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ISI NATIONAL RECONNAISSANCE OFFICE

WASHINGTON, D.C.

TAFF

March 7, 1968

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MEMORANDUM FOR DR. FLAX

SUBJECT: APOLLO 6 Satellite Photography

Problem:

To recommend an appropriate position for Mr. Nitze to take regarding NASA's presentation to the 303 Committee of APOLLO 6's photographic capability.

Background:

The unmanned APOLLO 6, now scheduled for March 26, 1968 lift-off, will carry a Maurer camera "to record engineering data on spacecraft orientation." The camera will operate at a resolution of 0.3 milliradian and it is estimated that objects 125 by 125 feet "might be detected but could not be identified" (see Tab A). The flight path (see Tab B) will sweep from New Orleans across Savannah, Bermuda, Mauritania, Mali, Upper Volta, Ghana, Togo, Dahomey, Gabon, Congo, Zambia, Mozambique, Malagasy, Malawi, Australia, Hawaii, Mexico and Tuscon.

Present Status:

This experiment has not been introduced to SACC or to the MSFPC. I learned of it yesterday by reading an informal note from to John Kirk.

In a telephone conversation today, gave me the history of negotiations on this subject. On February 28, NASA forwarded material on this experiment to Peter Jessup for consideration; Mr. Jessup said

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he saw no problem in obtaining 303 Committee approval. NASA representatives then visited Bill Tidwell and Carl Duckett and outlined a plan for having "the community" screen the photographic "take" from this experiment. Again, they were told the plan looked good. The 303 Committee meeting for last Friday (March 1) was cancelled and the item was moved to tomorrow's (March 8) agenda. tells me NASA is awaiting the result "breathlessly," since this will be a benchmark decision in granting NASA operational earth-sensing status.

Alternative Courses of Action:

I see no alternative to an action which would advise Mr. Nitze of this item and its background.

The choices lie in what position Mr. Nitze should take. Legalistically, he could approve the NASA experiment; however, the results of this decision will have a far-reaching impact on the DOD and the NRP. Additionally, if he accepts this item for discussion, he is giving tacit concurrence to short-circuiting already-established DOD-NASA functioning mechanisms for review and adjudication. While we recognize and have stated that the NASA operational problem must inevitably go to the 303 Committee, we should insist that the required preliminaries be observed in SACC and the MSFPC. To do otherwise would be to invite NASA to address its trivia to SACC/MSFPC and its substantive issues directly to the 303 Committee.

Recommendation:

I recommend that this 303 Committee agenda item be briefed to Mr. Nitze and that he be requested to have it removed from the agenda either prior to or at the meeting and referred to the SACC/MSFPC.

Colonel, USAF

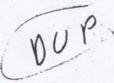
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IST NATIONAL RECONNAISSANCE OFFICE WASHINGTON, D.C.

OFFICE OF THE DIRECTOR

March 12, 1968



MEMORANDUM FOR THE DEPUTY SECRETARY OF DEFENSE

SUBJECT: APOLLO 6 Flight Photography

I understand that NASA will shortly bring to the 303 Committee a request for approval of satellite photography from APOLLO 6 scheduled for March 26, 1968. The NASA description of the planned operation is included at Tab A.

The subject of NASA satellite photography was considered in depth by the NSAM 156 Ad Hoc Committee in the summer of 1966 (the final report dated July 11, 1966 is attached at Tab B). There are numerous technical and political factors considered in this report. However, the conclusions of most direct relevance to the current NASA request are:

- 1. Current NASA photographic activities should have an optical ground resolution no better than about 60 feet from low Earth orbit and
- 2. Public discussion of future possibilities (for the Earth Resources or Earth Sensing Program of NASA) should be limited to 10 or 15 feet for the next five years.

The aim of these restrictions was to avert disclosure of the quality of American satellite optical technology as it is currently utilized in the NRP and also to minimize certain political problems; which could arise if high resolution photography of too much value in military or economic intelligence were suddenly shown for foreign areas. Our national position, of course, is that such photography is perfectly legal, but it has also been our practice not to put this principle to a sudden and dramatic test disclosing the ultimate implications of that position.

