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DIRECTOR OF DEFENSE RESEARCH AND ENGINEERING
WASHINGTON 25, D. C.

OCT 20 1961

MEMORANDUM FOR THE DEPUTY SECRETARY OF DEFENSE

SUBJECT: Space Vehicle Supplement to the ELINT Study

Reference is made to your memorandum to the Under Secretary of the Air Force, subject: "ELINT Study", dated 7 September 1961. Attached (Inclosure 1) is a copy of the subject special supplement. All DOD departments, National Security Agency, and the Central Intelligence Agency, which participated in this supplemental study, concur in the conclusions and recommendations.

The attached supplement does point out an intelligence community position with regard to ELINT collection by ESV methods and to the processing of the material collected. The former shall be the responsibility of the Department of the USAF (SAFMS) and the latter shall be the responsibility of the NSA utilizing all resources of the U.S. Government.

Within the report, the term "Department of the Air Force (SAFMS)" is used in reference to the organization described in Mr. McNamara's special memorandum of 6 September 1961.

I concur in the conclusions of the study and recommend that you have Mr. McNamara sign the attached memoranda (Inclosures 2 and 3). This will establish the conclusions as DOD policy, and thereby implement his special memorandum of 6 September 1961 with CIA.

7s/ Harold Brown

Harold Brown

3 Incls:

a/s (Incls 2 & 3 not provided)

- cc: OSD/DIRS, Dr. Eugene G. Fahini
- OSD/OSO, Mr. Clyde W. Elliott
- ACSI, D/A Maj Abner V. Rinearson, III, USA
- ONI, DTN, Capt D. M. Showers, USN
- SAFMS, D/AF, Lt Col Edwin J. Istvan, USAF
- NSA
- CIA

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SPECIAL DDRAE SUPPLEMENT TO
REPORT TO THE
SECRETARY OF DEFENSE
ON ELINT RESOURCES

WARNING

THIS DOCUMENT CONTAINS MANAGEMENT INFORMATION ON A PROGRAM WHICH HAS VERY SENSITIVE PLANNING AND OPERATIONAL ASPECTS. THE FULL CONTENTS OF THE DOCUMENT WILL BE DISCLOSED ONLY TO THOSE INDIVIDUALS WHO HAVE APPROPRIATE SPECIAL CLEARANCES AND MUST POSSESS THE INFORMATION IN ORDER TO EFFECTIVELY MEET PROGRAM OBJECTIVES.

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SPACE VEHICLE ELINT RESOURCES

SPECIAL SUPPLEMENT TO
REPORT TO THE
SECRETARY OF DEFENSE
ON ELINT RESOURCES

THE PROBLEM

The specific problem studied in this special supplement is the organizational responsibilities and procedures to be used by the United States to obtain maximum utilization of the electronic signal (ELINT and COMINT) collection potential of earth satellite and other space vehicles.

FACTS BEARING ON THE PROBLEM

1. Reference is made to the National Security Council Intelligence Directive No. 6; the National Security Council Memorandum, Subject: Reconnaissance Satellite Program, dated 1 September 1960; DOD Directive 5160.32, Development of Space Systems; DOD Directive 5160.34, Reconnaissance and Geodetic Programs; the Secretary of Defense Memorandum of 6 September 1961, with inclosures; and the Deputy Secretary of Defense Memorandum to the USAF, DDR&E, and NSA, dated 7 September 1961.
2. The utilization of space vehicles as a means for collection of electronic signal information is considered a special augmentation to the other electronic signal intelligence resources of the U. S. Government. The theoretical potential of space vehicles for the collection of electronic information has been studied by various organizations of the U. S. Government since about 1955. The proven capability of space vehicles has been demonstrated by the Departments of the Navy and the USAF. There are at present several different organizations which have a capability to develop electronic signal collection packages and the attendant processing facilities which are needed to extract intelligence from the information collected. The present regulations, procedures, and technical capabilities of all components of the U. S. Government have been studied by this special group of the study group convened by the Deputy Secretary of Defense to study ELINT resources. This special group has been chaired by DDR&E with representatives from the NSA, the Departments of the Army, Navy, and Air Force, and the CIA.

