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# **(\$)** NATIONAL RECONNAISSANCE OFFICE washington, d.c.

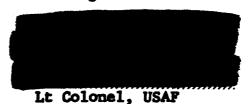
THE NRO STAFF

13 January 1975

MEMORANDUM FOR MR. PLUMMER

SUBJECT: NSAM 156 Committee Review of Civil Remote Sensing of the Earth from Space

Attached is a package for Secretary Schlesinger's consideration. It recommends that he sign a memorandum to the Secretary of State requesting a review of civil earth sensing activities by the NSAM 156 Committee. I have personally discussed this with Dr. Wade of ISA who would do the staffing within the OSD and with Mr. Walsh of DDR&E. Both agree fully with the need for such a review. Because of the reluctance of the State Department to undertake such a review in the recent past, we believe that it is necessary to have the Secretary of Defense initiate the request. We propose that you and he discuss the matter personally rather than staffing this correspondence through the normal OSD staffing mechanism.



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# -(8) NATIONAL RECONNAISSANCE OFFICE WASHINGTON, D.C.

OFFICE OF THE DIRECTOR

#### MEMORANDUM FOR THE SECRETARY OF DEFENSE

SUBJECT: NSAM 156 Committee Review of Civil Remote Sensing of the Earth from Space

As we have discussed, NASA is beginning to present both political and technical problems to us in terms of the continuance of a well protected and unchallenged satellite program. The interagency group, which has addressed national policy in the context of the National Reconnaissance Program, has been an ad hoc group called the NSAM 156 Committee. This group has met from time to time since 1962, most recently in 1972, to address various issues relating to military and civilian earth observation.

I believe it is appropriate at this time to reassess the national policy regarding NASA's future role in earth observation and its application of reconnaissance type technology. We have discussed the propriety of such a review with Mal Currie and Jim Wade as well as with Amrom Katz of the Arms Control Agency. They all encourage and support such a review. Bob Ellsworth and I nominally are members of the 156 Committee which is chaired by the Under Secretary of State for Political Affairs. I request that you sign the memo at the right to Secretary Kissinger requesting the review. I have attached a copy of the 1966 report for your reference.

J. W. Plummer

1 Attachment
Rpt of NSAM 156 Committee

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## OFFICE OF THE SECRETARY OF DEFENSE WASHINGTON, D.C. 20001

#### MEMORANDUM FOR THE SECRETARY OF STATE

SUBJECT: NSAM 156 Committee Review of Civil Remote Sensing of the Earth from Space

In 1966, the NSAM 156 Committee reviewed the political and military aspects of non-military applications of satellite earth-sensing. The report recommended that the classified National Reconnaissance Program continue to be protected from undesireable political and security effects of the then proposed unclassified earth-sensing activities. The potential international benefits accruing from unclassified earth-sensing were recognized in the report and since then the National Aeronautics and Space Administration, assisted by the Department of State and others, has vigorously worked toward this end.

Recently, I have noted a growing convergence of NASA's activities with those of the classified reconnaissance program. Because of this, I believe it would be appropriate at this time to schedule another review of unclassified earth-sensing activities. I am particularly interested in assuring that the government has a well defined strategy for its unclassified programs. We should preclude a diminution of our SALT verification and intelligence collection capabilities because of international political debates over remote earth-sensing or the premature exposure of our reconnaissance technology.

I propose that you reconvene the NSAM 156 Committee for this review and that a report be completed by 1 April.

Ambassador Ellsworth and Under Secretary Plummer will represent me on the review.

## DEPUTY UNDER SECRETARY OF STATE WASHINGTON

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11 July 1966

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MEMORANDUM TO : DOD

- Mr. McMauchton

- Dr. Plax

ACDA

- Mr. Fisher - Mr. Sheldon

CIA

Mr. Maana

White House - Kr. Keeny

- Fr. Charles Johnson

NASC

- Mr. Kolsh

NASA

- Mr. Scarcas

SUBJECT

Report of the NSAH 155 Committee on "Political and Security Aspects of Non-Wilitary Applications of Satellite Earth-Sensing"

Attached in the final report on "Political and Security Aspects of Mon-Military Applications of Satellite Earth-Sensing", as transmitted to the White House.

