

COVERING BRIEF

12-30-68

TO: Director Defense Research & Engineering

FROM:

SUBJECT: Position Paper on the Impact an Earth Resources Program  
May Have on the National Reconnaissance Satellite Programs

Attached is a draft of a proposed DOD position paper on the Earth Resources Satellite Programs.

Dr. Flax has not seen this yet.

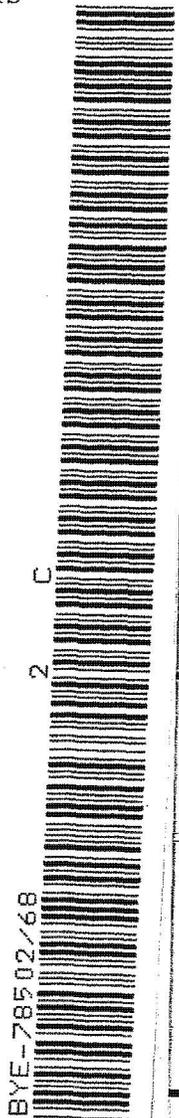
I have several questions which should be answered before another draft is written:

1. Is the problem clearly stated?
2. Should more detailed appendices be generated to substantiate the plans proposed?
3. Who should receive the paper (i.e. DepSecDef or SecDef)?
4. What deadline should be set for completion of the paper?

A related but separate decision should be considered regarding the continuing of the MSFPC/SACC screening mechanisms.

Because the actions are predominately questions to be decided by the NRO, you may wish to abolish the MSFPC/SACC committees and inform the NASA Administrator to work all such problems directly with the Director NRO through General Smart's Office of DOD and Interagency Affairs.

The principal benefit of the existing arrangement appears to have provided some degree of cover while NASA was being educated on how the system should work. I believe they now understand what they



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should do and are expected to do on screening imaging programs or other programs of interest to the NRO.

If you will please mark up this draft, I will get your comments to Dr. Flax.



DOD POSITION PAPER ON A NATIONAL EARTH  
RESOURCES SURVEY PROGRAM

Problem:

The NASA members have inferred to the Manned Space Flight Policy Committee that strict compliance with national policy on U. S. satellite reconnaissance is inhibiting the development of a major earth resources satellite program.

*and so far, the NSAM 156*

*Committee  
Consensus  
agrees.*

The DOD members view the U. S. satellite reconnaissance program as a productive and irreplaceable source of intelligence information vital to National Security which should be protected by extraordinary security measures.

Three questions arise from the above positions:

1. Are present policies and directives adequate to protect the U. S. satellite reconnaissance program?
2. Should a national policy be developed to support a large earth resources survey program?
3. Is this problem of enough importance for Presidential review or can it be resolved between the Secretary of Defense and the Administrator of NASA?

This position paper presents the rationale and considerations which support the following conclusions and recommendation.

This paper outlines three alternatives for consideration in the resolution of these issues.

Alternative I

Alternative I continues present DOD/NRO screening mechanisms of the Manned Space Flight Policy Committee and its subordinate working

*The NSAM 156 Committee has since 1960 been charged with developing National Policy for Presidential approval.*

*This Committee still stands*

group, the Survey Applications Coordinating Committee. This committee screens all NASA studies, proposals, programs, imaging equipment designs and post-flight information for compliance with NSAM-156.

Within the guidelines of NSAM-156, NASA may discuss an earth resources satellite program but every firm program proposal must conform strictly to the imaging resolution restrictions specified in NSAM-156. This imaging resolution must not be better than that obtained by an angular resolution of 0.1 milliradians. Special cases such as the NASA astronomical programs and satellites at synchronous orbital altitudes are resolved by the Manned Space Flight Policy Committee. Meteorological satellites have been exempt from the angular resolution restrictions.

*a significant not stated set of activities*

NASA may conduct earth resources programs using aircraft to any resolution required by any of the user agencies.

TK material may be extensively used where satellite coverage overlaps with aircraft coverage as long as the source of the data is protected by a sanitization process. The U. S. Geologic Survey Agency has a facility in Reston, Virginia, where they are using TK materials to produce unclassified charts and maps for general public use.

