



DEPARTMENT OF THE AIR FORCE
WASHINGTON

OFFICE OF THE UNDER SECRETARY

April 30, 1969

MEMORANDUM FOR THE RECORD

SUBJECT: Meeting of Land Panel, April 24 and 25.

The Panel had been asked to make a recommendation with respect to MOL and so the Panel agenda was rearranged rather late to take account of the need to look at MOL.

Gardiner Tucker, Herb Bennington and Jim Stewart presented a rather dispassionate review of costs associated with continuing as-is and with cutting back in various ways. The alternative of principal interest to the Panel seemed to be the Hexador wherein the Dorian camera is flown on the Hexagon vehicle and launched by a Titan-IIID. Some interest was expressed in a Hexador launched by a Titan-IIIM, but this would of course not save nearly as much money.

Later the Panel reviewed topics related to one of their principal interests; namely, direct readout capability. They did not seem very impressed with the Air Force-sponsored work which is based on the CBS line scan system, where the image is stored on the stainless steel tape. Several essential components of this system have been demonstrated. Colonel Bonner has put together a proposal which would lead to some systems design work next year under an integration contractor.

The Panel reviewed the CIA work expressing a great deal of interest in the solid state transducer and they were essentially negative on the STX work being done by the Agency. For various reasons it appears [redacted]

[redacted] On the items of principal interest to the Land Panel; namely, the solid state transducer, Les Dirks did say that he was planning on spending considerably more money next year if it were approved by our office. [redacted]

[redacted]

Later in private session they told me that they were very discouraged by the huge amounts of money which are needed these days to put together a system and that this indicates that we have lost the original capability of the NRO which is to move quickly in areas of high technical risk and produce useful results. They had been told by the NRO staff that a system based on direct readout principles currently available would [redacted] They think these figures are high by a factor of 3 or 4. They indicated that they thought a system for direct readout could be ready at anywhere from six months to a year's time--and two years at the most--using currently available technology. Incidentally, I should note that Dr. Land himself is much more vehement in these views than many of his Panel members, some of whom believe it would take 3-5 years, for example, to put together any kind of a system and that it is not very useful to talk about hurry-up systems work.

The Panel was also critical of the fact that whenever we get in financial straits due to overruns on some of our large systems contracts, we invariably rob the research and development accounts. I told them that I tended to agree with this philosophy and would do my best to practice it in the future.

Some of the claims made by Panel members seem to me to be exaggerated. For instance, they implied that we are on the verge of being able to put up a system of satellites (perhaps it would take 3 or 4 satellites) which could be immediately on call, would be in orbit for a period of several years, and could read out high resolution photographic data on any place in the world on very short notice. This would be done by means of communications satellite relays. I suggested that maybe an alternate approach could be considered whereby if we are thoroughly convinced that the solid state array is going to be the detector of the future, then perhaps we should be doing some systems work leading to a relatively crude system which might produce resolution of the order of 10 feet or so with this to be refined over a period of time to the point where it was competitive with, for example, Hexagon. Dr. Land favored this approach. He also suggested that there were probably several companies in the country who would be

willing to push harder on the state of the art in solid state transducers and that perhaps conversations with people such as Pat Haggerty of Texas Instruments could lead to some acceleration of this effort either at our expense or at contractor expense. I agreed with him that this is a good idea and I intend to contact Pat and a few others. I stated to the Panel the general reluctance of people in DoD to rush headlong into a direct read-out system which might be very expensive and at a period when we are under heavy budget pressure while being committed to several very expensive systems whose development is already well under way.

In the absence of cancellations of some existing systems, I do not see how we can absorb the cost of a new direct read-out system anytime in the near future. After two to three years perhaps we will be over the hump on development of major new systems now under way and will have some money free for the kind of thing they are talking about. I expressed to them my feeling that we needed to have a greater analytical capability in our office to see whether in fact all the systems we are now developing are needed and to take better account of our total national requirements in the future before new systems are started. I mentioned some specific personnel changes in our office and some potential changes which I am working on. I said that I was looking forward very much to working with this group and was sure that our office could benefit greatly from their advice.

M.L

John L. McLucas

For review with Harry Davis and the NRO staff several factors related to the PSAC meeting:

1. Who are the companies that we might talk to about speeding up our work on solid state arrays?

2. How best could we have some studies made of potential systems based on solid state arrays? Should we do this through the NRO staff, through contractors, through Aerospace, or what?

3. How soon should we try to firm up an R&D budget for presentation to the ExCom?

4. Let's have a more detailed review of the studies which are already underway on quick reaction satellites. I have been briefly exposed to this material already, but have not really absorbed it all.

5. Let's check with DDR&E to see how we stand on responding to the JCS request for a quick-response satellite.