U. Alexis Johnson

### Enclosure:

Roport on "Political and Security Aspects of Non-Military Applications of Satellite Earth-Sensing"

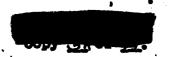
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### Political and Security Asports of Non-

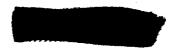
#### Military Applications of Satellite Earth-Sensing

- l. The NSAM 156 Committee has reviewed the issues raised in the letter of April 4 from Er. Charles L. Schultze and Dr. Donald F. Hornig to Secretary of State Dean Rusk (Appendix A), and submits the following report of its conclusions.
- 2. We believe that the "Report on Political and Informational Aspects of Satollito Reconnaissance Policy" propared pursuant to MSAM 155 and approved on June 30, 1952, for transmittal to the Prosident remains basically valid. The objective of avoiding open challenges to satellite observation activity has been generally met, and the Soviet Union has muted -- though not retracted -- its challenge to the principlo of military space recommissance. Agreement has been reached on fundamental legal principles which do not ban (though they also do not explicitly sanction) space observation. Also, since 1952 the Soviets have developed a major operational satellito reconnaissance program of their oun. Davolopments over the past four years have, therefore, led to a chift of emphasis from a mood for actions that will build world acceptance of space observations, then a generally novel idea, to actions which will preserve the present wide tacit acceptance of such activities. Accordingly, there does not seem to be any imperative to launch disclosure initiatives for the purpose of furthering the general principle of space observation. On the other hand, it remains necessary to consider the possibly adverse effects of new public disclosures or other initiatives which could upset the present satisfactory situation.
- 3. Our chief concern over a challenge to the legitimacy and propriety of satellite recommissance has been the Soviet position. Over the past several years, the Russians have withdrawn insistence on branding such activity as illegal in the cases of international space agreements that they desired, and they do not press such arguments in the UN, but they have not stopped referring to such activities as espionage. Moreover, the statements by Khrushchev and his son-in-law, Adzhubei, admitting such Soviet activities have never been printed in the Soviet press or admostledged as official. In the first post-Khrushchev statement referring implicitly to Soviet catallite recommissance,



Brezhnov on July 1 dismissed as untrue "fables" alleging that the US has "all-scoing say satellites", larger numbers of missiles, and invalidated to submittees. These resides, he said, are invalidated for simplessing who co not know 'what missiles, who probabilities, what submittees the USSR has. Notwithstanding this irrlied admission of soviet catellite reconnaisances, we see continuing portinence of the NAAN 150 Report conclusion that: "It is extremely important that the US avoid public statements about our satellite operations that would pose a direct political challenge to the Soviet Union on the consitive issue of reconnaissance."

- 4. It is now necessary to give more attention than heretofore to the reactions of other countries. To date, increasing public awareness of the existence of US and Soviet military space recommissance has not prompted concern in other countries for their own political or military security interests, but such concern is likely to develop as others become more awars of the nature and scope of satellite surveillance. Disclosure of surveillance capabilities, even indirectly in non-military contexts, will awaken new interest and in some cases concern. Accordingly, any such disclosure should be carefully considered and planned so as to prevent or reduce adverse reactions by other states that would be undesirable in their own right and could also be manipulated to our detriment by the Soviet Union.
- 5. Direct disclosure of satellite recommissance for the purpose of gaining world acceptance of the principle of space surveillance is both unnecessary and liable to provoke adverse reactions from the USSR and other states. On the other hand, in the long run the security of our recommissance program can be served by encouraging the present natural, gradual growing world recognition of the potentialities of satellite earth-sensing in the context of scientific progress and economic betterment. Such recognition will grew whether we stimulate it or not. We can influence and channel, and if we wish retard, such a development but we cannot prevent it. We should recognize that any apparent US efforts to suppress or hobble peaceful applications because of presumed (and rightly presumed) sensitivity over protecting military recommissance would not serve our objective of retaining



or improving tacit acceptance of unrestricted earth observation and sensing. A US position of favoring, leading, and sharing in non-military applications of satellite earthsensing will not involve the same risks of provoking a confrontation with the Soviet Union as would direct disclosure of reconnaissance. We should insure, insofar as possible, that these initiatives are not construed by the Soviets as likely to result in general disclosure of information about her military capabilities which the USSR wishes to protect.

