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DEPARTMENT OF THE AIR FORCE
WASHINGTON

OFFICE OF THE ASSISTANT SECRETARY

11 April 1966

MEMORANDUM FOR THE MANNED SPACEFLIGHT POLICY COMMITTEE

SUBJECT: DOD Concern with NASA Remote Sensing Activities

As requested at our last meeting, I have prepared the two attached papers:

1. DOD Areas of Concern Relative to NASA Satellite Sensor Programs

2. Guidelines for DOD/NASA Committee on Reconnaissance Sensors

The two papers p esent criteria and an organizational mechanism for identifying NASA activities of concern to the DOD because of their potential impact on the National Reconnaissance Program (NRP). However, it will be evident to you on reading them that they do not contain a formula for resolving the basic problems which we face. These problems stem from the lack of a policy or rationale agreed to and followed by all government agencies with regard to programs involving the use of high-quality reconnaissance sensors.

The only existing interagency policy agreements bearing on NASA reconnaissance programs, the DOD/CIA-NASA Agreement on NASA Reconnaissance Programs dated August 28, 1963, and the supplement to this agreement of 1964, deal with NASA requirements for photographing extra-terrestrial bodies. Under these agreements any equipment comparable in quality to that being used in the NRP was to be developed by the National Reconnaissance Office (NRO), both the hardware and its capabilities were to be subject to BYEMAN security throughout, and any earth-orbit photography, if required for test purposes, was to be classified TALENT-KEYHOLE. This is the procedure being followed in providing a reconnaissance sensor for the APOLLO lunar program (UPWARD) but it is clearly not the procedure being considered in current NASA program planning for earth-orbital reconnaissance.

There are issues other than security, such as the utilization of the industrial base, the national policy implications of stimulating international attention to a planned program of world-wide reconnaissance involving

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collection of data having both military and economic intelligence value, and the need for agencies of the government to avoid unnecessary duplication. These other issues interact with NRP security requirements in such ways as to make the resolution of the kinds of problems which will be raised by the Committee extremely difficult, if not impossible, without new basic policy guidance.

Alexander H. Flax
Director
National Reconnaissance Office

DOD Areas of Concern Relative to NASA Satellite Sensor Programs

I. Background

A. References

(1) Letter from Secretary McNamara to Mr. Webb dated July 31, 1965.

(2) DOD/CIA-NASA Agreement on NASA Reconnaissance Programs dated August 28, 1963.

(3) Letter from Dr. McMillan to Dr. Seamans dated August 5, 1965.

(4) Letter from Dr. Seamans to Dr. McMillan dated August 24, 1965.

The Department of Defense is responsible for protecting the security and viability of the National Reconnaissance Program (NRP). NASA activities involving reconnaissance-like sensors pose a serious problem to both the security and viability of the NRP. The Secretary of Defense has called to the attention of the Administrator of NASA (Reference 1) that the considerations of national security which formed the basis for the DOD/CIA-NASA Agreement of August 28, 1963 (Reference 2) must apply to current NASA activities involving reconnaissance sensors and that all such activities including studies are of concern.

The definition of a reconnaissance sensor and of an activity of interest were provided by the Director of the National Reconnaissance Office (NRO) in Reference 3. The Associate Administrator of NASA in Reference 4 accepted the criteria and definitions established in Reference 3 as a basis for further NASA-DOD consideration of NASA reconnaissance activities.

As agreed to with the Director NRO, the Associate Administrator, NASA designated a committee of three NASA members to be given BYEMAN clearances and briefed on NRO activities. This committee was to keep the Associate Administrator of NASA informed of reconnaissance-related activities within NASA which fell within the scope of the criteria and definitions. Any such activities were to be discussed with the Director NRO and resolved in accordance with the principles of agreements already in force. However, the actions of this committee have not effectively met the concerns of the DOD.

2. Criteria

The criteria agreed to, as defined in Reference 3, are:

A. Activities of Interest

An activity is defined as the expenditure of NASA research and development money with a university or industry, or the transfer of money to another activity to be used in this way. The activities to be brought to the attention of the NRO are those involving the study, design, development, fabrication or test of reconnaissance-like sensors, or significant components thereof, for use in orbital systems or studies of the use of such sensors in orbital systems.