NASA may elect to request TK coverage of areas they wish to investigate for earth resources by submitting their request through the USIB channels.

This alternative continues the existing policy which has not generated any major problems for the past several years. At the present time, there are no open actions requiring resolution by the Manned Space Flight Policy Committee.

Alternative 2

NSAM-156 does not cover the earth resources satellite activities of all government agencies. It applies principally to the inter-relationships of DOD/NRO and NASA. This alternative is the same as Alternative I with the addition of an all agency NSAM which would require

*? An NSAM applies as a policy to all*

*government agencies. What is lacking is an administrative mechanism to tie in all govt agencies*

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the screening of all U.S. earth resources programs which require imaging from satellites.

Attachment 1 is a draft of a proposed NSAM which would require all U.S. government agencies to coordinate with the Administrator of NASA their agency requirements for space derived data and any proposal design studies for earth sensing spacecraft systems prior to initiation of in-house or contractor activity.

Alternative 3

The protection of the National Reconnaissance Program is important enough that it may be advantageous to set up an organization which is a part of the responsibility of the Presidential Science Advisor to establish a carefully controlled, national earth resources satellite program.

Attachment 2 is an outline of a plan which might be developed to provide such a national program.

Conclusions:

1. Since the initiation of a U.S. satellite reconnaissance program in 1960, national policy papers, including various JCS position papers, consistently state that satellite reconnaissance is the single most vital source of intelligence on the Sino-Soviet Bloc, and that no action should be taken which might in any way jeopardize this U.S. capability.

2. National policy strongly implies there is need to protect the U.S. satellite reconnaissance programs by rigorous enforcement of the TALENT-KEYHOLE Security Control System.

3. International confrontation on the issue of the legality of satellite reconnaissance combined with Sino-Soviet Bloc initiation of camouflage, film fogging and communications security measures could cut-off or drastically degrade the intelligence collection from satellite reconnaissance, both SIGINT and photographic.

4. NASA's earth resources satellite programs may raise international issues on satellite reconnaissance as well as permit a more

*Such a NSAM  
has already been  
considered by HSC staff  
and was  
considered  
unnecessary  
maybe  
worth  
reconsidering*

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accurate assessment by the Sino-Soviet Bloc of the qualitative and quantitative capabilities of the U. S. satellite reconnaissance programs.

5. In the development of an earth resources satellite program, NASA must comply with existing guidelines set forth by National Security Council Action 2454 and NSAM-156. Any relaxation of these policy guidelines is potentially dangerous to the U. S. satellite reconnaissance program.

6. The Manned Space Flight Policy Committee and its subordinate working group, the Survey Applications Coordinating Committee, provide an adequate review mechanism to keep the Secretary of Defense and the Director of the National Reconnaissance Office apprised of NASA's programs for earth resources and the compliance of these programs to established national policy.

Recommendation:

It is recommended that the conclusions, above, be approved as specific guidelines to be used by DOD and NRO personnel in making decisions on the compliance of the NASA programs to national policies on U. S. satellite reconnaissance until such time as Alternative 2 can be implemented.

*No objection since they agree with last NSAM 156 report.*

Background:

During this coming year (1969) the NASA, Department of Interior, Department of Agriculture, and the Marine Council will probably increase their activities toward establishing an earth resources survey program involving both manned and unmanned satellites.

This increasing interest, if not properly oriented and directed, could erode the satellite reconnaissance programs. The proposed earth resources survey program and the DOD intelligence collection satellites are planning to employ similar orbits and on-board sensors. Both would overfly sovereign states, friendly and hostile. Thus an unfavorable international reaction to the proposed earth resources survey programs may create serious problems for the NRP. Certainly the DOD must be prepared to state in depth its reliance on the NRP

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intelligence collection, the impact the earth resources program could have on the NRP, and to suggest alternate approaches to more economically and effectively achieving objectives proposed for any earth resources survey programs which may materialize (i.e., ARGO study).