6. As noted above, non-military uses of space which require surveillance of the earth by various sensors would as a side effect inevitably stimulate wider awareness of the capabilities of recommaissance, but in a more favorable content than would direct disclosure. We should recognize that different uses of any technology will continue to evoke different reactions. The familiar home, travel and hebby uses of ordinary cameras do not lesson objections to their use for intelligence collection. The same will be true of satellite cameras, and the Seviets have already shifted their position several years ago to objecting to the use of satellite intelligence collection, rather than objecting to satellite intelligence collection, rather than objecting to satellite observation par so. (If in the future the Russians tacitly admit to having recommissance satellites of their own, along the lines of Brochney's statement referred to above, they would probably still claim that intelligence collection by the United States served different and negarious purposes.) This does not, heaver, seem to be a valid basis for opposing development of concurrent non-military and continued military recommissance programs.

sensing programs which might overlap, be derived in sanitized form from, or atimulate public interest in, classified reconnaissance programs should be judged on the basis of criteria such as feasibility, preference to non-space alternatives, cost, problems in protecting classified technology, and risks of security compromise of the classified reconnaissance program. It should usually be possible by careful planning to mitigate possible adverse political repercussions of the incidental disclesure of surveillance capabilities and hence to give political and national security clearance to such programs. The best justification for such programs, and the best general basis for calming any alors ever their effects will be valid scientific or economic payoff in which other countries can expect to share.

- 8. The primary area of competition in space between the United States and the Seviet Union has been and will for the next few years continue to be the race to the mean. This is, however, largely a chert term competition for the 1950's. In the lenger run, there may develop a competition in space applications developing the recourses of the world, particularly of the underdeveloped world. Communications satellites and neteorological satellites have already contributed to this end, but their benefits do not enhaust the potential value of carth-consing satellites for developing and using natural resources.
- 9. In the deliberations of this Committee, differences of vice areas over the relative merits of using satellites or aircraft for natural resource surveys and other earthsonaing activities in the "recommissance range" of satellite sensing (that is, roughly below 20 meters in precision of ground resolution). This Committee has not attempted to resolve such differences; they clearly reflect an important question, but our present focus is on political and security saidelines for use of such satellite programs in this range as may be determined to be economically and scientifically justified. In addition, there would appear to be unresolved questions with respect to the alternatives of using unmanned or manned satellites for these purposes.
  - 10. A natural resources program of the kind in which MASA is interested can in time provide vest data, using a variety of spaceborne consors. The MASA program as now envisaged Goes not include operational use of remote-sensing techniques before the 1970s, principally because most of the sensors are presently programmed for use in sophisticated manned spacecraft as part of the Apollo Applications Program. Theorem, experimental programs might be initiated as early as 1938. There is no funding as yet of less complex, loss expensive unmanned systems.
- 11. One current problem which improve is the question of use of certain equipment and photographic interials from the classified recommissions program to assist MASA in evaluating the utility of, and developing techniques for, satellite photography for emploiting natural resources. In order to develop a thorough understanding of observation satellite technology, it would seem desirable to consider whether MASA can be provided on a classified basis, but



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perhaps under less rostrictive classifications controls both colocted satellite photographs for evaluation, and relected catellite bardrare, including campras. The ground-work would thus be prepared for possible future operational use in natural resource curvey missions. The equipment to be used mood not -- and in our view should not -- represent the latest, highest resolution campras. But considerable usoful work could, for emagple, to accomplished with resolutions on the order of 10-15 feet. Edmo of the many applications that might be usefully corved with resolutions of this lovel include mapping, curveys of mater recources, agricultural and forestry surveys, and studies of land use over bread areas. Eultable campras for these purposes already exist in the III programs, and the folcase to MASA of both colocted equipment and photography taken in the post night be useful and presumably could be done without raiging unmanacoable goourity problems. The camerag and photography from the EH systems could remain classified; only the products of actual MASA missions would probably need to be unclassified. In cases there a decicion had boon made for MACA to proceed with a given program for which unclessified carbras or other could result to used, MASA could lot contracts

mass would profer to the greatest except possible to use unclassified equipment. On the other hand, permissible MASS programs would necessarily be more severely limited if only unclassified equipment could be used, and for a range of cases valuable photographic data could be released while the equipment would need to remain classified.

