~~TOP SECRET~~

EYES ONLY
RAR-3-26-E

THE SECRETARY OF DEFENSE
WASHINGTON D C 20301

21 MAY 1975

MEMORANDUM FOR THE ASSISTANT TO THE PRESIDENT
FOR NATIONAL SECURITY AFFAIRS

SUBJECT: National Space Policy

In 1966 the NSAM 156 Committee established a policy for the conduct of civil remote earth sensing and affirmed guidelines for the quality of earth-looking sensors which should be employed for the civil space programs.

Recently NASA, DOD and NRO, with the advice of CIA, have held detailed discussions regarding the evolving international political considerations of remote sensing, protection of sensitive space technology and public release of space data and information. Attached is a staff analysis paper which resulted from the discussions.

To facilitate acquiring Presidential guidance in these areas of space policy, I request that you convene an interagency group similar to the old NSAM 156 Committee, augmented as appropriate by Agriculture, Interior and Commerce, to assess the relevant national political and information policies and update them as necessary and to assist in the interpretation of the policies. I have asked Assistant Secretary Ellsworth and DNRO Plummer to act as principals from the DOD. Also attached are suggested Terms of Reference for the review which are agreeable to NASA.

2 Attachments
1. Staff Analysis Paper
2. Terms of Reference

TCS 535762-75

CLASSIFIED BY TSH 1
EXEMPT FROM GENERAL DECLASSIFICATION SCHEDULE OF EXECUTIVE ORDER 11652 EXEMPTION CATEGORY 5 (b) (1, 3) (c) or (d)
AUTOMATICALLY DECLASSIFIED ON
Insert date or event if any
(effective date or event, if any)

~~TOP SECRET~~

EYES ONLY

[redacted]

Copy 20 of 8 Copies
Page ____ of ____ Pages

NASA/NRO/DOD STAFF ANALYSIS

OF

REMOTE EARTH SENSING ACTIVITY

INTRODUCTION

This report reviews some of the technical and political considerations involving the relationships between military and civil earth sensing programs and technologies. The review was accomplished by an ad hoc committee from NASA, DOD, CIA and NRO.

PROBLEM

There is a Defense Department concern that civil space-borne earth sensing is perceived by many to resemble classical satellite reconnaissance activity. Even without regard to the quality or information content of data being returned from space, the overt civil programs of routine overflight and data acquisition (especially from denied areas) is considered by DOD to be a reconnaissance-like activity that could lead to international political confrontations that in turn could impact the current free exercise of the space environment by the NRO for intelligence collection or by NASA for scientific activity. Defense also believes that there is a risk that civil programs may adversely impact the interests of the NRO and DOD through premature release of reconnaissance-related technology and/or release of data of military or intelligence value to other nations. DOD recognizes that NASA, working with other civil agencies has the responsibility for scientific research in space and for developing space applications to meet the economic, social, and policy objectives of the United States.

BACKGROUND

The current national policy is contained in the report of the NSAM 156 Committee on the "Political and Security Aspects

of Non-Military Applications of Satellite Earth Sensing," July 11, 1966. The report recommended:

a. Continued protection of the NRP by continuing consideration of the political and security effects of unclassified earth sensing activities.

b. Continued development of civil earth-sensing programs looking toward operational systems of economic value.

c. Restriction of civil space-acquired imagery to 20-meter resolution and restriction of future capabilities discussion to 10-15 feet.

d. Consideration of the relative merits and costs of manned space systems, unmanned satellites, aircraft, and other alternatives for civil earth resources surveys.

e. Establishment of security procedures covering civil use of NRP-developed sensors.

NASA ACTIVITIES

NASA has undertaken a broad range of experimental earth resources survey activities using both aircraft and spacecraft. LANDSAT-1 (ERTS-A), the first dedicated earth resources satellite, was launched in 1972. The primary sensing instrument is a four-channel multispectral scanner. The earth imagery from this instrument is built up from individual pixels each covering a ground area of some 80 meters by 80 meters; the resultant imagery therefore has a ground resolution of about 150 meters in the classical photographic sense. LANDSAT-2, a duplicate of LANDSAT-1, was launched in January of 1975 to replace the first satellite and to provide continuing experimental earth coverage. LANDSAT data are returned by direct telemetry to ground stations within line of sight of the satellite or stored on-board for later read out. In addition to the several U.S. ground stations, there are LANDSAT ground receiving and data processing stations in operation or under procurement by the governments of Canada,

Brazil, Italy, Iran and Zaire; several other foreign governments are expected to invest in similar stations in the near future. All LANDSAT data, whether received in the U.S. or abroad, are in the public domain and any individual is free to purchase copies thereof. In the U.S., the Interior Department, NOAA, and the Agriculture Department sell LANDSAT data through established data centers. Release of all NASA-acquired earth survey data to the public domain has been a hallmark of the civil space program of the United States; this policy was established to blunt concerns about potential unfair U.S. exploitation of the data and to encourage wide utilization of this new resource management tool.

