD PD GENERAL ACCOUNTING OFFICE HAS BEEN MAKING ROUTINE CONTRACT AUDIT AT LOCKHEED AIRCRAFT SUMMIVALE SINCE MARCH THIS YEAR PD ON 18 NOVEMBER GAO REPRESENTATIVE FROM SAN FRANCISCO OFFICE CAME TO AFMD WITHOUT PRIOR NOTIFICATION TO EXAMINE WS117L RECORDS AND AFMD METHODS OF MANAGING PROGRAM PD NOTIFICATION OF VISIT RECEIVED AT SAME TIME THE REPRESENTATIVE ARRIVED PD IT APPEARS FROM CONVERSATION WITH THE GAO REPRESENTATIVE THAT THEY HAVE EXPANDED THE CONTRACT AUDIT INTO ALL ASPECTS OF PROGRAM PD THEY HAVE ASKED FOR INFORMATION SUCH AS THE DEVELOPMENT PLAN THAT IS QUESTIONABLE AS NECESSARY FOR ROUTINE CONTRACT AUDIT AND FOR WHICH THERE MAY BE QUESTION AS TO NEED TO KNOW PD DUE TO THE EXTREME SENSITIVITY OF THE WS117L PROGRAM FROM A SECURITY STANDPOINT I AM HESITANT TO RELEASE PROGRAM DATA WITHOUT SPECIFIC APPROVAL AND GUIDELINES FROM THE SECRETARY OF THE AIR FORCE IN ACCORDANCE WITH PARAGRAPH 112 AFR 205-1 PD REQUEST YOU BRING THIS TO THE ATTENTION OF THE SECRETARY REMINDING HIM THAT ARPA HAS BEEN VERY STRINGENT CONCERNING RELEASE OF

wide

*COORDINATED WITH,
APPROVED BY
D J THIRLAND*



1 2

CHARLES W. GETZ, LT COLONEL, USAF

/s/ C W Getz for B. A. Schriever

WDPC

1728

COMAFED, INGLEWOOD, CALIF

WS117L INFORMATION PD FURTHER REQUEST PROMPT REPLY IF POSSIBLE
DUE TO RECENT CRITICISM OF THE AIR FORCE BY THE GAO CONCERNING
RELEASE OF DATA PD AS FAR AS THE GAO SURVEY OF THIS PROGRAM UNDERWAY AT
AFBMD SINCE LAST MAY WE HAVE PROVIDED THEM WITH ANY INFORMATION WITHIN MY
APPROVAL AUTHORITY UNDER AFR 205-1 AND HAVE GIVEN THEM EVERY
CONSIDERATION AND COOPERATION PD PENDING RECEIPT OF REQUESTED
GUIDANCE WE WILL PROVIDE ONLY ADMINISTRATIVE DOCUMENTS CONCERNING
LOCKHEED CONTRACT TO THE GAO PD

Air Force Ballistic Missile Division
Hq Air Research and Development Comm.
P. O. Box 262
Inglewood, California

WDZW

NOV 12 1958

MEMORANDUM FOR: SEE DISTRIBUTION

SUBJECT: Policy Concerning Attendance at WS 117L Program Reviews
and Visits to Program Sites

1. During the next several months the WS 117L program will be under unusually severe pressure due to the beginning of a heavy flight test schedule using a complex and geographically widespread ground environment. The priority of this program dictates minimum interference by those who while concerned are neither specifically participating or directly contributing toward accomplishment of the next several months of the program.

2. In order to minimize the problem of visitors during the period concerned, the following policies are announced:

a. Attendance at WS 117L Program Reviews will be limited to the minimum necessary personnel from the WS 117L Directorate (WDZW) AFEMD, the WS 117L Branch (LBJ), BMD, and the WS 117L Office (DWL), SAC/MIKE. Any additional personnel must be specifically approved in advance by the Director, WS 117L, AFEMD.

b. Visits made to the WS 117L project at LMSD, Palo Alto and Sunnyvale and subcontractors thereto by personnel from agencies other than those specified in the first sentence, Paragraph 2a, above, must be specifically approved in advance by the Director, WS 117L, AFEMD.

c. All visits to WS 117L activities at Vandenberg AFB, NAMIC (Pt Mugu), AFFTC, Alaska and Hawaii must be approved in advance by the Director, WS 117L, AFEMD.

