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Memorandum For General Schwaver:

28 Mar 58

Subject: Backup Recce Pod for Project CORONA

1. Per your request of 27 Mar herewith are:
  - a. A summary of the background of the "back-up" effort to date for CORONA, the underlying rationale, etc.
  - b. A copy of my memo for record on the 18 Mar 58 meeting of the Land Committee on this subject
  - c. A rough draft of a memo for record of a final basic agreement on the main features of such a system
  - d. A preliminary summary of actions required after such an agreement as "c", above, has been reached.

## 2. Background

a. Prior to the cancellation of the 117th ITA (spin stabilized recoverable pod) program by the 28 Feb ARPA memo an Ad Hoc evaluation group (BMD, ARDC, WADC, contractors) had agreed that the spin stabilized device could (considering available components) be produced soonest but this should if possible be followed by a device which would be body stabilized

b. After cancellation of ITA as originally defined and the initiation of Project CORONA initial plans were based on the assumption that the spin stabilized pod would be built with possible consideration of a backup. The 28 Feb 58 meeting between BMD-CIA-LMSD was held on this basis and arrangements were made to clear key

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for CORONA. A subsequent meeting attended by all concerned was held on 17 Mar 58 in Washington. The contractors present (LMSD, GE and Fairchild) were advised that on the following day a meeting would be held in Dr. Hand's office to discuss a possible back-up and the three contractors were invited to present their views.

c. There had been a valid basis for consideration of the possible back-up approaches since mid February. Both BMD (WDTSR) and CIA (Mr. Bissell) had copies of proposals from GE and ITEK as well as certain data on Eastman Kodak capabilities submitted by LMSD. Prior to the 28 Feb meeting with CIA, BMD had prepared a comparative analysis of these proposals. There were several reasons for consideration of a back-up:

(1) The spin stabilized approach had, in our view, limited or no growth potential in the direction of more accurate and higher resolution photography

(2) The photographic problem as well as the recovery problem should be somewhat less difficult if a stabilized platform were to be used.

(3) In the event of either failure or compromise of the spin stabilized package a back-up would be essential for continuation of the program.

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d. It should be noted that the basic 117h scheme is based upon a stabilized (body stable with respect to gravity vector) vehicle. LMSD and MIT had the requisite hardware for a gravity stabilized vehicle in development before the whole idea of using T40R boosters arose. This lends credence to a stabilized vehicle approach for the back-up.

3. Follow-up actions after agreement (assuming ITEK)

a. LMSD and ITEK prepare work statements and a development plan (It should be a principle point at this time to clearly determine where GE participation is required (to minimize security risks) and this, of course, depends upon compatibility of the GE capsule and cassette with ITEK (in place of Fairchild)

b. CIA, BMD, LMSD and ITEK (plus GE if required) meet to ratify the technical, contractual and schedule proposal.

c. CIA initiate contractual action to cover the "back-up."

d. BMD initiate (with CIA) operational planning for the back-up.

e. At some point in time prior to first launch of the THOR-117h program both the primary and back-up programs be re-evaluated to determine what specific flight schedule will be attempted.

f. Care must be taken here a security point of view to separate the primary and back-up programs

Judson's XE Order  
Col USAF

2 Incls:

1. Cy of Memo for Record on 18 Mar 58 WTY
2. Draft Memo for Record.

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Memorandum For The Record

25 Mar 58

Subject: Report of Meeting, 18 Mar 58

1. The meeting was held 1030, 18 Mar 58 at Dr. Land's office, 730 Main St., Cambridge, Mass. Present were:

Eval. Committee: [REDACTED], Dr. Land, Dr. James Baker, Dr.

CIA: Mr. Bissell, Mr. Kucera

BMD: Gen. Rutland, Col. Odor, [REDACTED]

ARPA: Dr. York

2. There was a long but poorly organized and (due to the way the meeting was handled) incomplete discussion of the spin stabilized program. Criteria established were for  $10^{\circ}$ - $12^{\circ}$  sun angle (at medium to high contrast) for exposures of Rencobak equivalent of  $1/1000$  sec. Also included in a haphazard fashion was the problem of spin stabilization, payloads available from use of the XLR-81 and 2<sup>d</sup> stage Vanguard engines, and the role of LMSO.

3. There was an equally confusing review of possible backups due to the facts that criteria and ground rules were not clear nor had there been timely announcement to other than LMSC (who was supposed to present EK possibilities although they didn't have a real opportunity to do so) and IT&K.

a. The GE proposals were reviewed by Mr. Paige based upon a horizon scanner controlled, gas stabilized package. He stressed:

- (1) Company resources and contributory program including project [REDACTED]
- (2) Existing hardware or designs (attached)

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control, gyros and air jets (good for 2 days), data recovery capsule, telemetry, system engineering and field operational experience

(3) Items yet to be produced (horizon scanner, 3d stage (if required)) and mission hardware.

(4) There was some discussion of the G.E. proposals to [redacted] on his. med. packages applicable to the core program.

b. The Fairchild proposals were presented by [redacted] (not cleared at that time) and [redacted] and were hurriedly prepared as they were invited the preceding day. It should be noted that [redacted] and Mr. Plummer of HNSD joined at this time. Items discussed (primarily by [redacted]) were:

(1) Advantages of panoramic camera vs. frame or strip cameras.

(2) The use of high shutter speeds, longer focal lengths, and on-axis lenses. The point was made that film speed should be twice base speed.

c. During lunch [redacted] was given too brief a time to discuss possible E.K.C. contributions.

d. The STEK proposal was given by Mr. Lyle and [redacted]. They started by stating that with a 24" f3.5 lens and film 1213 with special processing that one could get "building count". This in response to a question by Dr. Land, could they say he could in six (6) months. At this point the undesignated and

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Gen Pittland had to leave the meeting due to prior commitments  
It was subsequently learned from [REDACTED] that the  
ITEK proposal was favorably received.

Fredrick C. E. Oaker  
Col. USAF

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Memorandum For The Record

Subject: Back-up Camera Pod Development For Project CORONA

1. A meeting was held between Dr. Edwin Land, Mr. Richard Bissell and Major General B. A. Schriever on — — to discuss the requirements for the subject development and to determine the best contractual approach to the fulfillment of these requirements.

2. In recognition of both the technical limitations of the present "spin stabilized" development approach for the CORONA reconnaissance pod as well as the potential problems foreseen in maintaining effective cover of the present effort it was concluded that a valid and urgent requirement for a back-up development existed.

3. At the request of Mr. Bissell, Dr. Land had convened a panel of the President's Science Advisory Committee on 18 March 1958 to consider various approaches to the back-up program. Proposals from the General Electric Company, The Fairchild Camera and Instrument Company, and ITEK Corporation ~~and~~ were considered. In addition representatives of Lockheed Missile Systems Division discussed possible Eastman Kodak developments applicable to the problem.

4. Considering the material reviewed by the Panel (Dr. Land, James Baker, [REDACTED] and their comments thereon it was concluded that the ITEK Corporation was the best qualified to develop the camera for the back-up program and that ITEK and Lockheed (with General Electric  $\frac{1}{3}$  if required) should

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be the team to develop the back-up pod. Because of its overall relationship with the rest of the effort it was agreed that Lockheed would have technical direction and systems integration responsibility

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