Many investigators, foreign and domestic, are involved in the continuing analysis of LANDSAT data for scientific and operational purposes. Foreign and domestic commercial interests are also using these data for their own investigations. A number of U.S. agencies are using the data for resource investigations. In addition, the United States Government is experimenting with the LANDSAT data to help improve estimates of U.S. and overseas crop production. For this experiment, LANDSAT-2 is routinely acquiring data from all major wheat-producing areas of the world, including the Sino-Soviet region. The Secretary of State, at the World Food Conference in November, 1974, described this experiment as potentially contributing to solution of the world's food problem. NASA expects LANDSAT-C to be launched in 1977 and to operate through early 1980. LANDSAT-C will have some added capabilities over those of the first two LANDSAT vehicles. Recent cost-benefit studies, although not conclusive, indicate that an operational earth resources survey system could yield positive economic benefits. NASA is continuing its broadly based R&D program in sensor development, data handling and processing techniques, and information delivery to establish the feasibility of such an operational civil system.

NATIONAL RECONNAISSANCE ACTIVITIES

The satellite reconnaissance program has evolved since 1961 into a sophisticated program stressing advanced technology

and long-lived imagery and electronic collection systems. The U.S. has no other dependable means of acquiring stratetic intelligence data from within the heartland of the Soviet Union and China. Since 1972, the classified satellites have become the principal means of verifying the SALT agreements. In addition, the military services have become increasingly dependent upon the classified satellites for strategic warning and for providing intelligence information to tactical commanders. In 1973, the President authorized the DCI to release much of the satellite photography to the intelligence community at the SECRET level. Because of the critical importance of maintaining this unique and vital intelligence asset, extraordinary security measures are employed to protect the U.S. reconnaissance program against international imposed political constraints and from revelation of its technical capabilities and limitations.

ISSUES

International Political Considerations

The United States policy is to employ space for legal and peaceful purposes in accordance with its interpretation of the doctrine of the United Nations Treaty on Peaceful Uses of Outer Space. Russia and the United States accept the fact that the other is conducting satellite reconnaissance activities but neither nation publicly acknowledges that it conducts such programs. The basis of acceptance of the classified reconnaissance program has, therefore, been tacit. The U.S. has for many years kept certain heads of friendly governments aware of the classified program and, for example, shares intelligence data with the U.K. Because of minimum program visibility, no third party has had a diplomatic or legalistic basis for challenging this activity and the classified program has not been seriously threatened to date with international constraint. The United Nations Outer Space Committee has proved to be a benign forum for nations to debate space matters. From 1963 until very recently, there had been little serious debate concerning the use of space for information gathering purposes. Remote sensing is currently a subject of discussion from two standpoints--the issue of unconstrained distribution by the acquiring nation of potentially

valuable national resources data, and the issue of unilateral acquisition of such data without prior consent of the governments involved. Brazil, (which has a dedicated LANDSAT ground receiving station), and Argentina have tabled a draft treaty which would require prior approval for both acquisition and release of data taken over other countries; other Latin nations have supported this political posture. The Legal Subcommittee of the UN Outer Space Committee discussed these in February with no action being proposed this year. The present United States policies of unconstrained data acquisition and dissemination are being called into serious question. The U.S. would prefer no distribution constraints, but is willing to abide by a consensus on this matter; the U.S. will not accept constraints on acquisition. Because of the nature of the current discussions, however, Defense feels that there is a prospect that unconstrained military space activities will be challenged by inference and that if this challenge becomes codified the U.S. would unilaterally accept some order of accommodation. NASA, on the other hand, believes that the growing foreign investment in ground stations for earth resources data, the inherent value of the civil program to all participants, and the growing sophistication of nations about space capabilities will mandate for global acceptance of unconstrained remote sensing, and that military activities will therefore not be endangered.