3. The above requirements for approval of visits do not apply to contractors and sub-contractors within the existing WS 117L program. These will, however, be limited to those essential for accomplishment of the program.

4. The above policies will be in effect until revoked.

DISTRIBUTION:

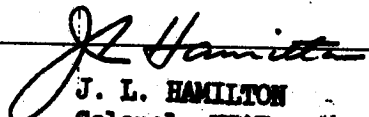
All Directorates and Staff
Offices AFEMD

BMC

SAC/MIKE

Hq ARDC (ATTN: RDZGW)

Hq USAF (ATTN: AFCCM and AFCCM-A)
Director, ARPA


J. L. HAMILTON
Colonel, USAF
Executive Officer

WDE

23 October 1958

MEMORANDUM FOR COLONEL ODER
CWO WICHESTER

SUBJECT: Training-with-Industry Program for WS-117L System Officers

1. This memorandum pertains to the junior officers being trained in industry for system assignment rather than the more senior officers being trained for technical assignments. It also confirms my telephone conversation with the addressee on 23 October.

2. WDE needs to have information on the officers selected retained in WDEW with at least the following elements: name, present location of the individual, proposed date and place of industrial assignment, and a copy of the officers' Forms 11.

3. The purpose of this information is to assist us in placement of these officers subsequent to their industrial assignment, to insure that the firms concerned understand the intended use of the officers, and to assist USAFIT in insuring that the most fruitful use is made of the time spent in the industrial assignment.

SIGNED

WILLIAM A. SHEPPARD
Colonel, USAF
Asst Deputy Commander
Military Space Systems

WDM

17 October 1958

MEMORANDUM FOR GENERAL RITHARD

SUBJECT: Thoughts on Organizing to Accomplish the Communication Satellite Job

1. I avoid technical consideration since no really sensible conclusions can be arrived at prior to the return of our people from Washington.

2. I believe we should insist on receiving through some sort of proper channel communication which:

a. Spells out AFSS responsibilities.

b. Indicates, at least roughly, the level of funding to be expected through FY '61. Without funding information we cannot generate a sensible or acceptable Development Plan.

c. Indicates any target dates established by ARPA or other agencies for accomplishing objectives.

3. WDC will have to create a project office on the order of Evans' or Lathin's office. This can be readily done by changes of moderate magnitude in the functional statements of either Burch's or Love's existing office. The Division sub-structure under the offices would require substantial rearrangement. There is relatively complete deficiency in qualified manpower since the only individuals readily available from WDC are recent arrivals or trained in non-pertinent fields. Adequate manpower will present a serious problem.

4. There are two kinds of "requirements" problems. One of the obvious is the technical need to know the user's requirements in order to properly design the system. The other is the policy problem of determining who the priority users of the system are and to what extent they will actively participate in operating the system once it is developed. I propose we keep these problems segregated as follows:

a. Use SAC/MIKE, possibly ADC resident representation, and our own HAD-SIL imagination along with Signal Corps inputs to define the technical-requirements problems sufficiently well so that system design may proceed.

b. Separate the policy problem by insisting (probably through SAC channels) that the user-operator relationship for any ultimate satellite communication systems be determined through appropriate military staff studies at Service Headquarters and JCS levels. This procedure would keep the local complex sufficiently remote from jurisdictional disputes so that we might have some hope of rapid progress.

5. Since adequate technical treatment of compromise and trade-off areas is absolutely essential, it will be necessary to have resident representation permanently at ESD from Evans Laboratories. I think we should waste no time in inviting them to assign an appropriate number of people to the Inglewood complex. Such a group would be physically integrated with the project office. If we don't move out immediately on this point we are likely to be faced with a requirement to furnish a group of our own people for assignment at Evans Laboratories, which would be disastrous.