Many proponents of the earth resources program have made a basic assumption that satellite borne sensors are the preferred approach to meeting program objectives. NASA has configured large manned satellites and experiments (AAP) to determine how earth resource surveys may benefit mankind. A more direct approach which should be recommended by the DOD would be to determine the least costly means of meeting earth resources program objectives. Ground based or aircraft borne sensors should be carefully considered as alternate approaches to satellite sensors. DOD studies to date show the use of special satellites for earth resources surveys would not be the most economical method for collecting resources data.

*We have repeatedly done so but NASA tends to ignore*

It is probable that the strictest enforcement of NSAM 156 will still permit sensors and pointing systems to be flown which would produce intelligence data on such items as airfields, oil storage tanks, major missile site construction, etc. *— This risk has been recognized*

It does not seem probable that the Sec Def and NASA Administrator could arrive at a bilateral agreement which would control the NASA effort on the earth resources programs which use satellites or manned space stations. Since funds will be tight in FY 69 and FY 70, it is a good time to consider re-stating of a National Policy which would direct NASA toward an earth resources survey program, primarily aircraft oriented, which would make maximum use of NRP collected data and continue to protect the NRP as vital to National security.

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NATIONAL SECURITY ACTION MEMORANDUM

SUBJECT: Coordination of Civilian Programs Using Earth Sensing Satellites and Clearance of Public Statements Related Thereto

In view of NASA's responsibility for the development of civilian space systems and to avoid a proliferation of uncoordinated or unnecessary work by potential user agencies in connection with proposed earth sensing programs, the President has directed that agency heads coordinate with the Administrator of NASA their agency requirements for space derived data and any proposed design studies for earth sensing spacecraft systems prior to initiation of in-house or contractor activity.

Furthermore, in order to present a coordinated picture of the objectives and the programs that the Government might pursue with regard to civilian earth sensing satellites, and to assure appropriate review, the President has directed that agency heads clear public statements concerning such satellites and their possible use with the Secretary of State, the Administrator of NASA and the White House Press Secretary prior to release.

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OUTLINE OF PLAN FOR A VIABLE EARTH RESOURCES PROGRAM  
FOR THE U. S.

For an earth resources program to be viable the following factors should be studied in depth and specifically satisfied:

1. The program should not degrade the national intelligence program in any way.
2. The program must "pay its way" by providing more economic return on the investment than is now experienced by the current programs now underway to exploit natural resources.
  - a. Do what we now do better; or
  - b. Do new things not possible with the present way we exploit resources.
3. Satisfy user needs. Users are scientists, general public, and governmental agencies. Private enterprise has to a large degree been born through exploitation of lands, minerals, and oceans.

One way an earth resources could be established which would satisfy the preceding criteria is the following:

Using the information now being generated in Argo I and II, define the specific user data requirements which should be satisfied in order to provide an in-depth assessment of the economic benefits which are predicted for any particular program within the U. S.

Assuming that such a requirement would require photographic coverage of areas of the U. S., examine the available TK data to see how much raw photographic data is available. If additional satellite photography is desired, submit a request for the coverage to the USIB along with a request that the NRO be asked to provide the cost of providing the coverage if done by satellite or if done by high altitude aircraft.

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Atch 2

ceptually what an earth resources evaluation program should be.

2. Interior, Agriculture, etc. draft detailed plan of resource information needed and how it would be used to improve the U.S. economically.
3. NASA identify existing data and produce a plan to collect the data which is missing.
4. When data is missing the collection methods used to complete the data requirements should be all source, i. e., airplanes, ground, and satellites.
5. Where satellite data is needed a task should be submitted by NASA to USIB to determine if existing programs can be used to collect the data.
6. If new sensors are to be used in satellites, USIB should be asked to screen the requests for piggyback rides on existing programs to see if the additional equipment could be phased into existing programs.
7. If it is not in the best national interest for USIB to accept the requirement, consideration might be given to providing a special satellite to collect the earth resources data.

The data from all sources could be processed through the Geologic Survey facility at Reston. This would permit sanitization of the source of the data while at the same time provide actual cost information which could be used in evaluating the overall benefit/cost ratio in the future.

