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REPORT ON TECHNICAL AND POLITICAL

CONSIDERATIONS OF MILITARY AND NON-MILITARY EARTH SENSING

The Department of Defense believes that there should be a clarification of NASA and DOD efforts so that civil programs will not adversely impact the continued protection of the classified reconnaissance program or otherwise cause our adversaries to receive space acquired information which would be of military or general intelligence value. A review of the technical and political earth sensing environment was accomplished by a committee from NASA, DOD, CIA and NRO.

The current national policy is contained in the Report of the NSAM 156 Committee on the "Political and Security Aspects of Non-Military Applications of Satellite Earth Sensing," 11 July 1966. The recommendations of this report are attached. In general, the report recommended a continuation of political and security protection of the classified national reconnaissance program and a pursuance of an earth resources survey program by NASA.

NASA has undertaken a broad range of earth resources survey activities. LANDSAT I, the first dedicated earth resources satellite, has been active since 1972. Both satellites have a multi-spectral image resolution of about 80 meters. The civil program has proven to be fruitful in terms of generating considerable interest in earth resources technology. Data acquired in the civil program are routinely distributed to all who desire to purchase copies. Release of all NASA acquired data to the public domain is a result of a conscientious U.S. policy established to blunt concerns about potential unfair U.S. exploitation of the data. NASA also has been encouraged by an apparent utility of LANDSAT data to improve U.S. government estimates of domestic and overseas food stuff production. LANDSAT II is routinely acquiring international grain yield information principally from the Soviet Union. NASA hopes in the future to improve its quality of earth looking sensors and current plans call for an operational earth resources satellite system by the 1980s.

The U.S. satellite reconnaissance program has become a critically vital asset since there are no other dependable

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means of acquiring strategic intelligence data from within the heartland of the Soviet Union and China. Extraordinary security measures are employed to provide protection to the U.S. reconnaissance program from internationally imposed political constraints and from revelation of its technical capability and limitations.

In assessing the current environment, the committee identified three sets of issues which require resolution.

- Although no third party has had a diplomatic basis to challenge the U.S. or Russian satellite reconnaissance activities, the principle of remote sensing from space has recently become a subject of discussion in the United Nations. The Defense Department believes that there is a strong possibility of a challenge being presented by inference to its military space activities through the debate on unconstrained U.S. civil activities. NASA, on the other hand, believes that a growing foreign investment in ground stations for earth resources data will mandate for global acceptance in that military activity will not become a serious issue.

- The technical guidelines used by NASA and the NRO were originally defined in 1964. For the past several years, the mechanism for overseeing a joint technology exchange has fallen into disuse. At the same time, the technology relationship between DOD, NRO and NASA has become more complex. The Defense Department believes that there has been a growing convergence of NRO and NASA technology and its use of high quality earth sensing technology has broadened beyond the scope of the guidelines to include non-photographic sensor development, large optic and highly sophisticated space platforms, and a desire from the NRO industrial base to market reconnaissance developed technology for civil use. NASA believes that its programs have been appropriate and in accordance with existing national policy.

- A recent study conducted by the DOD indicated that in the absence of a more sophisticated space intelligence program, NASA's current and proposed programs are potentially of high military intelligence use to adversary nations. On the other hand, much of the same information is of use to U.S. civil agencies and the private sector. The Department of

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Defense believes that a better control of data release of space acquired data should be exerted. NASA believes, on the other hand, that trade offs need to be established so that the data, even if of potential intelligence value, might be used by appropriate civil and private organizations.

CONCLUSIONS: The committee has concluded that while the spirit of the 1966 NSAM 156 Committee report has been followed, the environment has changed sufficiently to warrant a restatement of national policy. It is clear that there has not been total global acceptance of carte blanche U.S. remote earth sensing. At the same time, the value of the classified reconnaissance program to the nation has increased. It is also apparent that openly conducted space "reconnaissance" programs would not likely be internationally acceptable in accordance with existing UN treaties or developing UN doctrine. The committee also concluded that civil programs should also not become a "reconnaissance" activity of serendipitous benefit to other governments. The committee recommends the following:

a. The 1966 NSAM 156 Committee guidance should be reaffirmed with respect to the following:

(1) Continue to protect the classified national reconnaissance program by carefully assessing unclassified earth sensing activities prior to their authorization.

(2) Continue to extend the U.S. civil space program to maximize overseas political capital and to gain economic payoff for the U.S.

(3) Continue to apply limitations on the civil program as established between NASA and NRO.

(4) Continue to apply the limiting guidelines for use by all other interested government agencies.

(5) Continue to seek ways by which the intelligence community can facilitate the application of reconnaissance product to civil use while safeguarding the security of the reconnaissance program.

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b. The 1966 guidance should be amended as follows:

(1) Because of political uncertainties a more cautious pace should be employed for the openly conducted civil earth observation programs from space. NASA should take the lead in establishing domestic and international emphasis on aerial surveys to permit use of satellites and aerial composites for earth surveys, thereby reducing the need for high resolution satellite pictures.

(2) The guidelines for civil earth observation from space should be amended to establish a 60 meter threshold for imaging any point on the earth's surface. Any system operating at orbital altitudes capable of equaling or bettering this resolution should not image the earth. The 60 meter threshold applies to the achieved resolution on the ground relative to the best or operationally planned imaging access of the earth by the platform sensor involved. In addition, no civil space program should undertake acquisition of electronic frequency data from the earth.

c. There should be a close coordination of the overall unclassified mission plans and programs, and release of unclassified space-acquired data to the public domain. In order to accomplish this, a Program Review Committee should be established which would be chaired by the DDS&T of CIA with membership of NASA, DOD and NRO. Political and technical judgments on openly conducted remote sensing would be made by this Committee. There should be two subcommittees of the Program Review Committee. One, a Technology Release Committee, would review the propriety of release of technical data from the classified programs to the public domain. This subcommittee would be chaired by the NRO, and NASA and DOD would be members. The second, a Data Release Subcommittee, would evaluate the potential gain to our adversaries should they acquire the openly released data. This subcommittee would be chaired by DOD, and NASA and CIA would be members. The overall goals of the Program Review Committee would be to assist NASA so that NASA's undertakings do not become reconnaissance oriented, and to suggest ways in which NASA could meet its objectives by alternative means if a conflict becomes evident. The State Department would advise the Committee and judgments of the Committee would be made known to the National Security Council.

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