B. Reconnaissance-Like Sensor

A reconnaissance-like sensor is defined to be an image forming sensor having an angular resolution of .1 milliradian or finer or an optical or infrared image forming system with a physical aperture greater than 30 cm and an optical figure controlled to better than 1/4 wave length.

C. Other Activities of Interest

Other possible activities of interest include development or test of pointing, tracking and stabilizing techniques or systems to be used with satellites bearing high resolution sensors in which the pointing accuracy is better than 20 microradians or the unstabilized rate is less than 20 microradians per second. Development or test of new recording media for use with reconnaissance-like sensors are also activities of interest.

D. Additional Activities of Concern

The evolution of NASA program planning activities since the exchange of References 3 and 4 has brought to light the following additional activities of concern:

(1) RFP's, Symposia, Requests for Program Recommendations, etc.

Prior to actually initiating funded programs, NASA has issued RFP's, Requests for Program Recommendations or Endorsements and held or encouraged widely attended symposia which have led inevitably to a series of proposed studies, design and experimental activities involving the use of reconnaissance sensors in earth-orbiting satellites. This has

resulted in widespread discussion and publication of satellite reconnaissance (earth sensings) potentials as well as statements of needed and attainable equipment capabilities. NRO contractors have been involved in some of these activities, since they are the obvious sources for equipment of the kind desired.

Therefore, issuance of RFP's, and Requests for Program Recommendations or planning activities for symposia and conferences where the subject matter is or could evolve into an activity of interest as defined above, is a matter of DOD concern.

(2) Polar Orbits

The particular sensitivity of satellite reconnaissance of the Soviet Union is introduced as an additional factor when reconnaissance quality sensors are flown in high inclination (polar) orbit. Such flights potentially involve acquisition of data from "denied" areas and are presently governed by rigid national level surveillance and control (e.g., President's Foreign Intelligence Advisory Board, the 303 Committee and the USIB). Planning for such polar flights with reconnaissance quality sensors could excite unwanted reactions from the Soviet Union or other affected nations.

3. Specific DOD concerns

In reviewing activities of interest, the following factors will be considered.

A. Security

It is essential to protect the security of the NRP in accordance with established national policies. The security policies of the NRP have been formulated to meet the requirements of NSC Action 2454 and are responsive to the general policy guidance of the Director of Central Intelligence. These policies have met and are meeting the purpose for which they were intended, namely the protection of probably the most important single U. S. intelligence source and the maintenance of an international environment conducive to continuation of this covert program. Under this system of security, information which might reveal the extent and success of the NRP is tightly controlled. Such controlled information includes the identity and scope of specific operational and development programs, the U. S. state-of-the-art in reconnaissance sensors and related equipment and the quality and quantity of photography being obtained.

B. Policy

In accordance with NSC Action 2454, it is necessary that open disclosure of U. S. capabilities and intentions to orbit reconnaissance sensors be controlled to avoid unfavorable international reactions. The stimulation of ill-timed discussion of this issue in the international arena could produce unfavorable reactions from neutral or unfriendly nations; or might confront the Soviet Union with a situation in which it would be forced to take a hard position on the issue of satellite reconnaissance. The attainment of international acceptance of satellite reconnaissance is a U. S. goal, but it is of the utmost importance to national security to protect the viability of the NRP as a covert operation until there is a high degree of assurance that overt activity is acceptable.

It is extremely difficult to envision circumstances under which the U. S. would be able to continue indefinitely the present degree of control of technology associated with sensing of earth's surface from satellites, particularly when such devices represent the best potential for lunar and planetary exploration and study. On the other hand, the uncontrolled disclosure of such technology at a time when the U. S. can reasonably be presumed to be engaged in a major program of satellite reconnaissance, might prove provocative and might well contribute to causing an unfavorable reaction in the international sphere.

