~~TOP SECRET~~ [redacted]

Critic on cost effectiveness papaer of 1 July 1966 by Mayo

Paragraph#

1. ~~xxxxxxxxx~~ Emphasis on analysis of actual Program rather than on hypothetical therefor use FY 67 as a basis for comparison.base line. Why not use FY 68 as the future instead of FY 69?...because POPPY doesn't fly 7106 until FY 69.

2. ....

3.....

Page 2 Is SETTER & FANNION/TRIPOS a firmer basis upon which to extrapolate FY 69 radar environment???

Pg2 #2. Requirements for EOB not nearly complete enough...Location alone is not enough. What about Identification without Scan Information...very severe handicap in SETTER and FANION where main beam periodicity is lost.

Page 3 Current programmed FY67 programs.... launched regarding Table #1...No days-7105 will be about 22 Oct [redacted]

Looks/Day/?frequency band????

(7105 allows 4 bands on at a time...generally 2 for Gen Search and 2 EOB). How does Looks/Day(cehicle) differ from Looks/Day (ave)?? ????

In general this table is unfavorable to POPPY and exaggerates the others, by ~~comparative~~ errors. $$$ most unfavorable to POPPY. "Book-keeping" device must be used to make POPPY look ten times as expensive as ~~MX~~ SETTER. $per pound might be used. How about analysis costs for FANION???

HOW about analysis feasibility for FANION???

launch costs for other systems per pay ??

Orbital Life for 7104 has been 15 months so why use only a portion of the useful life to measure the effectiveness of POPPY. 7103C still productive after 29 months. ~~xx~~

State a realistic EOB Requirement Then measure each Program against the requirements for the life of Payloads....detect within 3 wks in order that its existence and location within [redacted] circular radiøus can be reported to the users within 30 days after first emission...smells rotten to me.

POPPY is unique in many ways in a comparison with other EOB programs:

The total $ for POPPY must be amortized over the useful life of the Payloads as well as shared by the different Charters under which these Payloads serve, i.e. Gen Search, and EOB and not allocate total costs to one Charter alone. ~~For instance~~ POPPY EOB bands are [redacted] ...Gen Search usually tasks separate bands, as many as 4 per bird. A study of the past tasking may disclose the ratio of EOB to GS ~~new~~ utilization for the apportionment of costs and detection probabilities. Detection capability is thus High but location ability has somewhat lower probability. Evaluation of 7105 must not be made just on the basis of 7104 because significant progress has been made in the ground stations to improve the [redacted] will be much more productive and of higher location accuracy. Analogue to digital conversion is to be made at two sites thus allowing electrical transmission of the data to NSA. Improved Mapping Analysis capability will be available at the sites to ~~improve~~ enhance the capability for the early identification of the New and Unique signals from Inserting purposes in POPPY [redacted] other Programs. The "On Orbit Station Keeping" experiments in 7105 will allow for a much higher percentage productivity, by providing the [redacted] ...

~~TOP SECRET~~ HANDLE VIA BYEMAN CONTROL SYSTEM ONLY

2. In the assessment of the SIGINT satellite programs toward meeting specific intelligence needs, certain basic limitations in each system must be recognized. [redacted] TOP SECRET ellite system which spins and scans the earth surface at right angles to the line of flight,,(exemplified by the FANION/TRIPOS) due to the geometry of the orbit and spin axis, only (b) scans the earth surface at two places(exactly opposite spots). Intercepts through the side and back-lobe structure of the High-Gain receiving antenna patterns clutter the data stream and make the analysis extremely difficult. The latitude of these two places may change with the shift in orbital plane. For any specific "Brush War" or area of high intrest these areas of surveillance may be inopportune or (not expedient.)

(c) Due to the high sensitivity used in these systems and the spin-scan of the collection antennas, the intercepted signals loose all the emittor antenna scan characteristics which make positive identification of these emittors very difficult.

TOP SECRET [redacted]

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