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PLAN
FOR EXECUTING
THE SATELLITE OPERATIONS CENTER
RESPONSIBILITIES

15 JANUARY 1968

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SATELLITE OPERATIONS CENTER PLAN

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CONTROL SYSTEMSATELLITE OPERATIONS CENTER PLAN1. PURPOSE

a. The purpose of this plan is to:

(1) State concisely the basic mission of the NRO Satellite Operations Center (SOC).

(2) Clarify the mission-related responsibilities of the SOC and the NRO System Program Directors (SPD's).

(3) Outline operating concepts and procedures for desirable improvements to the present SOC capability for fully accomplishing the SOC mission.

(4) Outline concepts and procedures for keeping the manner of accomplishment of the SOC mission optimally compatible with the characteristics of new and improved NRO satellite projects and improvements in the Satellite Control Facility (SCF).

b. This plan supersedes "Plan for an Improved Capability for the Satellite Operations Center," BYE 52000-67, dated 1 January 1967, revised 12 July 1967.

2. THE SOC MISSION

a. The SOC is an NRO staff office which exists for one single and specific purpose: to provide the essential working interface between the intelligence community and the NRO. It represents the NRO satellite programs to the intelligence community and it represents the intelligence community to the satellite programs. It is an interface between these NRO programs and the intelligence community, and not a part of either. In addition, the SOC provides staff support to the Director, NRO on matters pertaining to NRO relations with the intelligence community and accomplishment of intelligence collection requirements.

b. The SOC must work closely with the intelligence community on a continuing basis to assure current understanding of all intelligence collection requirements. The SOC obtains and provides to the NRO

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SPD's lists of targets (discrete or area) of which coverage is desired, the relative priorities of these targets, and any other intelligence information which is necessary to identify the intelligence collection desired by the intelligence community. The SOC provides all necessary interpretation of the intelligence collection requirements for each mission. The SOC is responsible for all intelligence collection decisions, such as specification of particular orbit (from those within the system capability) when this specification is necessary to meet intelligence collection requirements.

c. The SPD retains full responsibility for the actual conduct of the mission, including the optimum and efficient operation of the vehicle and payload(s). The SOC provides target decks, priorities, and selection criteria for the computer logic used by the SPD. The SOC can make limited choices concerning use of some expendables in systems where this task is accomplished manually; but these choices must all be within limits determined by the SPD and are applicable only when the overall operational status, vehicle health, recovery area weather, etc., are determined by the SPD to be satisfactory for SOC exercise of such choices. The SPD is responsible for all trade-offs and decisions affecting the probability of successfully completing the mission, i. e., evaluating and deciding matters where increased coverage results in any increased risk. The SOC is responsible only for identifying the desired increased coverage to the SPD. The SPD is fully responsible for the actual conduct of the mission; but he makes no decisions to obtain or forego coverage of any intelligence targets, except when this latter decision is the result of operational considerations (vehicle health, etc.). The important point of distinction is that the SPD is responsible for conducting the mission; but he is not responsible for deciding what intelligence coverage to obtain, this latter is the responsibility of the SOC.

d. The SOC is also responsible for continuing analyses of the degree to which stated intelligence collection requirements have been met, both quantitatively and qualitatively, with consequent structuring of the individual targeting basis for subsequent missions to assure the most effective contribution of these missions toward the best possible satisfaction of collection requirements.

e. The SOC is responsible for providing to the Director, NRO, appropriate analyses to identify the numbers of successful missions and the overall NRO mission schedules required to meet overall intelligence collection requirements.

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f. Each SPD is responsible for development of all software required to conduct the mission of each system in the optimum manner. The SOC is responsible for software necessary to be used within the SOC, i. e., that which is necessary to accomplish the SOC responsibilities outlined in subparagraphs d and e, above, as hereafter explained (which will be developed for the SOC, at the direction of the SOC, as otherwise provided herein).