Such a procedure would provide future users with accurate information on support capability and cost which could be used by not only the user agencies but by NASA, DOD, and the Bureau of the Budget in scoping future programs.

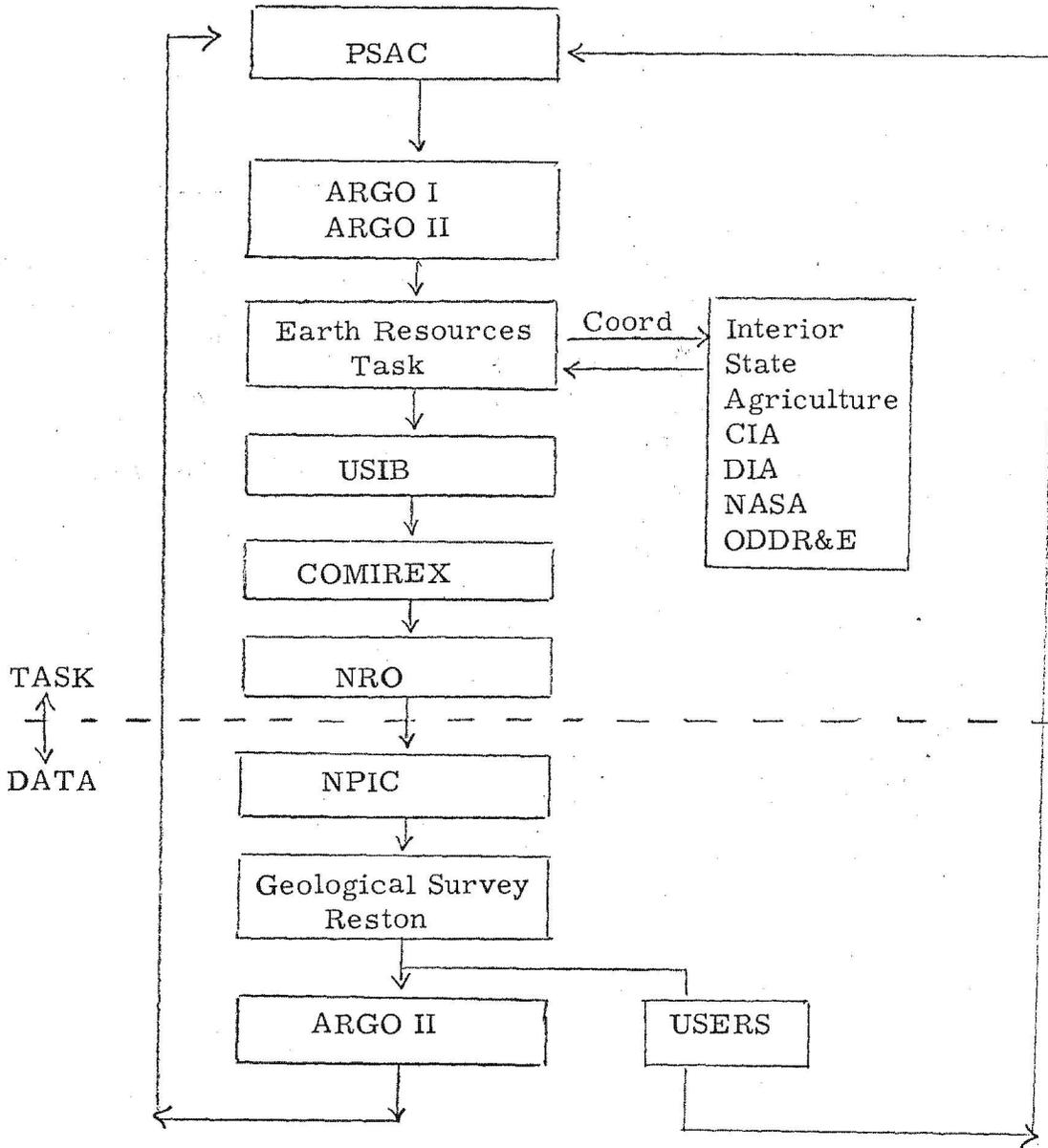
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National Earth Resources Program



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SOME EXAMPLES OF THE VALUE OF THE NRP  
DATA TO DOD

The use of satellites as intelligence collection platforms was recognized early in the U. S. and USSR space programs. This use is probably also recognized by the CPR but their lack of adequate boosters had undoubtedly forced them to develop offensive missiles before they can move forward to capitalize on the advantages of satellite reconnaissance.

