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27 November 1970

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MEMORANDUM FOR: Director, Office of Special Projects

SUBJECT : Z Program Weekly Report No. 19,
23 - 27 November 1970

1. Activities completed this week:

a. General

C. Roth briefed [redacted] of Logistics on 24 November 1970 at Headquarters. A summary of the system concept was presented and then a detailed description of four ground facility options was given. The options were: all facilities remote; image generation at Headquarters; P/F at Headquarters; P/F and O/F at Headquarters. It was concluded that there is no reason Logistics sees for not pursuing the R/F site selection as a Program Office action now.

(b)(3)
(b)(1)

b. Imaging Satellite

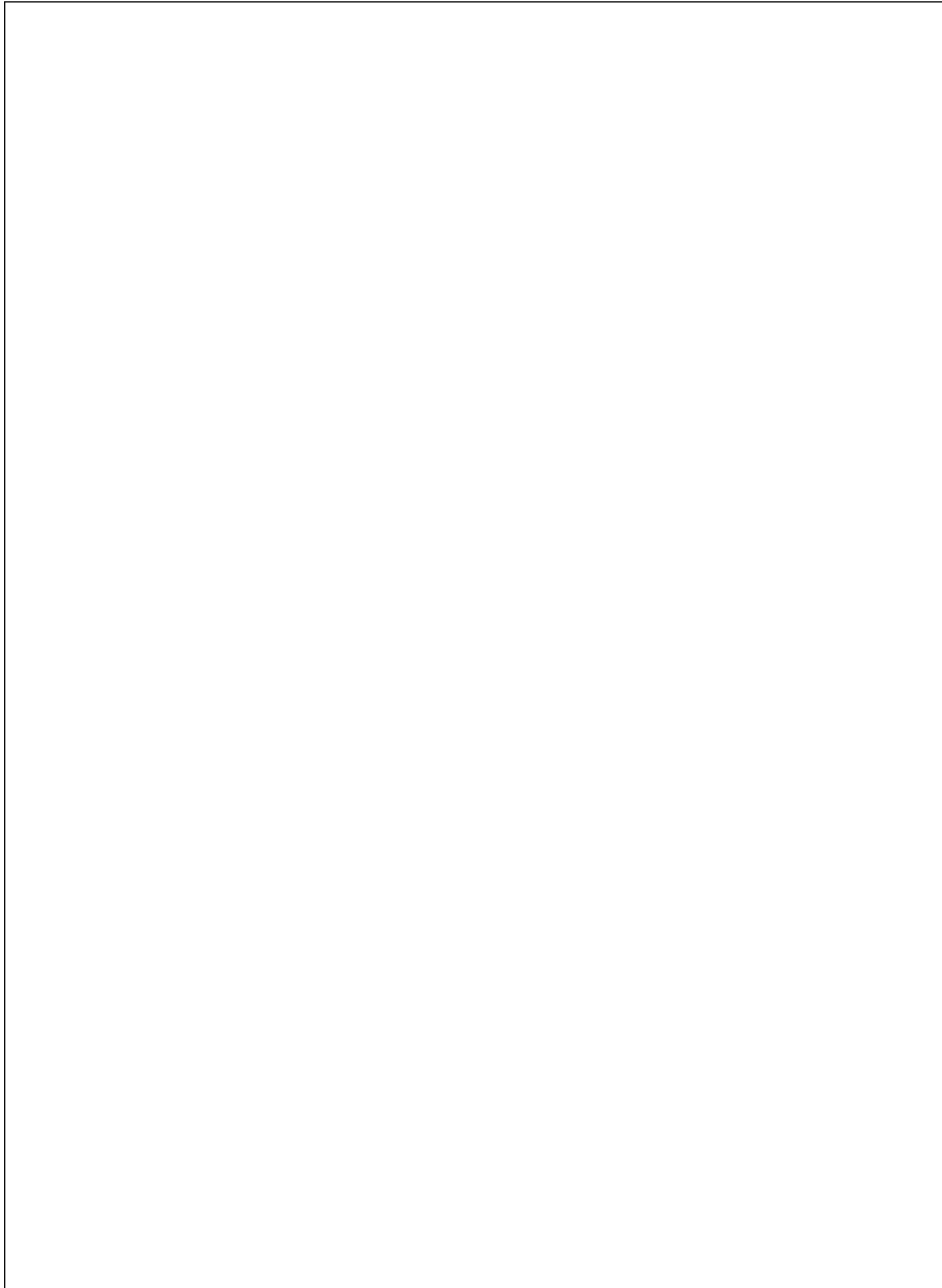
(1) On 24 November 1970 GE/Binghamton visited Headquarters to discuss the various options that could be followed in the CMG design phase which is planned to start 1 March 1971. Funding level requirements for designs of increasing complexity above the present CMGs were presented. Also discussed were ways in which the design phase could accommodate the possibly widely differing specifications from the two primes.

c. Relay Satellite

[redacted]

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(b)(1)
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d. Processing Facility

(1) [redacted] (Aerospace) visited LTV in Dallas, Tex. on 24 November. Detailed discussions were held on the P/F design features. This meeting will be discussed in next week's report.

