

NASA REVIEW COMPLETED

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2 April 1973

MEMORANDUM FOR: DOD - Mr. Dwayne Anderson
 CIA - Mr. Donald Steininger ✓
 NASA - Mr. David Williamson
 ACDA - Mr. Richard L. Durham
 NSC - Mr. David Elliott

FROM : State - H. G. Handyside *H.*

SUBJECT : Revised Version: 156 Committee Report on SKYLAB Earth Terrain Camera

A revised version of the 156 Committee Report on the SKYLAB Earth Terrain Camera is attached for review and concurrence. The revised draft reflects the comments and suggestions made by your agencies on the initial draft of the Report.

Several members of the 156 Committee expressed concern about the lack of a precisely defined post-launch screening organization and about the vagueness of the screening criteria. CIA explicitly recommended the elaboration of detailed screening criteria and proposed specific language to this end. The CIA recommendation, broadened somewhat to include suggestions from others, has been incorporated in the text on page 9 and has been reflected in the Recommendation section by the addition of a second formal recommendation on page 2.

The text of the Report has been revised at various points (through phrase changes, deletions, and the addition of new material) to reflect the somewhat less sanguine outlook of several Committee members about the growing international concerns about remote sensing via satellite and the sensitivities/opposition which has been voiced by some representatives in the UN Remote Sensing Working Group about the legal and proprietary issues which this technology raises. The existence and the importance of legal and economic "sensitivities", for example, has been explicitly addressed in the revised draft.

CIA also recommended the mounting of a broad scale study of U. S. policy on remote sensing of other sovereign nations, with particular emphasis on the economic/commercial value of data obtained in this fashion and specifically, the commercial value of such data to U.S. companies and industries. The critical need for such a study has been underscored in

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other forums (most recently in the NSSM-72 Space Cooperation interagency working group). Since the expertise required is located in NASA, Interior, Agriculture, etc., renewed efforts to get one or more of those agencies to produce the desired study may be in order. To this end, State would propose to emphasize the need for a study of this sort by recording CIA's first recommendation in whatever transmittal memorandum is eventually drafted to forward the 156 Committee Report to the 40 Committee.

Given the time-frame that confronts us, I would very much appreciate receiving your clearance of the revised draft Report by c.o.b. Friday, April 6. A "go" phone call before then would be most welcome. If you have extensive comments or suggestions, perhaps we could arrange a face-to-face session in order to speed up the resolution process.

Enclosure:

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25X1A cc: NRO - [redacted]
40 Committee Executive Secretary, Mr. Ratliffe

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NSAM 156 Committee

SKYLAB

Photographic Flight Plans for Earth Terrain Camera

The Problem:

The National Aeronautics and Space Administration has requested authorization to employ on the SKYLAB orbiting laboratory an Earth Terrain Camera having a ground resolution of between 10 and 20 meters. The resolution of this camera exceeds the 20-meter constraint recommended in 1966 for unclassified space programs.

In September 1971, the NSAM 156 Committee recommended to Dr. Henry A. Kissinger that NASA be authorized to employ -- and to release photographs acquired by -- the high resolution Earth Terrain Camera (ETC) subject to certain procedural safeguards. The safeguards agreed upon by the Committee were:

- (a) Prior-launch screening of flight plans to preclude photography of "sensitive areas";
- (b) Final review by the 40 Committee of photographic flight planning in light of international factors existing immediately prior to launch;
- (c) Post-launch screening of potentially sensitive photography acquired by the high resolution camera to prevent the release of any imagery that would be damaging to U.S. interests or would embarrass the United States

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in any way.

Dr. Kissinger subsequently approved the 156 Committee recommendation.

The launch date for SKYLAB-I has now been set for May 14. The requirement to make final mission planning decisions in the next few weeks imposes the need to make a final determination as soon as possible on the detailed utilization of the Earth Terrain Camera.

Recommendation:

The detailed photographic flight plans covering the utilization of the high resolution Earth Terrain Camera proposed by NASA should be approved, subject to a final review by the 40 Committee immediately prior to launch, and with the understanding that any photography acquired will be screened prior to public release.

At the same time, action should be taken now to organize the SKYLAB screening task force and to elaborate the procedures to be followed by this group and the detailed criteria to be applied. It is therefore recommended that the 40 Committee request the Director of Central Intelligence to undertake this task on a priority basis, in cooperation with NASA and the other agencies which have a direct interest in the broader political and economic as well as the intelligence aspects of the problem.