3. BASIC PRECEPTS

a. Changes will be made to the present method for accomplishing the SOC mission to keep it optimally compatible with new program capabilities and characteristics, and changes in the program operating environment (SCF, separate program-peculiar ground station(s), etc.)

b. Changes to procedures presently in effect will be in the direction of simplifying anything which must be done within the SOC in the process of conducting missions, without changing organizational mission responsibilities (i. e., within this constraint, what can be done in the field and at the SSPO/STC should be done there, and what should be done at the SOC is only that which must be done there).

c. The overall concept of the SOC Plan will be based upon characteristics and capabilities of satellite programs and program operating environment anticipated for the 1970 time period.

d. Developments for the SOC (including changes to the present SOC capability) and developments for new satellite programs (including those now under development, such as HEXAGON) will be consistent with the overall concept of the SOC Plan.

e. Presently operational satellite programs which are projected to continue in the 1970 period will be phased into conformity with the overall concept of the SOC Plan; presently operational programs not projected for such continuation will be completed under present procedures.

4. BASIS OF CHANGE

a. The overall SOC mission is presently being accomplished with procedure which is tailored to each project as a result of individual project history, capabilities, and the present facilities and operating

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environment. The SOC functions today are mostly manual, operating largely on data which have been produced by software which has been developed by, and is operated by, the SPD's responsible for the individual projects. Some improvement in effectiveness can be realized by relatively simple improvements to these procedures, by including in revised computer routines some steps presently being accomplished manually. These present procedures were developed for relatively short orbital lifetimes. The longer orbital life planned for the 1970 time period will allow considerable simplification of some of these procedures while simultaneously increasing their effectiveness. In addition, some aspects of the SOC mission are not presently being carried out in the fullest sense, such as continuous qualitative and quantitative analyses of the extent to which the USIB requirements have been met, can be met by scheduled missions, etc., because such analyses require computer capacity (and specialized software) in excess of present SOC capability. These factors form the need for and basis of change to present procedures and present SOC capability.

b. An example of desirable change by automating procedures presently accomplished manually is taking the weather forecast into account in the computers used by the SPD. The SOC will control the effect of such use through specification of the weighting factors used in the weather algorithms of the software logic structure. Under such an operation, the target load sent to the orbiting vehicle will be based on more current weather information than is possible under the present relay from GWC to the SOC and then, in the form of weather deletes, to the SPD.

c. An example of change in present procedures brought about by change in program characteristics planned for the 1970 time period is the effect on long lifetime for photographic missions. The present SOC procedures were originally developed for photo missions with a planned duration of only four days, where not all targets are accessible even once, where the orbital parameters can be varied with significant effect on mission results, etc. This length and type of mission contrasts sharply with the 45-day lifetime which is the HEXAGON objective. Any photo vehicle flown on a 45-day mission must fly an essentially sun-synchronous orbit for maximum usefulness throughout this long lifetime. In such orbits, and for such lifetimes, all illuminated targets will be accessible several times. The target (area or discrete) priorities and selection criteria initially specified by the SOC can be changed during the mission whenever there is a specific basis for this

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action, such as [^]feedback from Global Weather Central of verified weather, a recovered capsule, or receipt of other intelligence information.

d. In contrast to the above examples of change which will reduce the work required to be accomplished by the SOC in carrying out the SOC mission in the 1970 time period, other characteristics of that period will increase the importance of some SOC work not presently being done adequately, or at all. This work concerns quantitative and qualitative analyses of the degree to which the overall USIB intelligence collection requirements have been, are being, and can be met by programmed NRO satellite reconnaissance missions. The results will provide a sound basis for action by the NRO to maintain continuously an adequate collection capability without unnecessary and very expensive surplus. They also will enable more effective utilization of the mission flown, by providing a basis for the SOC to establish the quantitative and qualitative degree to which the overall USIB intelligence collection requirements have been met up to the time of each mission, and the basis for the SOC to structure the target lists, priorities and selection criteria provided to the SPD concerned, for use in the target selection software on that mission. Since increased project effectiveness, reliability, and lifetimes are characteristic of the NRO collection capability planned for the 1970 time period, and since all NRO experience in increasing any of these parameters has resulted in a steady reduction in the number and frequency of flights desired, and an increase in lead times for new procurement or substantial alteration to established production schedules, these SOC analyses will be much more important in the 1970 time period than they would be today (if the capability existed and they were being done today). In this respect, it is therefore essential to add capability to the SOC.