6. In our attempts to man WDE we have identified Major W. D. Hale, WDSMC, as an appropriate person for transfer to WDC. He is an experienced and capable commander. We have no such individual now. I have not brought this subject up with Col Hudson yet; however, Hale's transfer would be most timely. In any event he should be made available to WDE on a 100 percent basis for the duration of the six-week exercise.

7. It is by no means clear to all parties that communication satellites offer a significant long run advantage over other means of communications. Therefore, a special local effort - not involving the Signal Corps - should be made which clarifies this area to the extent that we know our own mind and are able to talk convincingly about real advantages.

SIGNED

WILLIAM A. SHEPPARD
Colonel, USAF
Asst Deputy Commander
Military Space Systems

WDEW

17 October 1958

SM

MEMORANDUM FOR RECORD

SUBJECT: Telephone Conversation Between Captain Truxx, ARPA, and Colonel Evans

1. Captain Truxx called this morning and stated that the visit by ARPA personnel would be deferred by one week. The new scheduled arrival date is the evening of 27 October. He stated that the major purpose of their visit was to obtain information on what cost savings could be made for certain WS 117L program changes which they had in mind.

2. I queried Captain Truxx relative to the status of the \$11 1/2 million charge for destroyer conversion and operations by CNO to the ARPA. Captain Truxx indicated that ARPA would probably have to fund this cost and indicated further that HED had been asked by TWX to survey recovery force requirements and confirm their validity.

SIGNED

**HARRY L. EVANS
Colonel, USAF
Director for WS 117L**

Copy furnished
WDE
✓WDE
WDE
WDE

Per conversation with WDZW
mtg is scheduled for 28-30 Oct 58.

16 OCT 1958

IBJ

SUBJECT: Financial Management of Subcontracts, WS 117L Program

**TO: Lockheed Aircraft Corporation
Missile Systems Division
ATTN: Mr. L. Eugene Root
3251 Hanover Street
Palo Alto, California**

1. The management of funds on GPFF subcontracts is a matter of special interest to me. This subject is particularly pertinent to the WS 117L Program, since a large portion of it has been sub-contracted.

2. In this connection, I note that you exceeded the FY 58 funding on your contract by approximately \$4.4M, apparently through inadequate control of subcontract funding. This situation was further aggravated by late notification of the problem to this Headquarters.

3. In view of the importance of this subject, it is requested that your control procedures be tightened to avoid situations of this type and that these procedures be designed to provide earlier notification by potential overrun conditions.

**ORIGINAL SIGNED:
B. A. SCHRIEVER**

**B. A. SCHRIEVER
Major General, USAF
Commander**

WDGO

2 September 1958

MEMORANDUM FOR COLONEL EVANS

SUBJECT: Meteorological Conditions at Vandenberg AFB

1. While Meteorological Officers are often pessimistic, I suggest that the probability tables attached need some active consideration. It appears to me that we will have to either change our criteria or change the weather. The first of these solutions appears more practicable.

2. Other reasons; such as technical delays during countdown; range clearance problems; problems in Alaska and Hawaii; problems of recovery forces; plus these meteorological conditions lead me to believe that the probability of successfully completing a launch is about one percent.

3. I suggest you sponsor a committee of one meteorologist, one range safety man, and one WS-117L man, possibly chairmanned by Col Gibbs, to formally consider and add up these probabilities so as to either confirm or deny my one percent allegation.