Discussion:

Only sixty-five of the over two thousand manned orbits SKYLAB will make during the entire eight month mission are dedicated to earth observation. The Earth Terrain Camera will be employed during a maximum of fifty

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of these earth-oriented orbits. (In fact, a more realistic figure would be forty orbits.) Before each planned earth observation pass, Mission Control will decide, in the near real time, on the basis of weather conditions and the number of investigation sites which can be covered whether or not to execute the pass. If a planned pass is cancelled because of bad weather, an attempt will be made to obtain the desired photography either during the pass over the identical track five days later or to obtain photography of the investigation sites involved on an alternate pass. The Earth Terrain Camera will take approximately 7,000 pictures. On 50% of them, 20 meter color-infrared film will be used; on 25%, 15 meter class color film; and on 25%, 10 meter class B & W film.

Appropriate Soviet scientists and space officials were briefed on SKYLAB in 1971. In carrying out this 156 Committee recommendation in Moscow, NASA described both the mission and the equipment of the orbiting manned laboratory, including the characteristics of the ETC. The USSR was offered the opportunity to participate in both the Earth Resources Technology Satellite (ERTS) and the Earth Resources Experimental Package (EREP) programs. Although the USSR has made no direct response to this U.S. initiative, it has arranged to purchase ERTS data and, as an outgrowth of the Moscow Summit, is participating with the United States in the joint remote sensing of the natural environment program.

International political and national security considerations place certain areas of the globe in a "sensitive" category. The land mass and the land and sea approaches to the Soviet Union and the Peoples Republic of China; North Korea; the Middle East, specifically the border areas separating

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Israel and the Arab States and the areas adjacent to and on both sides of the Suez Canal; the border area between India and Pakistan; and certain locations in the United States are "sensitive areas" so far as the public release of high resolution satellite photography is concerned. In addition, photography of certain activities of an economic as well as of a security nature could well be "sensitive". Photography revealing commercially sensitive crop information, illegally operating fishing boats, or undeveloped mineral deposits could arouse vigorous objections from commodity suppliers and traders, create difficult problems between neighbors, and stimulate further international concern over the legal and economic problems associated with remote sensing by satellites.

In devising the photographic flight plans for the ETC, NASA has taken care to avoid all the generally accepted "sensitive areas". There is no high resolution ETC photography planned of either the Soviet Union or the Peoples Republic of China. (In two instances, very limited coverage of the Black Sea and of Manchuria may result from premature start-up or delayed shut-down of the high resolution camera.) All photography planned is in response to requirements established by participating investigators both foreign and domestic. Where foreign investigators have proposed sites in their own countries, this has been done with the knowledge and approval of their governments. No proposals for investigation sites were received from either the USSR or the PRC.

Although there is no planned photography of the USSR or the PRC by the Earth Terrain Camera, bad weather and other contingencies may require the use of other than the planned passes for photography of certain of the

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investigation areas. In that event, it is possible there might be inadvertent acquisition of ETC photography over currently "denied areas". Should that occur, the final, prior-to-public release screening will make appropriate remedial action possible.

Similarly, there is no Earth Terrain Camera photography planned of the Israel-Arab border area. Depending on precisely when the camera is turned on to photograph the Sea of Japan investigation area, a narrow strip of North Korea (as well as Manchuria) may be covered. Depending on precisely when the camera is turned off after photographing investigation areas around the Adriatic Sea, a short strip of Romania may be covered. The projected coverage of the India-Pakistan border area by the ETC has been included in the photographic flight plan in direct response to the requests from investigators in the two countries for coverage of the entire Sub-Continent.

Although the photographic flight plans include the Earth Terrain Camera photography described above, we believe that this limited number of brief excursions over the several sensitive areas around the globe will not raise serious political problems. In addition to the above, ETC photography is planned of certain other areas such as Mexico which might be considered "problem" areas. However, it is believed that the potential or actual problems connected with these additional areas are under adequate control and that any problems raised by the proposed SKYLAB Earth Terrain Camera photography of them can be managed.

ETC photography of sensitive activities, on the other hand, may raise

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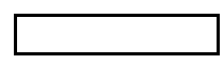
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problems which are not readily or easily managed. Public disclosure of high resolution photography of agricultural or mineral resources may multiply existing proprietary concerns and could exacerbate the political problems which the existence of remote sensing technology has already created on the international front.

The final, prior-to-public release screening of any potentially sensitive photography will be carried out through the USIB COMIREX (U.S. Intelligence Board Committee on Imagery Requirements and Exploitation) mechanism in accordance with the procedures and on the basis of the specific criteria established by the intelligence community. The representatives of NPIC, CIA, DIA, State, and other interested agencies will examine in particular the photography of "sensitive areas" which may be acquired by the Earth Terrain Camera as the result of premature start-up or delayed shutdown. [They will also examine in detail any photography which may be inadvertently acquired of the Soviet Union or the Peoples Republic of China. In screening the photography falling in these and any other potentially sensitive categories, the reviewers will be looking particularly for any coverage of military installations or of military-type targets.]

