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DDI-2263-70

2 SEP 1970

BYE-6482-70

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MEMORANDUM FOR: Director of Central Intelligence

SUBJECT: Readout Satellite Program

Several months ago you asked me to let you know the extent and timing of your eventual commitment of funds, facilities and people to the EO1 readout program. Recently I gave you an interim report on this and promised to give you a more detailed memorandum as soon as possible. Since that time, we have completed our evaluation of initial contractor studies and, pursuant to the August Excom decision, we have initiated system definition studies. I am therefore now able to say something more definite about probable eventual program impact. Before doing so, it may be useful to summarize our plans for the next year and the decision milestones which you can anticipate.

On 17 August we initiated Phase I of the system definition studies. During this initial phase, four spacecraft contractors and three processing facility contractors will each study two different system configurations: a low performance, 18-inch ground sample dimension (GSD) system and a high performance, [] GSD system. Each of these contractors will give us a final report in mid-December which will describe the performance characteristics and the development program schedules and costs associated with each of these systems. During December and January we will evaluate these reports and by the first of February will have recommended to Excom two spacecraft contractors and two processing facility contractors for continuation into Phase II. At that time Excom will also be asked to decide which system configuration it desires to have continued into Phase II. Phase II of the system definition studies will then begin in February and will be completed by the end of September 1971. Between September and November we will evaluate contractor reports and will recommend to the Excom one spacecraft contractor and one processing facility contractor to be continued into the acquisition phase of

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the program. Thus, at its November 1971 meeting the Excom will have all information available to decide whether to proceed into system development.

We must also make provision for the fact that in November 1970 the Committee must decide on the 1972 budget level to be included in the President's submission to Congress. Therefore, although Phase I contractor studies will not be complete until December 15, arrangements have been made for a mid-November progress report which will give us preliminary data to help the Committee determine what FY 1972 funding level it wants to assume for the EOI program. For your convenience, I have attached a list of the milestones planned for the next year and a half.

With this background, let me summarize the extent of your eventual commitment to the program as it continues to move ahead after the system definition phase.

Funds. I think we have a fairly good handle now on the possible costs of the program. These costs remain about as presented to the Excom last July when it made its decision to go ahead with system definition. In brief, the total cost of the program through the 6 years (FY 1971-76) would be about [] if a [] GSD system is developed and [] if an 18-inch GSD system is developed.* (An additional [] for the relay satellite will be funded by the White AF.) The program totals include all ground facilities construction and processing equipment costs.

Facilities. The Readout System will require a satellite control/processing facility in the [] which will control the satellites, process their take and pass photos to NPIC for interpretation. It would be housed in a building about the size of the CIA printing plant and would cost [] to construct and equip. (Depending on the relative cost and performance advantages, the antenna which receives the imagery signals from the satellites may be either integral to this facility or located a few hundred miles away.) The construction and equipment costs would be

*Ten year costs for the initial [] system are [] and 10 year costs including upgrading of the initial system to [] are []

*Building costs are estimated at [] processing equipment at [] and operations equipment and software at []

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included in the NRO budget. If, of course, a separate decision had been made by that time to relocate NPIC it would be possible to house readout processing equipment within whatever new facility might be planned for NPIC. We have already indicated to the DDI that we are prepared to participate in such planning whenever it appears appropriate, but we are not trying to justify a new NPIC facility on the basis of the EOI program.

Personnel. The personnel requirements are determined by the need for a project management staff to manage the program development and, when the system becomes operational, by the need for an operational staff to man the ground facilities.