SIGNED

WILLIAM A. SHEPPARD
Colonel, USAF
Ass't for Special Projects

1 Incl
Memo fr WDGO, 7 Aug 58
subj as abv w/1 Incl

Cy furnished:
Col Curtin, WDE

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

WDGO-58-13

NAVY AIR FORCE BALLISTIC MISSILE DIVISION
Development and Development Command
3300 Central Expressway
Palo Alto, California

7 OCT 1958

MEMORANDUM FOR THE RECORD
SUBJECT: [Illegible]

[Illegible text]

[Illegible text]

ORIGINAL SIGNED
[Illegible Name]
[Illegible Title]

WDG

amh

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FBI - WASHINGTON

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ACT 10/1/54 WDT

UNCLASSIFIED FROM AFOSI SINCE
REFERENCE OUR HQ LETTER DTD 21 AUG 54. SUBJECT
KEEPING HAS BEEN POSTPONED. WE ARE COMMITTED TO RE-
SCHEDULE FOR NOT LATER THAN EARLY OCTOBER 54. REQUEST
YOU ADVISE AS TO DATE AND TIME MOST CONVENIENT TO YOU.
PREVIOUS GUIDANCE WITH RESPECT TO SUBJECT MATTER STANDS.
THIS CONFIRMS TELEPHONE CONVERSATION RE AUG 24
BETWEEN GEN WHEAT, THIS HQ, AND GEN SCHRIEVER, AFOSI.
BT

23/2108Z AUG ██████████

SECRET

AIR FORCE BALLISTIC MISSILE DIVISION
XXXXXXXXXXXXXXXXXXXXXXXXXXXX

29 August 1958

MEMORANDUM FOR GENERAL ANDERSON

SUBJECT: Lockheed Aircraft Company

1. Following our conversation, I discussed the matter you brought up concerning Lockheed with Mr. Dave Young of ARPA. He stated that his comments must have been misinterpreted by Colonel Appold since he definitely did not mean to convey that Lockheed lacked confidence in carrying out the WS-117L program.

2. You may recall that I mentioned a management survey which we now have under way at Lockheed. There are certain matters concerning their organization and procedures which I am not happy about. I think this management survey will give me the lever to force corrective action. I will see that you are completely informed of the results of the survey and actions stemming therefrom.

SIGNED

B. A. SCHRIEVER
Major General, USAF
Commander

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

WDTS

MEMORANDUM FOR THE RECORD

25 August 1958

7/14

R02

SUBJECT: Telephone Conversation with NASA Personnel

1. Mr. Paul Fursler called this date and stated that NASA was interested in the use of Thor-Able type vehicles for possible use as satellite launching vehicles. These vehicles are to be used during the next phase of IGY for scientific purposes.

2. Mr. Fursler and other NASA personnel plan to be in the Los Angeles area around 5 September and would like to visit AFSD to discuss the use of these vehicles. Mr. Fursler indicated that he would probably be accompanied by Mr. W. J. O'Sullivan, Dr. Eggers and Mr. Goett and that clearances would be forwarded through normal channels.

3. I told Mr. Fursler that we would be most happy to discuss Thor-Able vehicles with them and that I would assure that the proper people were available on 5 September to provide the information which he desired.

Cy furnished
Col Curtin, WDT
Col Latham, WDTSL
Dr. Mettler, STL

HE
HARRY L. EVANS
Colonel, USAF
Assistant Deputy Commander
Space Systems

VR - 275

WDT

28 July 1958

MEMORANDUM FOR COL CURTIN

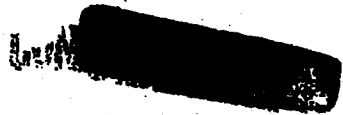
SUBJECT: Status of Review of Statement of Work for STL at Cooke

1. Will you attempt to complete a review of the STL work statement for Cooke as soon as possible with Glasser, Evans, and Porter, and let me know your feelings on this subject.

2. It is my understanding that the portion dealing with the Atlas and Titan is probably acceptable but that the portion dealing with the Thor identifies several problems concerned with acceptance, launching, and interface with the 117L. I would appreciate it if this could be reviewed among yourselves and later with me, prior to 4 August.

SIGNED

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



5 Jul 58

PRIORITY
PRIORITY

AFEND-EX/B52759

AF

CONFIDENTIAL

CH, AIR FORCE BALLISTIC MISSILE DIVISION (ARDC),
INGLEWOOD, CALIFORNIA

HEADQUARTERS, U.S. AIR FORCE,
WASHINGTON, D. C.

