

FORM-21196

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MEMORANDUM FOR: Project Director

ATTENTION : [REDACTED]

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SUBJECT : Ramo-Wooldridge Proposal for System VI

1. [REDACTED] proposal as submitted verbally on 5 November contains two features which need to be considered at greater length. 25X1A

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A. Time Sharing: In order to save weight, RW proposes to reduce the number of recorders and record the output of 8 antennas (four receivers) on two type channels. While perhaps attractive at first glance, this should be avoided if at all possible. Even under ideal conditions it reduces the probability of intercept of [REDACTED]

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[REDACTED] by three-quarters over that of a System VI using two recorders. This loss in effectiveness can ill be afforded if the original concept of a high-probability intercept System is to be kept. The cost of the additional recorder is only 25 lbs. (whose location in the aircraft is non-critical as far as System VI is concerned) and the potential gain afforded by this extra weight is enormous. To keep the intercept probability high, switching between "left" and "right" antennas should also be avoided. [REDACTED] had proposed that instead of switching, the gain of one antenna be periodically cut down, a concept that should be retained.

B. Low Frequency Receiver and Antennas: As you are aware, there is currently being constructed for us by another contractor an antenna (spiral embedded in a high di-electric constant medium) for use in the 50-100 mc/s band which will perform about 100 times better than the ferrite antennas that RW proposes to use. We should be careful not to commit ourselves on Ferrites before full data is available on the spiral.

C. Transistorized Video System: We have recently begun tests on the transistorized video system which is proposed for System VI. There have already been some electrical trouble with this equipment and more work needs to be done before we can be sure it is suitable for use in System VI.

11/13/57 [Handwritten signature] Org to RMB This date. [Handwritten signature]



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2. Of course, all of the above is very much a preliminary reaction, since we do not yet have a complete proposal from RW. I would urge, however, that it be decided to retain the extra recorder and thus avoid time-sharing between receiver channels. The 25 lbs. additional here may save many heartbreaks later.

S/ CK
[REDACTED]
Acting ELINT Staff Officer

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