For the project management staff we currently have 22 people in OSP assigned, most of whom were needed to take the technology program to the present point. We plan to build up to about 43 people during the next year for the system definition phase and we would eventually require about 59 people if Excom decides to go into system acquisition in November 1971. We expect that 5-10 of these people would be assigned to us from non-DDS&T organizations which are interested in the Readout System -- organizations such as NPIC, DIA and NSA. We already have four people aboard -- two from NPIC and two from Navy (one more coming from Navy shortly) -- and we are negotiating now with Gen. Bennett's staff for DIA personnel. It is important to stress that all these people would be reporting to the project manager rather than serving a liaison function. They would be on the staff because of their individual expertise and knowledge of their parent component and its interests. They would not be there to "vote their bosses' stock" in any parochial way. On the other hand, these personnel -- whether assigned from outside this directorate or outside the agency -- would be encouraged to keep in touch with and advise their parent component when they felt something was getting off the track. Should serious disagreement develop it would be resolved in normal command channels.

The on-going system definition studies will teach us a great deal about how the ground facility should eventually be staffed. However, our experience with other programs makes it clear that most of the people at the facility will be contractor personnel. What fraction of the total will be government employees will depend primarily on whether we

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eventually decide to perform photo interpretation and analysis at the facility itself. If so, the eventual manning level for government employees would be about one third of the total or about 150-250 people; if not, the requirement for government people would be much less. These people, of course, would not be required until the latter phase of the acquisition program in late 1973. As I say, one of the purposes of the system definition phase is to define these requirements in detail; however, as a result of our experience on the [redacted] program, I have reasonable confidence in the numbers that I have given you here. Based on that experience I would expect to man the EOI processing facility along the lines that we have organized the [redacted] facility [redacted] and would expect that we would obtain a number of personnel from those other organizations which have an interest in EOI operation.

As is the case in [redacted] the activities in the ground facility will fall into three categories: (1) operation and maintenance of equipment used to control satellite, (2) operation and maintenance of equipment to process the data and generate image, (3) security guards and service functions. It seems feasible to staff most of the key areas and perform much of the work in all three categories with contractor personnel. This procedure has been used many times with special purpose equipment of the type to be utilized in the EOI facility. If during the next year the DDI determines that photo interpretation and analysis should be done at the facility, we would expect these functions to be performed by NPIC personnel which would be in turn drawn from CIA, DIA and the military services. In summary then, although the EOI ground facility and processing center would be somewhat different in nature than either the [redacted] [redacted] or NPIC, I would anticipate operating it in the fashion of these two organizations as an inter-agency staffed organization.

To put all of the above in a context with which you are familiar, I have listed below some similar numbers that are associated with current programs:

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		Hx (Camera only)	Hx Total
Total Program Cost		\$284	\$923
Program Management Staff	31	19	
Ground Station Staff		NA	NA
Ground Facility Cost		NA	NA

I think the above serves to indicate that what we are contemplating in the Readout system development and operation is not significantly different in magnitude than current programs. Although a somewhat bigger job, I believe the Readout System is likely to be less complicated from a technical standpoint than either the or Hexagon programs.



Carl E. Duckett
Deputy Director
for
Science and Technology

Attachment: As Stated

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ATTACHMENT

EOI PROGRAM MILESTONES

Start Phase I System Definition	17 August 1970
Contractors submit Preliminary Report	2 November
OSP submit Preliminary Report	15 November
Anticipated ExCom Meeting Set aside reserves for both Configuration A and B	Late November
Contractors submit Final Reports	15 December
OSP submit recommendations Preferred configurations Preferred contractors	15 January 1971
Anticipated ExCom Decisions Configuration selection Contractor selection approval	Late January
Start Phase II System Definition	1 February
Contractors submit firm proposals	30 September
OSP submit selection recommendation	15 November
Anticipated ExCom approval	Late November
Start System Acquisition	1 December

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GROUP 1
Excluded from automatic
downgrading and declassification

OFFICE OF TI DD/I

DATE: 5 September

TO: Jack
FROM: Ed
SUBJECT: Near-Real-Time

Jack

REMARKS:

Attached is a memo from Duckett to the Director outlining the program and costs for the near-real-time imaging system.

It is a good memo. It estimates the cost of the system over the next ten years as

It sidesteps the relationship to NPIC and a new building.

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