12. Public awareness of the quality of some of the lower resolution materials released in non-military. contents meed not have damping effect on the viability of unilateral recommissance program, provided care is exercised in the type of materials released and the manner of release. Security of the classified national recommissance program would also be embanced by having MASA conduct the actual launch and retrieval operations of the non-recommissance programs.

13. The Emited States, will, in any ease, find it increasingly difficult to control public disclosure of catollito survoillance capabilities. To date the US and the USSA have maintained tacitly echnomicaged but unpublieiged mitual reconnaissance surveillance. Lately, the USER has chown that may be indications of a clight locsening up of their own roticence to discuss catellite consing capabilities by releasing TV photographs of the earth taken by the Melniya catellite, and by publishing in their cun press earlier US-released Comini photographs (without attribution of the course). These steps suggest a pessible Soviet willingness to accustes the world to the idea that non-recommissione photography from opace is a normal activity, and could forestinden an openly actmostedged future Seviet catellite program for earth-sensing and natural resources development. (The USER may also use this impoledge later to attempt to undercut the American position on disarrament vorification, and as noted carlier thin would not necessarily itply any softening of Sevict objection to open admostodgement of reconnaissance.) Other countries, too, my to contemplating similar programs. Escent Preach studies of the use of certal photography for reographic uses have indicated an interest in the use of upaco platforma ao mall ao alveraft. This interest is not surprising; France is only the first of several countrios with developing space program which will be · invostigating usoful occasaio or coientific satellite program in an area that has not already been presented by the USA or the USBR. In the likelihood that other countries will soon to operating or at least openly discussing the use of observation satellites, it night be to the US advantage to be propored to take the load in anch discussions and activities. Indeed, at some point we may wigh to consider cooperative and collaborative programs not only with other countries in Kestern Europe and Japan, but even with the USSR, if the political climate wore appropriate.

14. The United States chould consider stops to apply its highly developed and developing photographic capabilities for the benefit of the underdeveloped countries. In this way the United States can be in a position to provide tangible evidence of our interest in helping developing countries, while forestalling or evertabling possible Seviet propagands initiative in that field. This will require consideration of a whole range of political, as

well as scientific-technical and security, factors. For example, merely advising developing countries of new resources and opportunities will not always win us plaudits if we are not propared to assist those countries in realizing these potentialities. Nonetheless, in the longer run there would appear to be real political exportunities to us in taking a more active role than the Soviet Union in applying satellite earth observation to non-military economic uses. This long-run political interest reinforces other reasons for developing the potentialities or non-military uses of earth-sensing by satellites.

- 15. From the standpoint of protecting security of the classified national reconnaissance program, MASA programs should proceed gradually through current aerial experimentation, to unmanned and manned satellites, and in general moving from less to more precise ground resolution. The technical limits placed on security grounds could probably change as the general state of the art of classified technological capabilities improves and as public avareness and appreciation of them advances. This process of reducing the security margin could not go on indofinitely, but the line of sensitivity probably could recede along the lines indicated above as both technological and political security limitations become less acute. At present, it is generally agreed that the limiting optical ground resolution should be about 20 meters from low earth orbit; public discussion of potential future economic applications should, howover, be less restricted.
- 16. At some point, probably after there had been further initial exploratory study and if the program proved practicable, it would appear that the United States -- perhaps the President himself -- night launch a mjor public program. At that time, experimental NASA acrial and space photographs could be released, and NASA program plans and expectations described -- all without mention of the classified program. Such an initiative would maximize political gains for the United States. It could, of course, also prompt prominent speculation about classified reconnaissance activities, but such speculation could probably be fended off, and possible hostile Soviet reactions would probably be foroclosed or undercut by the wide interest that the program should generate. However, the question of whether and how any such iniaitive should be made should probably be deferred at this time, and in any case will require further careful consideration.

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17. It should be noted that public recognition, even on an incomplete basis, of satellite observation capabilities would also have reverborations in other fields. For example, public awareness of such capabilities should assist in building a consensus in support of disarrament proposals which rely on satellite surveillance. The emistence of an openly acknowledged photographic satellite pystem, even with poorer quality products, would under some circumstances give the US government an additional option: to make public use of satellite photography to prove a violation of an agreement to a world forum, without disclosure of the classified reconnaissance program. In the absence of such a publicly known system, it might be more difficult to make a convincing case that a violation had indeed occurred. At the same time, it may also be used by others to argue against requirements for other verification measures in casos where such requirements remain. By and large, however, disclosure of surveillance capabilities within the limits we are suggesting would probably facilitate distinguishing, between what satellite observation can and cannot verify for the purposes of disarmament negotiations.