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This document has been reviewed per BO 12958. as amended, and is exempt from Antomatic Dec Date of review:. Reviewer's initials

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As far as we are aware, the NASA plans for APOLLO 6 photography take cognizance of the above constraints. However, the actual intelligence value of photography from space depends upon detailed technical and operational considerations, including not only the gross characteristics of the camera (e.g. focal length and f number) but also the scale of the photography, the satellite and orbit characteristics (i.e. accuracy of stabilization, orbital height, etc.), the film, and the operational conditions under which photographs are to be taken (e.g. time of day, time of year, latitude and longitude of photographic targets). We have had neither the detailed data nor the time to conduct an adequate analysis of the APOLLO 6 photographic plans. Therefore it is not possible for us to state with certainty what kinds of military, political or economic intelligence information may be derived · from the APOLLO 6 photography. NASA has not introduced information concerning their plans for this camera experiment in the two DOD/NASA coordination bodies dealing with this area: the Survey Applications Coordinating Committee and the Manned Space Flight Policy Committee. Review by these bodies is essential if we are to have a valid understanding of all possible implications of this planned operation.

In order to give a general indication of the kinds of information which might be derived from this photography which has a nominal resolution of 100 feet, we have provided, at Tab C, a set of photographs from the KH-4B (CORONA), the KH-7

on the KH-7 on the KH-4B and range between 76 and 100 foot resolution. It can be seen that considerable intelligence information of a gross nature is contained on the 20X enlargements even though the contact print seems to contain little information. In particular, the type and location of air fields are easily discernible from such photography. The NASA plan is to acquire stereoscopic photographs which will provide considerably more information than can be discerned from these single photographs.

The NASA proposal is to take photographs on only one orbit, which overflies the United States, Africa and Australia, thereby avoiding photography of many sensitive areas such as the Middle East, the Indian-Pakistan border areas and the Soviet Union. However, since subsequent orbits of the same mission will, in fact, overfly sensitive areas, release of this photography may simply give an indication (or an excuse for claim-



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ing) that we withheld photographs taken on subsequent orbits.

The open release of photography of this quality taken from space. is not being proposed for the first time. Previously hand-held cameras were used by the GEMINI astronauts. The high-quality photographs so taken in the GEMINI Program were treated as classified and developed in classified facilities, reviewed at NPIC by NRO and other members of the intelligence community prior to release. Among the photographs withheld were those illustrating the capability to show airfields (one withheld photograph of Bergstrom Air Force Base approximated 20-30 foot resolution, at which it was possible to identify and count the B-52s on the base). This same procedure should be followed in the present case. It should be noted in this connection that the procedure causes some unhappiness among the NASA personnel at the working level, many of whom believe that everything they do should be immediately publicized in the newspapers.

The ostensible purpose of the NASA photographic experiment in APOLLO 6 is to record engineering data on spacecraft orientation. (The camera has previously been flown in APOLLO 5 for this purpose). However, it must be noted that this is neither the most convenient nor costeffective method of obtaining such data; a star camera would do much better and is the method used in the NRP satellites. NASA, however, also states that the engineering film data will "be used by the Earth Resources Survey Program participants to provide an insight into the value of this type of photography for each of their disciplines, " and that "It is expected that the more interesting photographs will have a significant public information value".

The statement made by NASA that the Mercury and GEMINI photography from orbit "resulted in no unfavorable reactions" is generally true. The Communist Chinese did react unfavorably with a public statement that the flights were obviously for the purpose of military reconnaissance. However, this theme was not taken up by the other countries and overall there was no adverse reaction. However, as noted above, the screening processes withheld from public release those photographs which could have created more reaction.

I recommend the following position on the proposed APOLLO 6 satellite photography:

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- 1. A detailed review of the technical and operational factors should be carried out by the Survey Applications Coordinating Committee to identify more positively the characteristics of the photographic equipment and the character of the photography which is to be expected. (Not necessarily an item for injection into the 303 Committee proceedings.)
 - 2. A screening procedure for photography resulting from this flight similar to the one used for the high-quality GEMINI photography should be established.
 - 3. The 303 Committee should consider the political sensitivity of the mission overall at this time (keeping in mind that the implication may exist or be created that photography was taken on orbits other than those on which photography is actually taken or released). The particular foreign countries planned to be overflown are Mauritania, Mali, Upper Volta, Ghana, Togo, Dahomey, Gabon, Congo, Zambia, Mozambique, Malagasy, Malawi and Mexico. The issue which we particularly want to avoid is any implication that the permission of the countries overflown is required for such photography and therefore great care must be taken about announcements of the test plan prior to the flight, since a confrontation or at least a dilemma will have to be faced if one of the countries to be overflown objects.

