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~~(S)~~ NATIONAL RECONNAISSANCE OFFICE
WASHINGTON, D.C.



THE NRO STAFF

February 26, 1969

MEMORANDUM FOR GENERAL SMART, NASA
SUBJECT: NRO Aircraft Flights and APOLLO 9

This responds to your memorandum, BYE 17482-69, of February 17, 1969.

We will be pleased to support NASA in the manner outlined in your memorandum. Mr. Krueger and [redacted] have consulted on the flight operation and are agreed as to procedures and methods. We will cover the cost and will work with Mr. Krueger on a reimbursement plan after the flights are completed.

Paul E. Worthman
PAUL E. WORTHMAN
Colonel, USAF
Deputy Director

BYE-12617/69

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

WASHINGTON, D.C. 20546

BYE-17482-69

This document consists of 2 pages
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OFFICE OF THE ADMINISTRATOR

FEB 17 1969

MEMORANDUM

TO: Brigadier General Russell A. Berg, USAF
Director of Space Systems
Department of the Air Force
Washington, D. C. 20330

[Redacted]

O/ORD
Central Intelligence Agency
Washington, D. C. 20505

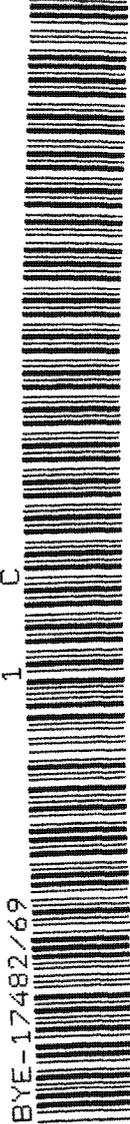
SUBJECT: A request for two high altitude photographic missions to be
flown concurrent with the Apollo 9 mission

Last October your office obtained for NASA unclassified, small scale,
multi-spectral imagery of the southwest United States made from a high
flying aircraft concurrent with the flight of Apollo 7.

Initial evaluations have shown this imagery to be of significant, unique
value to earth resource survey experimentation. We would like to request
similar photographic coverage concurrent with the upcoming Apollo 9
mission.

The Apollo 9 mission will include the S-065 multi-spectral experiment
which utilizes four 80 mm focal length Hasselblad frame cameras, commonly
mounted, synchronized for simultaneous exposure, with each camera equipped
with different film/filter combinations. The experiment is mounted in the
Command Module (CM) hatch window. The CM will be oriented during photo-
graphic operation to obtain vertical, stereo photography. Apollo 9 is
scheduled for launch on February 28, 1969, and to remain in orbit for
approximately ten days. The first six days are committed to test opera-
tions with the lunar Landing Module (LM). Portions of the remaining days
(March 6-9) of the flight will be devoted to the S-065 experiment. During
this period, there will be two orbits each day during which sun angles
will be near optimum over the southwestern United States — the prime
test area.

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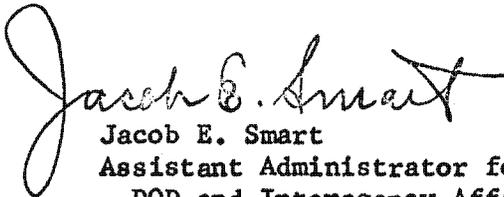
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Two photographic missions flown at above 60,000 feet altitude over the routes shown in Attachment 1 are requested during the March 6-9 period. Desirably, the flight times on both missions should be synchronized so that the aircraft and the Apollo 9 spacecraft pass over the longitude of Tucson, Arizona at the same time. The desired camera configurations for these two missions are detailed in Attachment 2.

It is hoped that concurrent photographic operations from the spacecraft and from the two aircraft flights can be achieved during the March 6-9 period. The calculated dates and flight times will be refined in the next few weeks. Your office will be furnished these and any subsequent changes that may be made in the schedule of Apollo 9. The single point of contact in NASA to coordinate these and other matters will be this office (Mr. Myron W. Krueger), telephone code 13, extension 24707 during duty hours, and KE 7-0603 during non-duty hours.

It is proposed that upon completion of the missions all film (unprocessed), together with the flight data and camera technical data, will be sent as soon as possible to Mr. Krueger. NASA plans to have the original films processed by the Precision Laboratory Section of the Photographic Technology Laboratory at the Manned Spacecraft Center, Houston, Texas. This Laboratory will title each frame of photography and prepare high quality duplicates for dissemination. The Earth Resources Division, MSC, will plat (geographically locate), prepare detailed indexes, and screen all imagery to insure none released is classified because of image content.

If the photography requested here generates subsequent requests for high altitude photography over ERS test sites, as seems likely, we may find that standardized arrangements for requests, responses, reimbursement, etc., would be mutually advantageous. We understand that the cost of preparing the four 21 mm focal length multi-spectral package in this case is approximately \$8,500.00. Because of the short time for administrative action and the complex security interfaces existing for transferring money, we hope we can proceed now and discuss later reimbursement of certain associated costs in the context of a continuing requirement for similar aircraft photography.



Jacob E. Smart
Assistant Administrator for
DOD and Interagency Affairs

Attachments (2)
as stated

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ATTACHMENT 1

Requested flight lines are shown in order of priority.

Attachments: 3 charts

THE DESIRED PHOTOGRAPHIC CONFIGURATIONS
(TENTATIVE)

The photographic configurations requested for the two flights should be as follows:

1. 1st Flight

Two 12" focal length panoramic cameras (Hyacs)

Film/Filter
Type 3400/Wratten 25A
Type SO-180/Wratten 15

Four 21 mm focal length Nikons with large cassettes (200 frames) utilizing the following film/filter combinations:

Film/Filter
Type 3400/Wratten 25A
Type 3400/Wratten 58
Type 5424/Wratten 89B
SO-180/Wratten 15

2. 2nd Flight

Two 12" focal length panoramic cameras (hyacs)

Film/Filter
Type 3400/Wratten 25A
SO-180/Wratten 15

Four 76 mm focal length frame cameras (Vintens) utilizing the following film/filter combinations:

Film/Filter
Type 3400/Wratten 25A
Type 3400/Wratten 58
SO-5424/Wratten 89B
SO-180/Wratten 15

3. The film/filter combinations selected for the frame cameras on both flights include those planned to be flown on the ERTS-A satellite scheduled to fly in late CY-1971.