

~~CONFIDENTIAL~~
WDR

5 December 1956

MEMORANDUM FOR COLONEL THURNE

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

1. In accordance with Hq. USAF request contained in TRX, cite 58580, dated 13 November 1956, the undersigned together with Lt. Colonel Quentin A. Riepe and Lt. John C. Harther departed Western Development Division on 27 November 1956 for the purpose of participating in a presentation to Secretary Quarles at 10:00 - 29 November 1956 on the present status of the critical components of the early and feasible Advanced Reconnaissance System program.
2. We were able to discuss the proposed presentation with General Schriever on the morning of the 28th and as a result of this discussion made some rearrangements in our briefing. Further, we together with Mr. Carter and Mr. Salter of MSD/LAC prepared a "script" for each of the participants. Inclosure 1 is a copy of that script, Inclosure 2 is a list of project office, consultant and contractor personnel present for the presentation for Mr. Quarles.
3. On the evening prior to the scheduled time of the presentation, some uncertainty developed as to whether or not Secretary Quarles would be able to hear the presentation at all due to the budget hits. Fortunately, he was able to attend as scheduled.
4. At 8:15 - 29 November 1956, Western Development Division representatives together with our "panel of experts" got together and held a dry run on the presentation. General Schriever was able to attend this session and furnished excellent guidance to the group.
5. During the presentation, Secretary Quarles asked quite a number of questions to the extent that the over-all session lasted 1 hour and 45 minutes. Since he was on a first name basis with all of our "panel of experts" the session was fairly informal. Those who attended the presentation, such as General Patt and Colonel Johnston, who are familiar with the Secretary's usual reactions to presentations of this sort, felt that we had been quite successful in satisfying the Secretary's concerns and questions concerning the system. The Secretary made several comments but they would be confusing out of context. General Patt told me later that after a

DOWNGRADED AT 3 YEAR INTERVALS;
DECLASSIFIED IN 12 YEARS,
DOD DIR 5209.10

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

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

6. Lt. Colonel Riepe and I made a brief contact with Colonel R. J. Quinn, Jr. and Lt. Colonel G. M. Adkins, AFOIN-IX2. Their office had requested RADC to brief AFOIN on WS 117L. We explained the present project set-up and convinced them that at present, things were too unclear to make feasible a valid presentation to the Directorate of Intelligence.

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

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

3 Incls:

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

~~CONFIDENTIAL~~

RANDOLPH C. E. QUINN
Lt. Colonel, USAF
Assistant for WS 117L
Technical Operations

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

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

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

1. Pre-orbital Guidance

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

2. Orbital System

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

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

~~CONFIDENTIAL~~

Incl # 1

~~CONFIDENTIAL~~

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

Involves

- KKC**
- (1) Camera - Film - Readout - Ground Reconstitution
 - (2) State of Development
 - (3) Feasibility
 - (4) Time schedule for Development

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

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

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

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

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

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

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

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

III. Follow-on Systems

A. Infrared Reconnaissance (Salter) (3 Min)

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

B. Electronic Reconnaissance (Ridenour) (3 Min)

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

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

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

3
~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

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

- Lt. Colonel Frederic C. E. Odeh - WED**
- Lt. Colonel Quentin A. Riepe - WED**
- Lt. John C. Herther - WED**
- Dr. Duncan McDonald - Boston University**
- Dr. C. Stark Draper - Harvard University**
- Dr. Louis Ridencour - Lockheed Aircraft Corporation**
- Dr. Ford Tuttle - Eastman Kodak Company**
- Dr. Peter Goldmark - CBS Laboratories**
- Mr. Jack Carter - Lockheed Aircraft Corporation**
- Mr. Richard Leghorn - Eastman Kodak Company**
- Dr. Kenneth Macleish - Eastman Kodak Company**
- Mr. Robert Salter - Lockheed Aircraft Corporation**

~~CONFIDENTIAL~~

incl #2

~~CONFIDENTIAL~~

Those in attendance at the Presentations:

- The Honorable Donald A. Quarles - Secretary of the Air Force**
- The Honorable Iyle S. Garloch - Assistant Secretary of the Air Force - (Financial Management)**
- General T. D. White - CS/USAF**
- Lt. General D. L. Patt - ECSD**
- Mr. D. R. Jackson - OASAF (Material)**
- Mr. William Weitzen - OASAF (R & D)**
- Colonel R. L. Johnston - AFEDD**
- Colonel A. T. Culbertson - AFEDD**
- Colonel F. L. Moore - AFEDD**
- Colonel O. G. Johnson - AFDAP**
- Lt. Colonel J. R. Finton - AFDDC**
- Lt. Colonel E. A. Doty - AFEDD**
- Lt. Colonel W. R. Kalso - SAFED**
- Major F. J. Dillon, Jr. - AFDDD**
- Commander R. C. Truxx - WDD (WDR)**
- Lt. Colonel P. E. Worthman - Hq. AEDC (RDZGW)**
- Lt. Colonel V. M. Ganes - Hq. AEDC (RDZPI)**
- Lt. Colonel E. Gibbs - Hq. AEDC (Project Vanguard Liaison Officer)**
- Mr. R. D. Coons - Hq. AEDC (RDZHW)**
- Colonel J. L. Armstrong - AEC**
- Major G. M. Anderson - AEC**

~~CONFIDENTIAL~~