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GROUP 17?*

(2) [redacted] and D. [redacted] of RCA to discuss a tape recorder contract. The goal is to have a feasibility model spacecraft recorder operating by December 1971 and to have specifications and costs for both the spacecraft and the ground recorders at that time. Action has been started to initiate an RCA contract. A statement of work is being prepared. Funds will have to be reprogrammed from other Z Program line items to cover this contract.

(b)(3)

(3) Ampex is planning to let a contract with Motorola (Scottsdale, Arizona) for electronic design, fabrication, systems integration and testing and for specific component development work. [redacted] (Vice Pres., Instrumentation Division and Tape Recorder Project Manager - Ampex) is scheduled to visit with [redacted] (Director of Communications - Motorola) on 1 December 1970. Ampex has initiated paperwork to secure Headquarters approval for subcontracting to Motorola.

(b)(3)

e. Engineering

(1) The interface meetings held 17 - 20 November at Eastman Kodak in Rochester, N. Y. with the transducer contractors were productive. Interface agreements were achieved generally along the following guidelines: imaging light to the focal surface is the optical subsystem contractor's responsibility along with test equipment to establish that they are within their allocated error budget; conversion of light to photoelectrons through processing

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electronics to a digital bit stream is the transducer contractor's responsibility including data processing test equipment to establish that the transducer is performing properly; imaging data to be supplied as a digital bit stream by the transducer contractor to the IPL. Several interface tests were proposed which require data exchanges from their respective special test equipment but only insignificant changes to the currently proposed transducer hardware. Transducer mechanical and thermal designs are maturing rapidly with respect to the optical/transducer subsystems interface. Eastman Kodak will provide a preliminary interface specification for each transducer contractor in time for inclusion in the Phase II Work Package.

(2) Owens-Illinois will submit proposals 1 December 1970 for two CerVit autocollimating blanks. One appeared marginally acceptable on preliminary inspection, the other more than adequate. The proposals will reflect measurements from a detailed inspection. It is planned to procure one blank for polishing at Eastman Kodak.

(3) TRW and Westinghouse presented briefings on results of noise analyses and tests at Headquarters on 23 November. Both presentations indicated substantial progress has been made toward understanding this most significant aspect of the transducer performance. This progress is reflected in their process controls and resulting improvement in performance reported.

(4) Lightweight mirror status as of 24 November:

Eastman Kodak - $.13 \lambda$ rms, estimating completion ($.02 - .03 \lambda$) by 31 December.

Itek - 12.5λ peak-to-peak, estimating completion ($.02 - .03 \lambda$) by 6 March

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(5) It appears desirable to take a position at the outset of Phase II with regard to the planned contract relationship for Eastman Kodak during System Acquisition. Many specifications and other documents are being initiated which will reflect the I/S - OSS contractor status. The preferable arrangement is believed to be Eastman Kodak as a subcontractor to the I/S.

(6) A CDR was held at Westinghouse in Baltimore, Md. on 21 November attended by [redacted] and [redacted]. The full day was devoted to a detailed review of all major aspects of the hardware to be delivered in January 1971 to the IPL and of the flight configured system (1/2 array) for May 1971. All attendees were impressed by the work accomplished at Westinghouse and were satisfied with the designs presented.

(b)(3)

f. System Analysis

(1) F. Evans and E. Nowinski reviewed the ICA effort at Eastman Kodak in Rochester, N. Y. on 20 November 1970 and addressed future schedules. It was decided that a Final Report would be delivered on 8 January 1971 and would incorporate as many results as can be obtained from the IPL simulated imagery. Eastman Kodak will submit suggested areas of effort for the remainder of FY 71 which Z/OSP will review/revise for Eastman Kodak to propose on.

2. Projected activities for the week of 30 November 1970:

a. 30 November - 4 December 1970: P/F contractor site visitation plans have been documented in the Source Selection Plan. The following is a schedule of the visits:

30 November - General Dynamics
2 December - RCA
4 December - LTV

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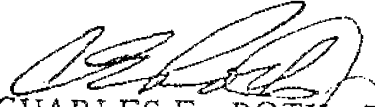
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4. Personnel staffing actions:

a. No interviews were conducted.

b. is expected to report to the P/F staff in Z/OSP on 30 November 1970.

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CHARLES E. ROTH, JR.
PROGRAM DIRECTOR
Z PROGRAM

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