~~CONFIDENTIAL FROM WDCP-7-2-2. ATTN: AFOM. INFO: AFEND.~~

REF AFEND-EX/B52759. GENERAL SCERLEWER STILL PLANS TO
INCLUDE 117L IN HIS PRESENTATION TO SENATE APPROPRIATIONS
COMMITTEE.

DOWNGRADED AT 3 YEAR INTERVALS;
DECLASSIFIED AFTER 12 YEARS.
DOD DIR 5200.10

5 0930

7 1958



WDCP

RICHARD C. SNIDER, Lt Col, USAF

RICHARD C. SNIDER, LT COL, USAF
Deputy Chief, Plans and Policies Office

63 JUN 1958

10 JUN 1958

WDSP

SUBJECT: (S) Requirement for a Satellite Training Program

TO: Commander
Air Research and Development Command
Andrews Air Force Base
Washington 25, D. C.

1. Entry into the field of satellite vehicles and the era of space travel imposes entirely new and unknown operational and equipment usage problem. There is a complete dearth of operating competence nation-wide. It is timely for the Air Force to take the initiative in developing a resource of experienced personnel capable of assuming working level operational responsibility following the initial development phase by industry. The Air Force has been charged with manned space flight and must begin the realization of the necessary force-in-being.

2. Many corporations are now engaging in full scale Air Force development programs for satellite and space vehicles. Because of the complete novelty of the systems, many field operations will be planned and carried out by these contractors rather than by the Air Force in the usual way. The development period for these programs varies with initial operational dates occurring from March 1960 through December 1964, with continued refinement and sophistication thereafter. It is imperative that a nucleus of Air Force operational personnel be obtained at the earliest possible date with expansion continuing at maximized rates compatible with facility (contractor) capability and Air Force resources available. Placement of Air Force personnel within the satellite and space vehicle industries as participating team members in the industrial team will ultimately provide the Air Force with this vital operating capability. The corporations concerned would be receptive to assignment of small groups of personnel who would be utilized as if they were members of the company working side-by-side with technical and management personnel under the direction of an appropriate department head.

3. It is worth emphasizing that the objective is not to train or educate officers in the technical aspects of research and development nor in the techniques of industrial management. Rather it is

WDSP
Maj Bunn

nn
2506

WDSP

WDSP-53-12

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

WDSF, Subj: (S) Requirement for a Satellite Training Program

to participate with the industrial planning and operating groups responsible under contract for establishing and managing satellite and space vehicle field organizations.

4. Such a program would encompass a nonreimbursable training-with-industry contract covering a period of from one to two years with the facility for refresher entry at subsequent dates. The grades of officer personnel involved should be First Lieutenant through Major. (In contrast, it is visualized that senior Air Force management personnel needed in major headquarters will be acquired through the Astronautics Training-with-Industry Program now in-being.) Initial inputs of personnel would vary from one to four per contractor with additional monthly increments until the maximum programmed capacity is obtained. Entry subsequent to this time would be replacements for officers completing their industrial tour. The future (controlled) assignments of such transferees would be into pertinent Air Force operating units.

5. Schedule and number of personnel inputs by contractor should be initially as follows:

| <u>Contractor</u> | <u>System Title</u> | <u>Number of Officers</u> | <u>Phasing</u> |
|-------------------------------------|----------------------|---------------------------|----------------|
| Lockheed | Satellite Opns | | |
| | Opnl Planning | 1 | ASAP |
| | " " | 2 | By 1 Sep 58 |
| | Coms Systems | 1 | ASAP |
| | " " | 1 | By 1 Sep 58 |
| Philco | Special Logistics | 1 | ASAP |
| | " " | 1 | By 1 Sep 58 |
| | Satellite Coms | 1 | ASAP |
| MIT (Instrumentation Lab) | Infra-Red Grd Equip | 1 | By 1 Sep 58 |
| | Satellite Guidance | 1 | ASAP |
| General Electric | " " | 1 | By 1 Sep 58 |
| | Recovery Systems | 1 | ASAP |
| Eastman Kodak | Visual Recon Systems | 1 | ASAP |
| | " " | 1 | By 1 Sep 58 |
| Ramo-Wooldrige (Communications Div) | Data Processing | 2 | By 1 Sep 58 |
| SUB TOTALS | | 7 | ASAP |
| | | 9 | By 1 Sep 58 |
| ACCUMULATED TOTAL | | 16 | |