Protection of Technology

Technical guidelines used by NASA and the NRO, as described earlier, have been in being since 1965. The limitations on releasable photography were waived by the NSAM 156 Committee when NASA received approval to employ a 10-meter resolution camera system on its SKYLAB vehicle and then to release this imagery to the public. The DOD, NRO and NASA have close relationships in terms of information being exchanged about the nature of earth observing satellite technology and techniques of data acquisition. The formal mechanisms for overseeing this joint technology exchange have, however, fallen into disuse and technology discussions have been handled on an ad hoc basis over the past several years. Since 1966, the

technology relationship between DOD, NRO, and NASA has become more complex. The Defense Department feels that there has been a growing convergence of NRO and NASA technology and that the proposed use of advanced earth sensing technologies by NASA could lead to compromise of NRO capabilities. [redacted]

[redacted] pursuing this definition work as a part of a coordinated scientific interagency program that includes Defense participation. [redacted]

associations with the NRO is becoming more aggressive in pursuing corporate interests by trying to market reconnaissance-developed technology for civil use. For example, NASA is interested in a standard earth observation package for routine use on the Space Transportation System; [redacted]

Public Release of Space Data and Information

The Defense Department views the present national policy of open release of all civil program space-acquired data as having a potentially adverse impact upon DOD (this policy is at present limited to meteorological satellite and R&D program data only). NASA believes that any significant change in this policy would create world-wide suspicions of U.S. motives and would result in a serious international confrontation on all space programs that then could result in curtailment of classified activities.

A preliminary DOD contractor survey indicates that, in the absence of alternative data sources, data from current and proposed NASA programs could potentially be of military value to adversary nations. At the same time, there is a growing recognition of the value of civil space information by U.S. civil agencies and by the private sector. The classified programs acquire mainly foreign military intelligence data, most of which is not of use to the civil sector and all of which is classified and not releasable to the public.

SUMMARY AND CONCLUSIONS

A fundamental concern identified by the DOD appears to be one of a growing convergence in technology and in data quality between the NRP and the civil space programs. It is recognized that there are national and international benefits to be gained from continuing a civil earth observation program which is acceptable to the other nations. The DOD believes that extreme care should be exercised so that NASA's programs, either from technical or political standpoints, do not lead to constraints on the NRP, or in fact, become a reconnaissance activity of serendipitous benefit to other governments. The issues to be considered, therefore, appear to be:

a. How should civil and military programs be coordinated and managed to avoid disclosure of classified capabilities or of military valuable data and information?

b. To what extent do classified programs risk constraint in the event of international opposition to civil remote sensing from space?

David Williamson, Jr.
Assistant Administrator
for Special Projects
National Aeronautics and
Space Administration
24 April 1975

Harold S. Coyle, Jr., Lt Col
Deputy Director for
Plans and Policy
National Reconnaissance
Office
24 April 1975

DEPARTMENT OF STATE

Washington, D.C. 20520

~~SECRET~~/NOFORN Attachment

November 13, 1975

MEMORANDUM FOR THE SPACE POLICY COMMITTEE WORKING GROUP

SUBJECT: Status Report

Attached is a copy of a status report that I have sent to Mr. Sisco as Chairman of the Space Policy Committee. It identifies certain issues regarding the nature and timing of the current study which I would hope will form the agenda for next Tuesday's meeting. I am providing this report to all members of the Working Group, and suggest that you utilize it in briefing your principals so that the meeting can focus on a common agenda. Any member of the Committee is free, of course, to raise any other topics that he feels should be addressed.

In order to facilitate a full discussion at the meeting next week, I hope that each member of the Committee will bring with him no more than one adviser, and that observers on the Committee will not feel it necessary to bring staff support.

Leon Sloss
Chairman of the
Working Group

Attachment

Distribution

NSC - Dr. David Elliott
NASA - Mr. Neil Hosenball
DOD/ISA - Dr. James Wade
OMB - Mr. Emory Donelson
JCS - Capt R. Curran, USN
CIA - Dr. Sayre Stevens
Air Force - LtCol Harold Coyle
White House Staff - Mr. Gus Weiss
NOAA - Dr. John Townsend
USGS - Mr. Wm. Radlinsky
ACDA - Dr. Amrom Katz

~~SECRET~~/NOFORN

DEPARTMENT OF STATE

BRIEFING MEMORANDUM

S/S

~~SECRET~~/NOFORN

November 13, 1975

TO: Mr. Sisco, Chairman
Standing Committee on Space Policy
NSC Under Secretaries Committee

FROM: Leon Sloss, Chairman of the Working Group

Space Policy Committee - Status Report and Agenda for Discussion

Introduction - The Standing Committee on Space Policy (SPC), is to meet on November 18. This report will advise you and other members of the Committee of the status of the Working Group's activities and identify subjects for discussion at the meeting. This status report has been prepared by me after discussion with other members of the Working Group, but it is not a consensus report. As you will see from the discussion below there are differing views with respect to the way the Committee should proceed in its future work. Thus, I believe the main objective at this first meeting should be for the Committee to provide the Working Group further guidance for the study it is to conduct.