DISCUSSIONS

1. In view of the present and future capability of earth satellites and other space vehicles to collect electronic signals which can be used to fill gaps in U. S. intelligence coverage and to add to the total U. S. intelligence posture, it is apparent that the potential of this medium

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should be vigorously explored and developed. To this end, it is essential that there be a well-organized system for management, direction, and technical supervision of these activities.

2. In the space vehicle field there is need for the establishment of additional procedures, in both the collection and processing management areas, to enable the responsible organizations to obtain all assistance necessary from various departments and agencies to attain maximum effectiveness in the exploitation of earth satellites as an intelligence tool.

3. The Department of the Air Force (SAFMS), because of its experience with satellite systems, is well qualified to provide the integration of reconnaissance sensors and to provide over-all management of collection systems. The Department of the Air Force (SAFMS) should undertake to integrate all of the collection systems capability in the U. S. to provide optimum and timely development of such systems.

4. The National Security Agency is well qualified to meet the needs of the intelligence community for COMINT and ELINT, to provide over-all management of exploitation processing of collected materials, and to provide distribution of the resulting information. Further, the National Security Agency currently possesses a major processing capability and has developed procedures whereby other processing elements in the U. S. are utilized to produce information in forms acceptable to all intelligence customers.

5. There is a definite need for a close working relationship to exist between the collection and processing elements to:

a. Assure that appropriate planning takes place on both collection and processing systems in a well-coordinated fashion.

b. Provide a means whereby immediate advantage is taken of breakthroughs in either the collection or processing state-of-the-art.

c. Provide maximum technical feedback from processing to collecting elements.

6. Present approved collection and processing programs, through calendar year 1962, are essentially complementary and should not be modified by the conclusions presented herein, except as supplementary programs are developed in accordance with the new procedures.

7. It is especially important that full consideration be given to security considerations affecting this area in order that the sensitivity of the projects can be protected, but full dissemination of extracted intelligence information may be given to elements having a genuine need.

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CONCLUSIONS

The following conclusions have been reached and present proposed working arrangements to achieve maximum utilization of present and future electronic signal capabilities of the space vehicle programs of the U. S. Government.

1. The Department of the Air Force (SAFMS) will be made solely responsible for the research, development, planning, and operations for electronic signal collection by space vehicles, taking into consideration the effective utilization of all resources available to the U. S. Government. TAB A presents an outline of how the Department of the Air Force (SAFMS) would implement this concept.
2. The Department of the Air Force (SAFMS) will develop the over-all collection effort to satisfy electronic signal collection requirements established by the U. S. Intelligence Board. The National Security Agency will review USIB electronic signal (COMINT and ELINT) requirements and will recommend to the Department of the Air Force (SAFMS) those which, in NSA's opinion, can best be fulfilled by means of overhead reconnaissance. The over-all collection program prepared by the Department of the Air Force (SAFMS) will be subject to approval by the USIB.
3. The National Security Agency will be made solely responsible for the research, development, planning, and operations for processing of electronic signal data (COMINT and ELINT) collected from space vehicle sources, taking into consideration the effective utilization of all processing resources available to the U. S. Government. The processing will include technical feedback to the Department of the Air Force (SAFMS) as well as extraction of intelligence data, but technical feedback from other resources may be provided. TAB B presents an outline of how the NSA would implement this concept.
4. The data format for the electronic signal collection products will be determined by the Department of the Air Force (SAFMS) in close consultation with the National Security Agency so as to optimize the match between collection and processing.

RECOMMENDATIONS

It is recommended that the above conclusions, along with the concepts presented in TAB A and TAB B, be presented to the Secretary of Defense for his approval and be implemented both by directives and by actions of the Department of the Air Force (SAFMS), the National Security Agency, and all other components of the U. S. Government engaged in electronic signal intelligence activities.