If the overall political sensitivity at this time is judged to be low both for the countries being overflown and in the world at large, there appears to be no reason why this photography should not be allowed to proceed since it is apparently in accordance with the limitations imposed by the NSAM 156 Ad Hoc Committee, with a provision for review and screening of photography prior to release. However, a technical and operational review of the camera equipment and the experimental plan should be conducted by the Survey Applications Coordinating Committee prior to the flight; this is in accordance with existing arrangements between DOD and NASA which do not seem to have been followed in this case. I will proceed to arrange such a review.

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Alexander H. Flax

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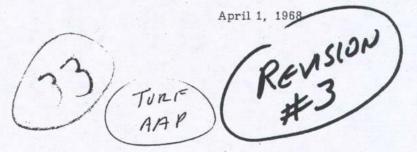
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IST NATIONAL RECONNAISSANCE OFFICE

WASHINGTON, D.C.

THE NRO STAFF



Dear General Smart:

I have just received a copy of the minutes of a March 19, 1968 meeting of the 303 Committee at which the question of APOLLO 6 photography was discussed.

The 303 Committee has, in connection with this issue, approved the thrust of a paper (BYE 12849-68) prepared by Dr. Flax for Mr. Nitze, which Mr. Nitze forwarded to the 303 Committee principals for their consideration on March 15. I have attached a copy of the paper for your information.

You will note three recommendations outlined on page 4 of the paper. The first has already been accomplished by the DOD/NASA Survey Applications Coordinating Committee. The second has been discussed by the 303 Committee which has directed that "all photography, either domestic or foreign, should be screened by the COMIREX mechanism prior to public release." On the third recommendation, the 303 Committee expressed the following judgment:

"It was recognized that the long-standing point of sensitivity in satellite photography is the possible accusation of violation of sovereignty with the USG being maneuvered into a position where the question of overflight permission is raised. A careful judgment in the release of material will help to sidestep this controversy."



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I trust this information will be of some help.

Sincerely

RUSSELL A. BERG

Brigadier General, USAF

Director

Attachment

General Jacob Smart
Asst Administrator for DOD and
Interagency Affairs
National Aeronautics and Space Administration
Washington, D. C. 20546



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1ST NATIONAL RECONNAISSANCE OFFICE

WASHINGTON, D.C.

THE NRO STAFF

5 April 1968

MEMORANDUM FOR DR. FL

NASA Plan for Interagency Review of APOLLO 6 SUBJECT: Maurer Photography

The attached documents contain the NASA plan for the review of the Maurer photography from the APOLLO 6 mission launched on April 4, 1968.

The COMIREX procedures for screening of this photography are not covered by the NASA plan. Mr. Tidwell, Chairman of the COMIREX, is being held responsible for this screening by the DCI. Mr. Tidwell has appointed a team comprised of representatives of State Department, NPIC, DIA, NASA, and Chaired by Mr. Donelson from his office. is the NASA member of this team.

Attached to the NASA review procedures is a memorandum for record concerning NASA policy and procedures for handling APOLLO 6 Maurer photography. Dr. Gilruth signed this memorandum on April 5, 1968.

The APOLLO 6 launch was not a total success and as a result an eliptical orbit was achieved. The Maurer photography was exposed at 196 nautical miles altitude instead of the planned 100 nautical mile altitude. The result of this is that little or no stereo coverage is expected. Also, the ground resolution will be degraded.

The capsule was recovered late on April 4, and it is estimated that the film and camera will arrive in Houston for processing and screening at 2230 hours, April 5, 1968.

No NRO action required at this time.

WILLIAM É. WILLIAMSON

LtColonel, U.S.A.

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18 NATIONAL RECONNAISSANCE OFFICE WASHINGTON, D.C.

OFFICE OF THE DIRECTOR

March 12, 1968

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Alexander H. Flax

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