C. Utilization of the Industrial Base

The U. S. industrial organizations experienced and capable in the development of satellite reconnaissance sensors are relatively few in number and subject to severe security restriction. In order to avoid compromise of security or interference with NRO activities in dealing with these contractors, all government-sponsored activities in relation to reconnaissance sensors must be managed through the NRO as provided for in Reference 2.

D. Duplication

The initiation of new NASA programs which essentially duplicate equipment capabilities or operations of the DOD or vice versa should not be allowed to occur, unless after a thorough consideration of each specific program by the DOD and NASA, it is determined that some overriding consideration in the national interest warrants such duplication. Certainly no

such duplication should be allowed to occur because of lack of accurate knowledge of its existence, extent and cost by responsible officials of both agencies. Proposed NASA reconnaissance programs should be reviewed to determine whether:

(1) They involve development of systems, sensors, techniques or related equipment closely duplicating those already developed or being developed by the NRO.

(2) They involve development of systems, sensors, techniques, and other related equipment to collect data which can be collected by NRO systems already operational or in development.

(3) They involve development of systems, sensors, techniques and related equipment to collect data (such as mapping and charting data) which have already been collected, in whole or part, by the NRO.

Guidelines for DOD/NASA Committee on Reconnaissance Sensors

1. The Committee will review and analyze proposed NASA activities involving satellite-borne image forming sensors with a view to identifying those reconnaissance activities having a potential impact on the NRP as defined under "Criteria" in the document "DOD Areas of Concern Relative to NASA Satellite Sensor Programs" (Attachment 1).

2. The NASA members of the Committee shall be responsible for bringing to the attention of the Committee, prior to initiation, all programs which are either specifically activities of interest (as defined in Attachment 1) or are potentially activities of interest because of the latitude which will be allowed to contractors or other government agencies. Programs which are of potential interest to DOD for any of the reasons enumerated under 3, Attachment 1, will also be brought before the Committee.

3. The DOD members of the Committee representing DDR&E and the NRO, with the assistance of the NRO Staff, will be responsible for keeping the Committee informed, by means of formal briefings, informal discussions and pertinent reports and documents of NRP activities related to satellite reconnaissance which are pertinent to the Committee assignment.

4. When a NASA activity involving reconnaissance-like sensors or related equipment is brought before the Committee, an attempt will be made to determine whether the objectives of the proposed program can be met by a limitation to sensors which fall outside the definition of reconnaissance-like sensors as defined in Attachment 1. If it is determined that such sensors can be substituted, NASA will undertake to modify its program accordingly. However, in all cases the Committee will review the program for the factors listed in 3. of Attachment 1 and report any significant findings to the designated officials in DOD and NASA.

5. If an activity of interest has been reviewed as in 4. above, and it has been determined that the objectives of the program cannot be met except with reconnaissance-like sensors, the program will be submitted via the DOD members to the NRO to determine: (1) whether an existing system, sensor or related equipment will meet the needs of the program or whether a new development is needed, and (2) the security limitations which must be imposed upon the use of the sensor in the program. These determinations will be reported back to the Committee.

If NASA accepts the security requirements as feasible, a detailed agreement between NASA and the NRO will be drawn up to be signed by

the Deputy Administrator, NASA and the Director, NRO covering studies, analysis, development, and/or acquisition of the sensor in accordance with the DOD/CIA-NASA Agreement of August 28, 1963.

6. In the event that NASA considers the security levels recommended by the NRO under 5. above, to be such as would seriously inhibit its ability to conduct a useful program and that further, the NASA considers it is in the national interest to conduct the program, the Committee will prepare and forward a brief of the pertinent facts for further consideration by the designated officials of DOD and NASA.

7. In the event that a proposal by NASA does not require the use of reconnaissance-like sensors within the definition of Attachment 1, but is of possible concern to the DOD or NASA because of any of the factors listed under 3. Attachment 1, the Committee will review and analyze the program, and report its findings and recommendations to the designated officials of DOD and NASA.

8. The designated officials of DOD and NASA, referred to herein, will comprise the Deputy Administrator, NASA, the Director of Defense Research and Engineering and the Director of the NRO.