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WASHINGTON, D.C.

OFFICE OF THE DIRECTOR

DVT

3 February 1971

MEMORANDUM FOR THE RECORD

SUBJECT: Meeting with Dr. Edward David on EOI System,
3 February

Ed feels that we had a good discussion at ExCom, but that there are certain issues still remaining. He is mainly concerned with the question of area coverage versus resolution. In other words, he feels that we should be in better shape to handle the area coverage requirement and he wants to know how this affects the system resolution. He also wants to look at signal to noise considerations. We had some discussion at ExCom about how EOI systems have an inherently better signal to noise characteristic than film and I stated that I thought this would make the system much more useful both in northern latitudes during the winter and in bringing out detail and shadows. He wants to know how much of this is really true. From a physical standpoint he intuitively thinks it is true but he is not sure from a practical standpoint just how much of the time this would be significant. He agrees that having a good signal to noise ratio in the data makes processing much simpler, but he is not sure how much processing we want to do. He feels that we ought to firm up the requirements and see that the equipment we build fits these requirements. I told him I thought this was a bureaucratic approach. He said yes, but if people had been using requirements to drive us to a more capable system than we really need and at higher cost then we ought to play the bureaucratic game and make sure that the requirements are properly stated. He is going to spend some time with the President and Henry Kissinger to find out how rapidly they want to move on an interim system. He is not sure the President wants to wait for EOI and thinks maybe that we ought to be moving on an interim system and that this would have some effect on how rapidly we go on EOI.

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With respect to the EOI driving us to a very high data rate in our relay satellite, he feels we need to look at the possibilities of buffer storage. One sees the possibility of getting an immediate improvement of a factor of 2 if we, for example, take a picture every 10 seconds but only 5 seconds of that time is spent in reading in whereas 10 seconds could be ^{used to} read out, you could get a factor of 2 in bandwidth of the data link. This implies you can build a buffer storage element of about one billion word capacity. We ought to look at the feasibility of such a buffer storage. He feels that the idea of a tape storage camera is a possible way of storing this data in such a form that it could be read out either at high resolution or low resolution, and he thinks this has certain advantages. He admits that this could be done with the digital storage system also and thinks we ought to be looking at both of these.

The next item we took up was whether the Agency is justified in feeling he is biased against the EOI approach. He said that he believes the EOI approach is the way of the future, that it has certain inherent features which are extremely attractive and he has no doubt that we will eventually go with an EOI system. He said that as long as he feels that way he thinks there is no justification for the Agency to feel that he is biased against it. He is merely concerned with finding the optimum rate to proceed with systems and wants to continue with the technology in any case. He said that there was a basis for a credibility gap on his part in that some of the earlier statements that had been made to him did not seem to be quite right. Whether people were trying to mislead him or not, he wasn't sure, but the net effect was that he was misled. He said that he spent 6 hours meeting with the various people to get up to speed for the EOI discussions at the ExCom and he is willing to spend even more time if people have things that they think he ought to hear. He placed the burden on the Agency to come to him any time they feel that he has a misunderstanding and to spend the time necessary to state their case. I said that some people felt he had been

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listening to biased witnesses with respect to EOI capability. He said that he listens to all kinds of people, some biased and some not, but he makes up his own mind.

The last topic we covered was the CORONA backup. He said that he was remiss in not having brought up the question of whether we couldn't start on a CORONA backup buy and then cancel it after the first HEXAGON launch. He feels that this would only cost a couple of million dollars and it would be good insurance. He wants us to poll the ExCom in the next few days to see whether they feel this would not be a good investment.



John L. McLucas

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