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HANDLE VIA BYEMAN CONTROL SYSTEM HEXAGON

~~1ST~~ NATIONAL RECONNAISSANCE OFFICE
WASHINGTON, D.C.

OFFICE OF THE DIRECTOR

April 30, 1966

MEMORANDUM FOR: Director of Reconnaissance, CIA
Director of Special Projects, SAF

SUBJECT: Management Plan and Organizational Responsibilities for the New General Search and Surveillance Satellite System

The purpose of this memorandum is to set forth the management arrangements and assignments of system responsibilities for the new general search and surveillance satellite system which recently were approved by the NRP Executive Committee.

You will note that this document has been classified with the BYEMAN code word HEXAGON. Henceforth, all correspondence pertaining to the new search and surveillance system will be appropriately classified using this BYEMAN compartmentation designator. All correspondence, studies, and documents previously identified as FULCRUM in the CIA, and S-2 in SAFSP, are automatically included in this new code word designator. Personnel currently cleared for FULCRUM and/or S-2 information may automatically be granted a HEXAGON clearance.

There follow specific instructions and guidance on HEXAGON management and assignment of system responsibilities.

PROGRAM MANAGEMENT:

The Director of Special Projects, SAF, is designated as the HEXAGON System Project Director (SPD). In addition, the SPD will direct and supervise the development and production of all subsystems except the sensor subsystem; the latter will be provided by the CIA in accordance with management arrangements established herein. The Director of Special Projects, SAF, will establish a HEXAGON System Project Office (SPO) to discharge assigned functions and responsibilities.

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The Director of Reconnaissance, CIA, will direct and supervise the development and production of the total sensor subsystem, as defined herein, reporting directly to the DNRO. The Director of Reconnaissance, CIA, will establish a HEXAGON Sensor Subsystem Project Office (SSSPO), and designate a Chief thereof, responsive and responsible through him to the DNRO for the total sensor subsystem development and production and to the SPD for overall system matters, as set forth below.

SPECIFIC SYSTEM RESPONSIBILITIES:

The Director of Special Projects, SAF, as SPD, is responsible for: overall system engineering (including master system specifications) and system integration (including subsystem interface specifications); overall system master planning, programming, and budgeting; assembly and check-out of the system at the launch pad; launch and mission operations; capsule recovery and delivery of film to DNRO-designated processing facilities.

In addition, the SPD is responsible for: the development and production of the spacecraft (as defined in the SOR and RFP); the RV subsystem; the stellar-index camera subsystem; the booster; and the acquisition and operation of system assembly/launch facilities, on-orbit command and control facilities, and capsule recovery forces and equipments.

In the exercise of all his assigned responsibilities, the SPD is charged with taking into account the sensor subsystem requirements in accordance with the technical and management arrangements defined herein.

The Director, SSSPO, is responsible through the Director of Reconnaissance, CIA, to the DNRO for the total sensor subsystem development and production, and for adherence to master system specifications, subsystem interface specifications, and master project schedules established by the SPD in accordance with the provisions of this management plan. By definition, the sensor subsystem includes the complete primary camera assemblies, close-in and fine camera environmental control, and close-in and camera-peculiar electronics or pneumatics, film supply spools, the film transport mechanism, film cut and wrap or film-splice mechanisms, and film take-up spools in the RV's.

In addition, the SSSPO is responsible for the physical installation, integration and checkout of the sensor subsystem in the spacecraft (Note: This may be accomplished at the sensor subsystem contractor's facility, the spacecraft contractor's facility, or at Vandenberg AFB, depending on which course of action provides the best system factory-to-pad flow and is most favorable to the Government in terms of facility requirements and other cost factors).

The SSSPO is also responsible to the SPD to participate in overall system assembly and pre-launch activities, to certify at appropriate times that the sensor subsystem is ready, and to act as the principal sensor assistant to the SPD during pre-mission planning, on-orbit operations, and post-mission analyses.

SAFSP/CIA-OSP RELATIONSHIPS:

It is not possible, at this time, in the definition of the HEXAGON system to forecast the engineering/performance trade-offs which inevitably will be made as detailed design and development proceed. The NRO objective in the HEXAGON Project is to acquire the overall most effective photographic search and surveillance satellite system possible within the constraints of time, technology, and available resources. The sensor subsystem is the key element of the system and, as such, its fundamental basic structural, dynamic, thermal, power, etc., requirements must be given proper weight in determining the overall system configuration and characteristics. When the necessity arises for a trade-off between the sensor subsystem and another subsystem in terms of total system performance, the SPD will always attempt first to resolve the problem in such a way as to minimize the effect on the sensor. However, such resolutions of interface problems must always be tested to assure that overall system performance is not seriously degraded. Thus, both the SPD and SSSPO must analyze in terms of total system effectiveness when considering interface and trade-off problems.

The following description of various management relationships is intended to clarify the division of responsibilities between SAFSP and CIA-OSP:

1. The SPD will be the project director for overall system engineering and master system specifications; system integration; the definition of interface specifications between the sensor subsystem and other elements of the system; overall system master planning, programming, and budgeting; the physical assembly and checkout of the system at the launch facility; launch and on-orbit operations; recovery activities; and the delivery of film to DNRO-designated processing facilities. In these matters, the SSSPO is expected to be responsive to appropriate direction from the SPD.