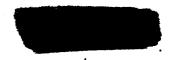
### 18. Recommendations:

(1) The classified national reconnaissance program should be protected by continuing to consider carefully the political and accurity effects of proposed unclassified earth-sensing activities prior to their authorization.

Similarly, consideration should continue to be given to the political and security effects of public discussion of such activities. Any party at interest can request the NSAN 156 Ad Noc Committee to review possible political or security issues which might arise from particular NASA or other non-military plans, programs, or other related activities concerned with spaceborne earth-sensing.

(2) There is potential great political capital in a US program of natural resource surveys and other scientific and economic exploitation of satellite earth observation and censing, provided the basis has been properly laid, and the announcement of such a program is able to draw upon and project viable economic premise. Further consideration should therefore be given to a major political initiative advancing the concept of economic betterment through space activities. If such an initiative is decided

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upon, it should come at a time when sufficient work has been done to demonstrate the potentialities and offer reasonable promise of some early payoff.

- (3) At present, and for the next several years, from the standpoint of political and accurity considerations there is no objection to NASA proceeding with its tentatively planned experimental program, complying with the limitation previously established between NASA and NRO.\*
- (4) In discussion of the use of observation satellites for natural resources purposed, hash should, for the next five years -- subject to future review and possible revision of guidelines -- restrict its discussion of future systems to those involving ground resolution of 10-15 feet. The same restriction should apply to all other interested Covernment agencies. In order to facilitate proper classified control to apply the above general guidelines, and additional detailed implementing guidelines developed by NASA with the concurrence of NRO, a MSAM should be issued directing all other civilian agencies with an interest in satellite earthsonsing for these purposes to make known their interests in that field to, and coordinate fully with, NASA. Apart from other advantages to be expected from such an articulation of responsibilities, it should enable NASA to apply the agreed classified guidelines limitations to other civilian (section agencies.

The Committee accepts as a satisfactory present defini- qualification of the limitation on the study, design, development, fabrication, or test of earth sensors by NASA (as proposed in Dr. McMillan's letter to Dr. Seamons of August 5, 1955, and accepted by Dr. Seamons in his roply to Dr. McMillan of August 24, 1965)

- (5) MASA and other appropriate agencies should consider carefully the relative merits and costs of aerial and other possible alternatives to various space-borns earth-sensing programs in terms of practical political interests as well as cost effectiveness. Similarly, the respective merits of manned and unmanned satellites will of course require consideration. To assist in deciding these questions, MASA and other appropriate Government personnel should be paralited to use selected U-2 and KH-4 photography, most of which is now codeword classified, to advance its studies of non-military earth-sensing applications.
- (6) With a view to facilitating the above studies noted in para (5), USIB should be asked to review:
  - (a) The question of removing reference to the fact that the US has an operational satellite reconnaissance program from codeword control, retaining either a SECRET or TOP SECRET classification. This would permit explanation of the reason for limitations, on a classified basis, to Government personnel and always concerned with non-military satellite earth-power. The sensing programs but without a need-to-know the performance capabilities or product of the classified program. The considerations involved is that at present, uncleared Government personnel often voice their

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(b) Selective removal of appropriate photography from codeword control for classified use by selected NASA and other cleared personnel studying the potentialities of non-military earth-sensing activities, or, alternatively but less desirably, clearance of an increased

speculations about reconnaissance programs and even capabilities on an unclassified and

less desirably, clearance of an increased number of MASA personnel for such use of those materials under present codeword control.

(7) The Director of Central Intelligence, in consultation with the Director of the National Reconnais-sance Office, should review and establish appropriate

uncontrolled basis.

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security restrictions on cameras and other sensing apparatus and equipment which can be made available for NASA's program of non-military applications of satellite earth-sensing. It is recognized that substantial compartmentalization will probably have to remain, but the non-military programs should be enabled to profit from relevant achievements of the military program to the extent feasible.