The overall reaction to the flight of ERTS-I has been generally positive. Although a few nations expressed reservations about the surveying of earth resources by satellite and others have pressed for detailed consideration in the various space organs of the United Nations of the political and legal as well as the technical issues raised by remote sensing by satellite, thirty-eight nations and two international agencies have participated in the ERTS-I research program. Many others, including the Soviet Union, have

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pressed forward to obtain ERTS-I imagery. There has been no sharp criticism of the operational details of the flight of ERTS-I, and there have been no "outraged" protests either against any of the ERTS-I imagery or against the release of this imagery to the general international public. Indeed, there has been ready and in some instances enthusiastic acceptance of these arrangements in the context of this experimental program.

Recognizing the Research and Development nature of this first remote sensing effort, the international community has shown a willingness to overlook for the time being some of the political, legal, and economic problem areas which have been of intense concern to a number of states. We believe the experimental character of SKYLAB has also been recognized and will secure a similar moratorium on the difficult problems. But the heightened sensitivity to the inherent issues of sovereignty, proprietary rights, control, etc., that arise in the dissemination of earth resources sensing data which appeared during the recent sessions of the UN Working Group on Remote Sensing in New York suggests that the international community may not be willing to extend its acceptance of experimental earth resources sensing satellites into the operational phase of remote sensing activities. Indeed, some representatives may assert that the "experimental" programs have already developed, so far as the critical legal and proprietary issues are concerned, to the stage of operational programs and insist that the issues involved be resolved without delay. Thus the international concern about remote sensing and the particular issues which it raises will have to be dealt with before long. While they need not interfere with present plans for the SKYLAB experiments, action should be taken in the very near

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future to determine what our national policies should be on the use of earth resources sensing satellites.

The photography that will be acquired by the high resolution Earth Terrain Camera on board SKYLAB is appreciably better than the imagery being produced by ERTS-1. This improvement in the quality of the photography may be sufficiently dramatic to arouse some international reaction. To reduce the risk of this happening, steps have been taken to inform the space and scientific communities of other nations of our plans to fly the Earth Terrain Camera on board SKYLAB, so the utilization of this equipment should come as no surprise to the specialists. Additional actions will be taken prior to launch, particularly in relation to the policy level officials of foreign governments, to publicize our intentions and thus minimize any public reactions engendered by surprise.

Moreover, the time-sequencing of the photographic flight plans constitutes an additional safeguard. The photography to be acquired during the first manned mission is almost entirely of the U.S., Canada, and Mexico. The first coverage of any of the "sensitive areas" noted above will not occur until Mission 2, beginning in August. Finally, the actual public release of SKYLAB photography will also be sequenced. The very first SKYLAB photography to be released will be the imagery acquired by the low resolution cameras. Photography acquired by the Earth Terrain Camera will be released only later. Further, arrangements are being made to insure that the first ETC photography released will be of the United States. Only after the initial news value of the ETC imagery has been dissipated will ETC photography of Canada or Mexico be made public. Thus the potential problems posed by the

public release of (a) evidence of our improved photographic capability and of (b) actual photographs of other countries are time-separated by approximately three months. This interval will allow an assessment of international reaction to the ETC photography taken over (first) the U.S. and (second) North America, and permit a modification of subsequent release plans if this should become necessary.

Finally, once the photographic flight plans for SKYLAB are approved, the photography program is still subject to two further reviews: a final assessment of the international political factors immediately prior to launch and a post-launch screening of whatever photography is acquired before it is released to the public. Thus presently planned photography which may become sensitive in the months ahead (whether because of the developing international scene or because of the "sensational" nature of the particular imagery acquired) can be handled effectively in an appropriate fashion responsive to the developing situation.

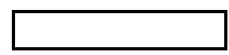
However, in order to provide detailed guidance to those who will carry out the post-launch screening and to prepare all concerned for the various contingencies that may arise, action should be initiated now to organize the SKYLAB screening task force; elaborate the detailed criteria to be used and the procedures to be followed by the task force; and to study and define alternative ways of handling the SKYLAB Earth Terrain Camera photography in the event future international events make it desirable to withhold substantial amounts of imagery from public release.

The protection of national security interests -- the freedom of acquisition of intelligence by satellite as well as the collection systems

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themselves -- is one of the most important objectives of the post-launch screening. Since the Director of Central Intelligence is principally responsible for the protection of these national security interests and since he has at his disposal the personnel and equipment assets required to carry out this responsibility, he is in a better position than anyone else to organize the SKYLAB screening task force. However, since there are political and economic as well as intelligence interests involved, the DCI should arrange for the participation of appropriate representatives from NASA and from the policy areas of State, Defense, and ACDA in this effort in order to obtain the broad range of interest and expertise that are needed. To the extent that workable arrangements can be made, there would be substantial advantage in having the screening process (or at least a major proportion of it) conducted in Washington where the needed knowledge and skills are readily available.

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