2. On the other hand, while the overall system engineering and integration responsibilities of the SPD include the interfaces with the sensor subsystem, they do not include system engineering or technical direction for the sensor subsystem (as defined previously). The SPD is not expected to accomplish engineering analyses of the sensor subsystem except as required by his overall systems engineering and integration role or unless his assistance is solicited by the SSSPO. For technical and performance matters wholly internal to the sensor subsystem, the SSSPO is responsible to the DNRO and not the SPD.

3. While the SPD is responsible for master planning, programming, and overall budgeting, he is not authorized to alter program or budget estimates of the SSSPO. Conversely, the SSSPO is expected to program and budget in accordance with the master schedules issued by the SPD. (Note: CIA will provide budget estimates in the normal manner direct to the DNRO; however, the SPD will also include sensor subsystem schedules and budget estimates in the Master System Project Plan for information purposes)

4. The SPD, in the exercise of his system engineering, integration, and interface responsibilities, is expected to meet the basic structural, dynamic, thermal, power, etc., requirements of the sensor subsystem. SPD actions elsewhere in the system affecting interfaces with the sensor subsystem or its operation require the concurrence of the SSSPO. Conversely, any SSSPO actions affecting interfaces or overall system operation require the concurrence of the SPD.

The most significant area of SAFSP/CIA-OSP relationship is that pertaining to interface between the sensor subsystem and other system elements. I cannot emphasize too strongly the need for close daily rapport and frequent meetings between the respective offices. Representatives of both offices are expected to attend all meetings on subjects having a possible interface impact. The SPD and SSSPO are expected to have free and full access on all information and data pertaining to the overall system and its various subsystems. If either the SPD or SSSPO infer a possible interface problem pertaining to an action of the other, he is expected to so advise the other immediately. When a possible problem of this nature is raised, it is to be resolved without delay (if resolution in the field is not possible, the matter will be brought to the attention of the DNRO for decision or interpretation of the SOR, RFP, etc.).

Since the SAFSP SPO will be located in Los Angeles, and the SSSPO will be located at CIA Headquarters, emphasis must be placed on frequent and detailed communications between the two offices. To facilitate the flow of information and data, it is desired that the SSSPO station a full-time Liaison Officer with the SPO in Los Angeles. If the CIA so desires, the SPD will also station a full-time Liaison Officer with the SSSPO at CIA Headquarters for the same purpose. It should be pointed out that these individuals are not intended to be the sole channel but rather a catalyst for communications. Informal and direct communications between appropriate working personnel of both offices must be authorized and encouraged (when contractors are involved, there must be appropriate coordination with the Government agency supervising each contractor).

ON-ORBIT OPERATIONS:

The SPD will operate a HEXAGON Operations Command Post at the [redacted] continuously during a mission. 50X1
The SSSPO will station appropriate Project Office and sensor contractor representatives there during missions. The Satellite Operations Center in the Pentagon will deal principally and directly with the HEXAGON Command Post during on-orbit operations.

The SPD is the final field authority during a mission operation from launch through recovery. The SPD is expected, in normal situations, to assign responsibility for matters of sensor mission planning, sensor readiness, sensor on-orbit operation, analysis of sensor technical difficulties, etc., to the senior SSSPO representative. The SSSPO, in turn, will provide sensor subsystem status reporting on an agreed-on regular basis or upon request of the SPD. However, when there are differences of opinion in the case of technical difficulties and/or corrective measures, and when in the judgment of the SPD that mission failure may be imminent, the operational decisions of the SPD shall always be over-riding and final.

SECURITY:

In furtherance of the management responsibilities assigned herein, both the SPD and the SSSPO Director are authorized to grant HEXAGON clearances to Government employees and contractor personnel under their jurisdiction in accordance with established BYEMAN security policies and procedures. This authority is not further delegable. The SPD and SSSPO shall keep each other and higher authority informed on a continuing basis of current project access lists.

The SPD and SSSPO shall each honor, without question, a need-to-know determination on the part of the other that a properly cleared person requires access to project information and/or data.

In order to insure consistency in the security practices of the SPO and the SSSPO, a HEXAGON Security Guide will be prepared jointly by SAFSP and CIA-OSP and submitted to the DNRO for approval as soon as possible. Adddditional guidance on this matter will be issued.

THE USE OF SE/TD-TYPE CONTRACTORS:

The SPD will utilize the services of Aerospace Corporation in a general systems engineering role. Aerospace Corporation employees supporting the SPO shall have free access to information and data from the SSSPO and the sensor subsystem contractor(s), but shall exercise no technical influence or judgments over matters internal to the sensor subsystem, and shall not be charged by the SPD with advising him on such matters.

Similar arrangements may be made by the SSSPO for its sensor subsystem engineering contractor, if any, for free access to information and data from the SPO and other system contractors.

The exchange of information contemplated herein will in many cases require direct contact with contractor engineering staffs at the contractor plants and test facilities. However, all such direct contacts must be coordinated through the government agency responsible for contractor supervision. Such coordination is to be for purposes of informing the responsible agency and permitting full participation or monitoring of such direct contacts; however, the SPO and the SSSPO should each honor the requests of the other for any item of information or any required direct communication with contractors.

GENERAL GUIDANCE:

Despite good intentions on both sides, I am sure there will be differences in interpretation of the SOR, the various subsystem RFP's, this management directive, the question of whether or not a problem has interface implications, etc. When such an instance arises and cannot be settled in the field, I desire that the problem be called to my attention promptly for resolution.

The successful implementation of this management arrangement will require the whole-hearted cooperation of both CIA and SAFSP. I enjoin each of you to insure that your respective subordinates put forth every effort in that vein.

Alexander H. Flax