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TAB A

IMPLEMENTATION OF DEPARTMENT OF THE AIR FORCE (SAFMS)
RESPONSIBILITIES

1. The Department of the Air Force (SAFMS) collection responsibilities include all aspects of the research, development, planning, and operation of electronic signal collection by earth satellites or other space craft. These responsibilities encompass all aspects of the collection systems and include necessary ground support functions and equipment incident to the proper operation of the space craft and/or payload and, as may be required, to recover, transmit, convert, reformat, and technically correct or reconstruct the collected data in order to yield a usable collection product for exploitation by the processor.
2. The Department of the Air Force (SAFMS) will utilize all resources within the U. S. Government in the accomplishment of its collection responsibilities.
3. The Department of the Air Force (SAFMS) will establish, organize, and manage the electronic signal collection effort in accordance with USIB approved requirements and priorities and will exercise technical direction, program planning, funding, security, and operational control of the collection programs.
4. The Department of the Air Force (SAFMS) will accomplish payload configuration control and mission planning. In accomplishing these functions, the Department of the Air Force (SAFMS) may utilize the services of a technical advisory group.
5. The collection products of this effort will be placed under a single unified security control system.
6. All original (record) copies of the collection product will be maintained in a repository designated by the Department of the Air Force (SAFMS).
7. The collection product of this effort will be made available by the Department of the Air Force (SAFMS) to the NSA for the fulfillment of processing responsibilities and to such other activities designated by NSA or specifically authorized by USIB.
8. No basic changes to existing collection programs scheduled through calendar year 1962 will be made. Augmentations to the collection effort will be in accordance with the new procedures and responsibilities outlined herein.

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9. The Department of the Air Force (SAFMS) will consult with the National Security Agency, in a timely manner, concerning the anticipated product and format from each electronic collection effort to facilitate planning for the exploitation processing in accordance with the responsibilities assigned to the National Security Agency and will provide technical assistance to facilitate accomplishment of the exploitation processing.

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TAB B

IMPLEMENTATION OF NATIONAL SECURITY AGENCY PROCESSING
RESPONSIBILITIES

1. The National Security Agency processing responsibilities include all aspects of the research, development, planning, and operation of the processing effort for electronic signal collection products provided by the Department of the Air Force (SAFMS). These responsibilities encompass all aspects of the processing of collection product, including the distribution of end product information reports as authorized by USIB.
2. The National Security Agency will establish, organize, and supervise the electronic signal processing effort in accordance with the requirements and priorities established by the USIB and will exercise technical direction, program planning, security control, and supervision of the processing programs.
3. The National Security Agency will take cognizance of all resources within the U. S. Government in accomplishment of its processing responsibilities. To achieve maximum effectiveness, the National Security Agency will be responsible for specifying those U. S. resources to be applied to the processing of the space vehicle collection products. In accomplishing its responsibility, the Director, National Security Agency, may utilize the services of a technical advisory group.
4. No basic changes to presently existing approved processing programs scheduled through calendar year 1962 will be made. Additions or augmentations to the processing effort will be in accordance with the new procedures and responsibilities outlined herein.
5. The National Security Agency will place the end product information reports of this effort under a security control system to safeguard the source of the material. Such a system will be subject to USIB approval.
6. The National Security Agency will provide specified technical or other feedback as required by the Department of the Air Force (SAFMS).
7. In the exercise of the responsibility for processing the collection product, the National Security Agency shall assign tasks to appropriate organizations of the United States Government. An organization within the Department of Defense may not refuse to apply available resources for the accomplishment of a particular task on the basis that it will require the diversion of such resources from the accomplishment of other missions, unless such refusal is approved by the Secretary of the Military Department or the Commander of the Unified or Specified Command concerned. Assignment

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of tasks to organizations outside the Department of Defense will be subject to the approval of the head of the particular organization concerned.

8. In those cases where NSA delegates processing responsibility, the NSA will:

a. Provide appropriate planning support and furnish required operational and technical instructions.

b. Assure that specified feedback as required by the Department of the Air Force (SAFMS) is provided.

c. Arrange for each processing element to provide results to NSA, in one of two forms, either (1) as data to be integrated with other information into NSA distributed reports, or (2) as a finished report to be provided to all authorized customers. In either case, distribution will be made as authorized by USIB. The reports of type (2) above will be distributed in an NSA reporting series but will contain a designator showing the organization of origin.

d. As authorized by USIB, provide appropriate processing units with instructions for "sanitization" in order that information produced can be provided under appropriate classification to all intelligence users, including the unified and specified commands and their operating elements.

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