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DATE *9-10-57* **MAR 24 1972**

TO: A. H. Katz *The RAND Corporation*  
FROM: M. E. Davies  
SUBJECT: PROGRESS OF RECOVERABLE SATELLITE STUDY *A 11127*  
COPIES TO: S. M. Greenfield, R. W. Buchheim, J. H. Huntzicker, H. A. Lieske, C. Gazley, E. C. Heffern, F. T. Smith, E. J. Barlow, W. B. Graham, R. H. Frick

NRO Review Completed.

The current recoverable satellite study is still in the formative stages. However, as a result of discussions about a new operational and design philosophy with people at RAND and BMD, certain requirements for the study have become clear:

- 1) Since the Lockheed satellite is in the Air Force R and D program, its overall and component performance should be regarded as the standard case in this study.
- 2) A point which must receive careful consideration is the suggested relationship between a recoverable satellite program and this existing program.

In performing the necessary comparisons and describing possible courses of action, three reconnaissance systems will have to be treated:

- A) The Lockheed visual recce system.
- B) The Lockheed satellite modified to contain a new payload consisting of a camera and film recovery technique.
- C) An entirely new satellite stage.

Possible conclusions of the RAND study might be a recommendation to cancel A and initiate B or C, or continue A and add B to the program as a backup. It is assumed that budgetary constraints would not permit the development of both A and C.

Two criteria are suggested for the comparison of these systems. First is the quality and quantity of the pictures given to the interpreters. Second is the complexity of the development problems. The first criterion is fairly well understood, and methods exist for computing the photographic performance and simulating pictures. The second criterion is poorly understood and techniques for performing the necessary comparison are vague. Reliability, development time, and cost must be discussed in terms of system complexity.

Finally, the reconnaissance task must be defined and the relative military suitability of each configuration established.

*Mer*  
M. E. Davies

**GROUP-4**  
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