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DEPARTMENT OF THE AIR FORCE WASHINGTON

OFFICE OF THE UNDER SECRETARY

24 September 1975

MEMORANDUM FOR ASSISTANT SECRETARY OF DEFENSE (INTELLIGENCE)

SUBJECT: RAQUEL Program (S-B)

(U) Reference is made to the United States Intelligence Board Signals Intelligence (SIGINT) Committee Memorandum to the Director of Central Intelligence, dated September 12, 1975, Subject: ELINT Requirements.

(TS-TK) We note that the SIGINT Committee supports both the requirement for technical intelligence to support the development of countermeasures which enhance penetration survivability as well as the need to search higher frequency bands for new and unusual signals. While we recognize the validity of the requirement to acquire new and unusual signals, from our perspective it is more essential that the Air Force obtain fine grain parametric measurements of threat emitters to design electronic countermeasures thereby improving the survivability of the force.

(TS-B) The solution proposed by the majority of the SIGINT Committee seems to be appropriate to the problem at hand. The Air Force is concerned that a decision to terminate RAQUEL II will result in not having the needed satellite technical ELINT collection capability against threat emitters we know we must combat. A decision to proceed with only the frequency extension will degrade intelligence data needed in the design and support of current electronic countermeasures equipment developments.

(S-B) The Air Force urges your support of the RAQUEL II option which was recommended by the SIGINT Committee.

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- 1. (TS-B-TK) The SIGINT Committee of the United States Intelligence Board was asked to evaluate two overhead ELINT collection systems and express a community judgment on which of the two should be procured (Background Paper at Atch 2).
- a. Option #1. RAQUEL TA is a general search system with a limited technical intelligence capability. It can monitor frequencies from 4.0 GHz to 18.0 GHz, thereby preventing technological surprise in the higher frequency bands.
- b. Option #2. RAQUEL II offers an extremely good technical measurement capability, sufficient to provide the fine grain parametric accuracies required for the design of electronic warfare (EW) equipments. It covers a frequency spectrum of from 1.5 GHz to 10.0 GHz. Most of the emitters which pose threats to aircraft are in this frequency band.
- 2. (TS-D-TK C) The SIGINT Committee was unable to reach an agreement; however, most of the members were persuaded that RAQUEL II should be procured and that another low orbiting system, URSALA IV, be modified (in lieu of procuring RAQUEL IA) to provide the capabilities planned for RAQUEL IA. The SIGINT Committee, in a letter to the Director, Central Intelligence (Atch 3), recommended (a) procuring RAQUEL II; and (b) modifying URSALA IV to provide the required higher frequency coverage. The Navy nonconcurred in the recommendation and the CIA expressed concern for funding and possible program slippage/cancellation.
- 3. (TS-TK) Failure to procure RAQUEL II will produce an unacceptable impact on intelligence collection in support of research and development for EW equipment. The effectiveness of EW depends heavily on the accuracy of the intelligence information available to the designers of these EW systems. Accurate technical intelligence, then, directly affects the survivability of the strike force. Intelligence based on limited technical knowledge may seriously handicap penetration planning and cause unfavorable attrition of the force.

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4. (TS-TK) We have received information that since the SIGINT Committee could not reach a unanimous position, the matter has been referred back to Dr. Hall (Assistant Secretary of Defense (Intelligence)) (ASD(I)) for a decision. We have been informed by the Chairman, SIGINT Committee that the ASD(I) staff favors procuring RAQUEL IA. It is against the interests of the United States Air Force to procure the RAQUEL IA system in lieu of the RAQUEL II. Dr. Hall should be apprised that failure to procure the RAQUEL II system would produce an unacceptable adverse impact on the strike forces of the tactical air commander.

RECOMMENDATION

5. -(U) AF/CC approval and SAF signature on proposed Memorandum at Atch 1.

JOAN S. PUSTAY, Brig Gen, USAF Deputy Asst Chief of Staff, Intelligence

N1. Proposed Memo to ASD(I) for sig by SAF (TS-B/E-TK), 1 cy 2. BP on Collection Systems

(TS-B/E-TK/Z-C) T cy

3. SIGINT committee Memo,

12 Sep 75, BYE-111477-75, cy #15 (TS-B/E-TK/Z-C), 1 cy

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