[REDACTED]

WDSP, Subj: (S) Requirement for a Satellite Training Program

The above table indicates the most urgent requirements and those which may currently be accommodated in industrial organizations. Additional corporations will be nominated and phasing of personnel recommended during follow-on planning. It is believed that the following table represents reasonable goals:

| <u>Date</u> | <u>Officers in Place</u> |
|-------------|--------------------------|
| Jul 58 | 7 |
| Sep 58 | 12 |
| Jun 59 | 15 |
| Sep 59 | 30 (tentative estimates) |
| Jun 60 | 50 (tentative estimates) |

As indicated above these officers are not being trained for service within ARDC. Furthermore, in order to maintain proper contractual relationships, it would be desirable that the officers not be under the direct supervision or monitoring of AFBMD. In other words, the officers involved should in no way be the agents of AFBMD. For both these reasons, it is desired that manpower spaces be programed and the officers administered by a non-ARDC Air Force agency.

6. A recent major acceleration of the USAF satellite program WS-117L has in turn accelerated a need for the above described program to the extent that specially expedited action is required. Rather than the usual method of seeking volunteers, it is necessary for Headquarters USAF to select assignees. It is recognized that successful performance of relatively strange duty assignments will require that the individuals concerned be highly motivated. Therefore, it is recommended that any potential selectees be interrogated prior to assignment in order that actual assignments can be made on essentially a voluntary basis. This headquarters can prepare informative material so that potential assignees can be made aware of the nature of the duty assignments.

7. Recommend that the proposed program be adopted, and that a complete finalization be accomplished in coordination with AFBMD.

cc: Col Sheppard
Col Terhune

SIGNED

B. A. SCHEIEVER
Major General, USAF
Commander

CONFIDENTIAL

3

[REDACTED]

WDSP-58-12

WDGO

10 June 1958

MEMORANDUM FOR CAPTAIN TRUAX

General Ritland and I now agree with the words on this latest draft and the red marks on previous draft are General Ritland's. Is it possible for the draft to be mailed to Admiral Clark so that action can proceed? We are having scheduling difficulty of specific missiles and their payloads at Lockheed because of the absence of the procurement authorization.

WILLIAM A. SHEPARD
Colonel, USAF
Assistant for Special Projects

WDTSR

9 JUN 1958

Mr. L. Eugene Root
Vice President and General Manager
Lockheed Aircraft Corporation
Missile Systems Division
3251 Embover Street
Palo Alto, California

Dear Gene:

I much appreciate the several steps that you and others in Lockheed have taken during the recent past to strengthen your Division's capability for doing the WS 117L job, particularly in the assignment of key personnel within Jack Carter's organization.

There is, however, one problem in this area which in my opinion requires further prompt attention. It is simply that it seems to us that Jack Carter needs some capable assistance in the coordination and direction of the over-all project effort. His immediate subordinates, Fred O'Green, Ralph King and Bill Holmes look to be quite able within the limits of their own authority. Several recent problem areas have arisen, however, none of them individually overwhelming, which appear to be brought about by the fact that Jack, capable as he is, can't be every place at once.

Typically, the problems arise because the attention of the project manager has necessarily been diverted elsewhere. In the competition between higher echelon and lower echelon contacts, Jack must give his major attention the higher element in order to secure the requisite support for his branch. The gap which needs to be filled is in that type of supervision which concerns itself primarily with forceful integration of the parallel efforts within the project.

You are undoubtedly more aware of this situation than I am.
It is only because of the critical importance of proper management
coordination and direction by Lockheed Missile Systems Division
to the timely success of WS 117L that I raise the problem.

Sincerely,

SIGNED

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

WDTER
Col Oder

dh(3 June 58)
2751

WDTER