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Subj: ~~TOP SECRET~~
Ref: (A)
Encl.: (1) Probability [redacted] ction of STELLITE SYSTEM by Bruce Wald.

1. Ref. (A) Reported the detection of 7102 Satellites by [redacted] and requests a technical ~~xxxxxxx~~ study of the security vulnerability of the POPPY System to readout by ~~POP~~ ^{Conventional Elint stations} intercept, and in addition comments ~~are~~ ^{were} requested of the feasibility of improving the security.

2. The ^{question} ~~problem~~ of probability of intercept was initially raised during the first review of the ^{original Tattle tale} project prior to its approval by the Secretary of Defense. At that time Enclosure (1) was prepared by Mr. Wald and following its review by the Office of the Secretary of Defense, the project was approved. ^{It was concluded at that} ~~The conclusion was made at that~~ time ~~were~~ that the probability of intercept was so low that unless a large full-scale effort were mounted to attempt detection, the chances of detection were so low as to justify the risk involved. A review of Enclosure (1) has been made ^{xxxxxxx} ~~once again and there have been only minor changes in the technical factors which combine to determine the probability of intercept~~

and the only significant factor which has changed since the Enclosure (1) was written five years ago is that of the ^{minimum (400 Miles)} Altitude, which ~~was considered~~ ^{made possible the interception} by [redacted]

3. During the ^{their} early phases of this project extensive efforts were made to detect the POPPY Satellites at the various Navy ELINT Sites/by the NRL representatives without the slightest success. [redacted] also conducted a similar check independant of ~~the~~ NRL participation. Using their best ELINT equipment and a 60 foot parabolic antenna which was trainable in azimuth and elevation. Mr. E. Marshall who conducted these tests was unable to intercept the signals from the first GRAB Satellite, ^{though complete tracking and frequency information was utilized in this attempt.}

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4. Unfortunately in the 7102-C satellite the lowest frequency collection band covering the range from 85 to 105 mc intercepted certain signals believed to be television, while over the European area. These television signals trigger the satellite ~~in a constant manner~~ system ~~in~~ almost continuously, ~~These signals~~ ~~which are not~~ giving rise to a pseudo-random repetition rate which could have easily been mistaken for ~~an encrypted~~ digital telemetry signal. This effect caused the signal to be present almost continuously (except during the very early morning hours when the television stations were shut down). This high duty cycle certainly enhanced the detection probability. ~~Since~~

5. Altitude.

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