Status - The directive which established the Standing Committee as an arm of the Under Secretaries Committee charges it with "review(ing) the relationship between civil and intelligence space programs, and any relevant international considerations." The Committee is to propose to the President for his consideration "appropriate new policies or changes to existing policies, and be a forum for the interpretation and implementation of such policies." This means that the Standing Committee has both an initial task, i.e. the review of current policies, and a continuing responsibility, i.e. to monitor and interpret policies in this area. To accomplish these two objectives we have initiated a study of military and civil space-based earth-sensing programs which will review major issues and consider policy options. This will be the first of what will probably be a series of studies of aspects of space policy covered by the Committee's terms of reference. At the same time, I have established liaison with the principal agencies involved in space activities to assure that the Committee is made aware promptly of emerging policy issues that it should address.

We have received draft contributions to the initial study from the various participating agencies. We are now in the process of reorganizing this material into two main papers. A background paper will describe current policies and programs on both the civil and intelligence side, and will discuss the present domestic and international environment as it bears upon space policy. An issues paper will describe the major policy issues that are emerging from the study and discuss the pros and cons of current policy and several alternatives. I expect to circulate a first draft of these two papers later this month. We will then need to discuss these papers in the Working Group. I cannot now foresee how long this will take, but I would hope to have these papers ready for consideration by the SPC by the end of the year. There are differences within the Committee regarding the pace of this schedule. More important these differences relate to the scope and nature of the initial report which is discussed further below.

The Objectives of the Initial Study - There are some members of the Working Group who believe that the Committee should discuss and establish the goals of the Committee. I believe that these are adequately set forth in the directive establishing the Committee. It may be more to the point to discuss the objectives of the initial study and there may be proposals from the DOD representatives to do so. A brief discussion of objectives could be helpful in providing guidance to the Working Group, although detailed drafting of language should, in my view, be left to the Working Group. Even if the objectives of the study are considered by the Committee, in my view more detailed guidance is needed on the scope and nature of the initial study.

Scope of the Initial Study - The principal issue on which the working group now requires guidance is the scope and nature of the initial study. I believe that there is general agreement in the Working Group that it is not possible to encompass all issues related to the relationship between civil and military space programs in a single study, and thus that the initial study should focus on earth-sensing programs. However, there are differences as to the issues that should be addressed in the initial study.

In order to provide a focus for the Committee's discussion I have identified five major policy issues that have emerged in my discussions to date with the Working Group members (Tab 1).

I believe that these should be the framework for the initial study, and that they need to be considered together as they are inter-related. Other members of the Working Group believe we should focus initially on one or two of these issues which they consider to be most urgent. Still others believe that in view of the complexity of the subject the Committee should defer a decision on which issues to address until the Background Paper can be prepared and considered by the Committee.

The Committee needs to decide whether:

(a) The issues described in Tab 1 ought to be the focus for the initial study;

(b) If not, whether one or several of these issues should be the focus for the initial study, or

(c) Whether to defer a decision on what issues to address until the Background Paper has been completed and reviewed by the Committee.

Liaison with Other Groups - To carry out the continuing functions of the SPC effectively, it will be necessary to establish liaison with other groups involved in space activities. In addition to the members of the SPC, who should be urged to bring emerging policy issues before the Committee at an early date, there are two groups whose activities have an important bearing on the responsibilities of the SPC. One is a recently established User Committee, chaired by Interior which is responsible for consolidating user requirements of US Government agencies for classified imagery of the US. I have asked the Chairman of this Committee, Mr. Radlinsky of the USGS, to attend the SPC meeting as an observer, and he has agreed that policy issues emerging in his Committee will be referred to the SPC. As an initial step, this Committee is to prepare guidelines for its activities and submit them to the SPC for its review.

DOD and NASA have arrangements to identify technical issues that arise between their programs. A joint paper on earth-sensing issues has already been prepared, and is a useful input to our study. A similar review of ocean-sensing issues is now being undertaken. These agencies have agreed that policy issues will be referred to the SPC. However, there is a need to assure that there will be an opportunity for the SPC to be involved in judgments as to what is a policy issue. I have asked DOD and NASA to keep me closely informed during their identification of SEASAT issues, and later studies of a similar nature that they

may undertake. I believe it would be useful for you to review these arrangements at the meeting so that the SPC members are aware of them.

