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APPENDIX D

AGREEMENT BETWEEN THE DEPARTMENT OF DEFENSE AND
THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
ON FUNCTIONS INVOLVED IN SPACE SURVEILLANCE OF
U.S. AND FOREIGN SATELLITES AND SPACE VEHICLESINTRODUCTION:

This document outlines the agreement between the Department of Defense and the National Aeronautics and Space Administration for performance of the functions associated with the achievement of a national space surveillance capability on all "man-made objects" in space. In this connection the term "space surveillance" is taken in its broadest context. It includes the monitoring and tracking of U.S. launched military space vehicles and of U.S. civilian scientific space vehicles, the detection and tracking of new foreign launched objects, and the intelligence function of monitoring non-U.S. vehicles. The term "man-made objects" in space is considered to include the following:

- a. Space vehicles of the U.S. and its allies.
- b. Operational special purpose space vehicles of the U.S. and its allies.
- c. Booster stages, capsules, dead satellites and other debris associated with the injection into orbit or operation in orbit of satellites falling into categories a, b, d and e.
- d. Foreign space vehicles reported to be of a scientific nature which may or may not include military R&D payloads as well as various payloads of exploratory or other scientific purposes.
- e. Space vehicles which might pose a threat to the security of the United States.

POLICY BACKGROUND:

The pertinent policies are set forth in the Operations Coordinating Board actions embodied in the "Operations Plan for Outer Space" dated 15 June 1960 as follows:

"III. OPERATIONAL GUIDANCEResponsibilities

3. The National Aeronautics and Space Administration is responsible for the direction and control of U.S. - sponsored space activities except those peculiar to or primarily associated with the development of weapons systems, military operations, or the defense of the United States.
4. The Department of Defense is responsible for the direction and control of U.S. -sponsored space activities peculiar to or primarily associated with the development

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of weapons systems, military operations, or the defense of the United States. "

"IV. CURRENT AND PROJECTED PROGRAMS AND COURSES OF ACTION

A. Technical

- 33. Actively consider a satellite defense program which will include capabilities to detect and counter unfriendly satellite and missile operations.

Assigned to: Defense
Target Date: Continuing

- 45. Provide world-wide tracking, data acquisition and communication facilities designed to support the U.S. space programs.

Assigned to: Defense, NASA
Support: State
Target Date: Continuing

- 46. Develop a capability to provide ground-based surveillance of all U.S. and foreign satellites and space vehicles and to provide intelligence on space activities, including a system to detect and catalog non-radiating satellites.

Assigned to: Defense
Target Date: Limited operational capability - 1960"

AREA OF INTEREST:

The policy background permits the following broad definition of the areas of military and civilian interest in the space surveillance field:

- a. Military requirements for space surveillance arising from responsibilities in the defense of the United States can be briefly summarized as the ground environment required in support of manned and unmanned military space systems, and the detection, identification and tracking of all space vehicles launched by foreign governments which might have missions inimical to the interest of the United States. The system developed against these requirements must have the potential capability of supporting counter-attack or neutralizing action against enemy space vehicles. There is a continuing military requirement to augment our intelligence capability to provide information, pre- and post-launch on the physical and electronic characteristics, and nature and purpose of foreign space shots. The data collection, analysis and distribution

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systems in support of these requirements must be secure, normally must operate in real time and must be responsive to the demands imposed upon them by interested military operational commands. These requirements will be met by the Department of Defense programs.

- b. The civilian and scientific interest within the field of space surveillance requires tracking information associated with space vehicles in order to perform scientific missions, both manned and unmanned, as well as missions directed towards civilian applications. The systems developed to meet those tracking requirements will provide information of basic interest to civilian and scientific programs and will be of assistance in some cases to the military surveillance program. The extent that the trajectory data on the civilian vehicles are disseminated and whether or not they are required in real time depends upon the mission involved.

It is contemplated that these systems would be responsive to all the needs of the scientific community and civilian interests, domestic and foreign; they would be the major source of unclassified scientific and technical information regarding space vehicles and their behavior. These responsibilities will be assumed by NASA, and this information will be disseminated by the NASA Goddard Space Flight Center, Washington, D. C.