Both the U. S. and USSR have developed search and high resolution photographic satellites. At this time, in 1968, there is a tacit acceptance of orbital overflight by both the U. S. and USSR for space systems. A treaty has been signed that "weapons of mass destruction" will not be orbited. The treaty does not preclude the use of reconnaissance satellites nor the development of all the subsystems which would provide the capability of orbital bombardment systems. In the first six months of 1968, the USSR maintained almost continuous photographic reconnaissance coverage of the CPR and U. S. by use of their reconnaissance satellites.

The U. S. photographic reconnaissance satellite program is directed toward coverage of selected targets at periodic intervals and at the present time, plans to orbit four search cameras per year and six high resolution cameras per year.

The following specific examples are presented to indicate the use which has been made of satellite photography in FY 1966 and FY 1967. These examples clearly show that satellite photography is vital to the Defense Department activities in research, development and deployment of advanced weapons systems. The examples also show the advantages the U. S. can have in making force deployment decisions on SIGINT and photographic confirmation of the enemy order of battle against which U. S. and allied forces are aligned.



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<i>Dr. Foster</i>							

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MEMORANDUM

December 30, 1968

For Dr. Foster

Johnny!

I have read this and commented in margins. Also I have discussed with

I guess I have a different point of view, having sat in on many meetings of the NSAM 156 Committee.

The last report (and they have come

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## MEMORANDUM

out about every  
eighteen months  
on the average) is,  
as far as I am  
concerned, the  
national policy on  
this matter of  
earth sensing. The  
National Security  
Council staff  
(actually in the  
person of Hughson  
Keeny) was asked  
to consider the  
advisability and  
necessity of issuing

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## MEMORANDUM

an NSAM specifically directing that all other Federal agencies channel their earth sensing activities through NASA. While agreeing that the channeling should be done, the NSC staff felt that existing assignments of responsibility were adequate and held recommending against an NSAM on this point. I have

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## MEMORANDUM

no objection to asking  
them (as )  
recommends) to  
reconsider the question.  
This may be quite  
appropriate and  
important in view  
of the impending  
change of Administration.

The pressures  
which   
feel from NASA for  
changes in policy  
on earth sensing are  
not new. They have

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OFFICE OF THE ASSISTANT SECRETARY

## MEMORANDUM

been recurring since  
1964 (at least). By now  
I have grown hardened  
to them and they <sup>(NASA)</sup> have  
given up on me. I  
realize that, as one  
of the DOD members of  
the SAC, [ ] is  
on the firing line  
and feels that he  
could use some  
additional fortifications  
and armor. But  
no matter how we  
buttress his defenses,  
I am convinced that

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## MEMORANDUM

NASA will keep up  
the bombardment, since  
earth sensing activities  
are clearly within  
their mission statement  
only national policy  
and economic  
restraints will  
hold them back.

The DOD  
position paper on  
earth sensing is  
valuable as an  
internal DOD document  
to educate the new  
Sec Def and others

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## MEMORANDUM

key officials. It should also serve as guidance to any new <sup>(DoD)</sup> members of the NSAM 156 Committee, SSAC, Manned Space Flight Policy Committee, etc. However, I do not think it would be a good thing to reopen intraagency debate on such issues at the policy level with this paper or extend distribution.

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## MEMORANDUM

The latest NSAM 156  
Policy guidance is  
as good as we are  
likely to get. There  
is however a strong  
possibility that NASA  
will themselves re-  
open the policy issue with  
the new administration  
- if so, the DOD  
position paper is  
a good starting point  
for further defense  
of NRP security and  
integrity in the interagency  
area,

All

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