Proposed Agenda - At the SPC meeting on November 18 I propose the following agenda based on the above status report:

- A brief discussion of the objectives of the initial study,
- A general discussion of the policy issues identified in Tab 1 with the objective of the Committee providing further guidance on the scope and timing of the initial report.
- A review of the liaison arrangements discussed above, emphasizing the responsibility of each agency on the Committee to bring to the attention of the group policy issues that should be addressed in the Committee.

Attachment:

PM:LSloss/res 11/12/75 x22478

~~SECRET~~/NOFORN

Major Policy Issues

1. What is the appropriate level of technology to be employed in civil remote earth-sensing programs, and what would be the consequences of selective classification of the data acquired from these programs?

To address this issue we will need to consider the type and quality of data required by civil users, the value of activities to which the data will be applied, alternative means of collecting similar data and any risks to U.S. national security involved in improving the quality of the product collected and released by civil programs. It will also be necessary to assess the potential military value both to the U.S. and other nations of the data that will be acquired by proposed civil programs. Risks that need to be assessed in connection with this and the following issue include: (a) any risk of compromising sensitive capabilities, (b) any risk of compromising intelligence objectives and operations, (c) any potential intelligence value of data to other countries, and (d) any risks to tacit political acceptance of remote earth-sensing. We will also need to consider international implications of classifying or limiting the technical capabilities of civil programs in light of the fact that a number of countries are benefitting from our open, civilian earth-sensing program. Another important consideration in assessing the importance of further technical improvements is whether and to what extent data from classified programs can meet the needs of civil users. This leads to the second issue.

2. Can broader use be made of classified data collected by earth-sensing intelligence satellites for civil purposes?

To address this issue it will be necessary to make judgments about the risks to national security of removing data from its present special compartments either to make it more widely available at a lower classification or possibly to declassify selected data entirely. It also will be necessary to assess the value to civil users of intelligence satellite data at the secret level and the unclassified level as compared to data from other sources.

3. Should the U.S. continue the current policy of classifying the "fact of", satellite earth-sensing intelligence operations?

This question arises because certain agencies feel that use of classified data for civilian purposes would be facilitated

if the ultimate source of the data could be acknowledged at least in general terms. The question would also, of course, arise if consideration were given to declassifying certain data. We will need to take into account the possibility and consequences of Congressional pressures to acknowledge "fact of" and to evaluate in some detail what security risks could flow from acknowledging "fact of" and facts about intelligence satellites.

4. Should the U.S. alter current policies of open distribution of imagery acquired from unclassified earth-sensing satellites?

This issue involves judgments about the extent and significance of foreign opposition to remote earth-sensing and open distribution of data, and the long-range effect on foreign attitudes of an open dissemination or controlled dissemination policy. Of particular importance is an assessment of any risks to intelligence operations if international opposition to remote earth-sensing should be come significant, and the impact on U.S. foreign policy objectives of any change in the policy of open dissemination.

5. Should changes be made in the current organization and management of remote earth-sensing programs?

This will involve judgments about the impact on the objectives of the two types of programs of combining certain functions and about the savings and management efficiencies that could be achieved through a variety of possible changes.

We have also identified several issues of a legal nature. One has to do with whether or not it is appropriate to use satellite data for law enforcement purposes, and just what constitutes law enforcement use. A second type of legal issue could arise if classified data becomes involved in litigation or if the Freedom of Information Act is employed to force the revelation of classified sources. I have asked L to prepare a memorandum for us on these issues which will then have to be discussed with experts in other agencies. Until we can determine more clearly the nature of these legal issues, I am reserving judgment about their inclusion in the initial report.

TERMS OF REFERENCE

DOD, NASA and CIA have established a Program Review Board to coordinate on issues relevant to space programs of NASA and DOD. To assist the Review Board, the following areas should be addressed.

1. To what extent have the political and technical environments evolved since the 1966 NSAM 156 Committee policy recommendations as a result of the initiation of civil earth resources and earth science programs?

a. What international benefits have accrued to the U.S. since the advent of the Earth Resources Program? How can potential benefits be optimized?

b. Should the U.S. Government enhance unilateral benefits from the civil programs? Should the civil data release policies be made more stringent?

c. Should the civil sector receive greater technological and/or data benefits from military programs than is presently the case? If so, when should it be done?

d. Is the DOD/NASA analysis an accurate assessment of the interagency group views? What amendments should be made to the analysis?

2. To what extent has the political environment become less benign to the conduct of the National Reconnaissance Program? Has this been as a result of the openly conducted earth resources and earth science program?

a. What is the assessment of the current dialogs at the United Nations or in other international forums? Is the U.S. position likely to lead to a change in the modus operandi of the National Reconnaissance Program?

b. To what extent and under what conditions should the civil earth resource and earth science programs continue to openly survey other countries?