PLAN OF ACTION - DOD:

The Department of Defense, through the JCS, has assigned to CINCNORAD the operational control of military space detection and tracking. The central data collection and cataloging center to meet DOD requirements will be established within the NORAD COC. It will take over the military functions and responsibilities presently handled experimentally by the SPACETRACK Center in Cambridge. NORAD will assume operational control of military space detection and tracking sensors primarily serving its new mission.

All information from BMEWS, SPASUR, MIDAS and other military surveillance equipment with initial detection and tracking capability will be fed directly into the NORAD COC for processing and analysis. Trajectory and ephemeris information on U. S. military and scientific space vehicles and satellites, and to the extent the information is available, on foreign launched space craft, will be provided by the general and special purpose tracking networks of the Department of Defense and by NASA to the NORAD COC. This will provide the background catalog of existing space vehicles from which any new space objects can be detected and identified.

It will be the objective of the NORAD space detection and tracking system to detect and to establish track on the first orbit of all satellites and space vehicles launched by foreign countries. Tracking aids will be operated by the system only to the extent that currently up-dated information on existing satellites cannot be provided by the normal operation of the general and special purpose networks of the Department of Defense and by NASA.

The NORAD COC will provide to NASA, on request, information concerning satellites and space vehicles within its catalog. The present practice of providing this type of information from SPACETRACK direct to scientific and civilian interests other than NASA will be discontinued. The NORAD system will accept from

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NASA up-dated ephemeris and tracking information on vehicles covered within its system.

The Department of Defense program will provide for augmentation of its space vehicle intelligence effort, including electronic surveillance and examination of foreign space vehicles and improved photographic and other methods for determination of potential military capabilities of the foreign objects. This intelligence operation will be coordinated with the NORAD system and where appropriate, supply information directly in real time. Ultimately the Department of Defense program may be expanded to include counter weapon capability for neutralization of enemy military space objects.

PLAN OF ACTION - NASA:

The NASA has assigned the operational control of its data collection systems and data discrimination function to the control center at the Goddard Space Flight Center. This Control Center will maintain up-dated trajectory and ephemeris information in computer catalog form on:

- a. NASA and non-NASA launched objects for as long as they are considered by NASA to be of scientific value.
- b. DOD and non-NASA launched objects for which DOD has requested support from NASA. This support will be prearranged and will generally be based upon a "non-interference" agreement and to the extent that is possible without compromising NASA foreign stations.
- c. Objects launched by a foreign government providing that government requests support from NASA. Again the "non-interference" basis is required.

Data collected by NASA in categories a, b and c may be distributed to the scientific community on an unclassified basis at the discretion of NASA.

The NASA Goddard Control Center will provide observation and/or up-dated data from its computer catalog periodically, in a routine fashion, to the NORAD COC thereby providing supplementary information to the Military Space Detection and Tracking System. This will enable the NORAD COC catalog to have all existing data on the objects the NASA is responsible for tracking, thus keeping its catalog complete for the purpose of detecting and identifying any new space objects. NASA will notify NORAD when surveillance by NASA terminates on any category "a" item which has ceased to be of primary scientific interest.

The NORAD COC will in turn provide timely data from its catalog to the NASA Goddard Control Center in an agreed format. The unclassified catalog data will be sent periodically in a routine fashion. NASA will distribute this to its agencies and to the scientific community and to other civilian interests as may be required. Classified catalog data will be sent to NASA only upon a "need-to-know" request from NASA. NASA will use this information within the confines of proper security. All data distributed by NASA will be clearly labeled as to its source to enable evaluation for scientific purposes.

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NASA will submit appropriate information to "Spacewarn," the International Space Information exchange organization, with six main centers located throughout the world.

FOR THE DEPARTMENT OF DEFENSE:

Herbert F. York /s/
Herbert F. York
Director Defense Research and Engineering

Jan 16, 1961

FOR THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION:

Hugh L. Dryden /s/
Hugh L. Dryden
Deputy Administrator

January 13, 1961

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