5. OPERATING PROCEDURE

a. Collection Requirements

(1) The SOC will keep the appropriate USIB agencies informed as to collection capabilities, current and projected, of the various NRO satellite reconnaissance systems and the cumulative status of collection accomplishments.

(a) Definition of current collection capabilities to the USIB agencies will be accomplished by compilation of technical information on the configuration of each system and mission studies provided

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to the SOC by the SPD's responsible for the various systems, and by the cumulative mission accomplishments available from the SOC records. Through interpretation and explanation of these collection capabilities, the SOC will assist the USIB agencies in defining overall collection requirements as well as unique requirements for particular system(s) and special purpose missions.

(b) Investigation of the potential of existing systems to meet new collection requirements will be accomplished by the responsible SPD at the request of the SOC, unless the cumulative mission accomplishment records available to the SOC make such investigations unnecessary. The SOC will also request the responsible SPD to study and/or propose a modification to existing systems, when feasible, to satisfy these new requirements or desired collection capability.

(c) The SOC will assist in the formulation of collection criteria for new systems being developed or considered for development, through participation in the definition of operational concepts and evaluation of collection effectiveness. The SOC will task the responsible SPD to perform the mission and trade-off studies which will be used to analyze new operational concepts, performance requirements, capabilities, and collection effectiveness.

(d) The SOC will maintain a cumulative account of the degree to which all intelligence collection requirements have been met, and will conduct quantitative and qualitative analyses of these accomplishments on a mission-by-mission basis.

(2) The SOC will receive and interpret all intelligence collection requirements from the USIB, maintaining close and continual coordination in order to insure full understanding and effective interpretation. The SOC will interpret and translate the USIB collection requirements, as necessary, into specific collection tasks for emitter types, locations, quality, accuracy, and other characteristics which, when necessary, uniquely define the specific collection desired. The SOC will also interpret USIB statements of priorities into specific relative priorities for each emitter, area, target or high interest event, supplementing the guidance received from USIB by the results of the SOC analyses of NRO mission accomplishments noted in para 5a(1)(d), in order to establish current specific collection priorities for each NRO mission. In this manner,

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the current collection criteria will be developed by the SOC from the USIB statements of collection requirements into a form and in terms which are within the capabilities of the specific collection system(s) to be used.

(3) On the basis of the collection requirements and the SOC analyses, the SOC will define the overall number of successful missions of each NRO satellite reconnaissance system required to obtain the desired collection. The SOC will also define the general time period (i. e., month) in which these missions are desired. The SPD responsible for each system will add to the above the number of additional flights required to assure a reasonable expectation of the number of successful missions as stated by the SOC, and, on this basis and considerations of cost and procurement factors, establish and submit to the DNRO for approval the overall launch schedule for each NRO system. SOC statements of desired revisions to established launch dates will also be by period (normally the month) in which the mission is desired, and the responsible SPD will establish the specific date within this period. The only exception will be when the specific date is critical to an important intelligence collection objective, in which case the SOC will establish the specific date within the range of dates determined by the SPD to be feasible.

(4) For each NRO mission, the SOC will provide mission-peculiar collection requirements (emitter, area, target data) and relative priorities to the responsible SPD. The SPD will use these data to generate the optimum mission profile, which will be the basis on which the mission is flown.

b. Operating Concept

(1) There are substantial differences in the capabilities of present and projected NRO satellite systems, and in the computer capability, software routines, and supporting resources necessary to conduct effective missions. In all cases, the responsible SPD must provide program-peculiar development for use at the operating field location from which the system is controlled and operated. The overall operating concept is to use this SPD equipment and field support in the accomplishment of the SOC responsibilities for each specific mission, instead of duplicating or repeating it within the SOC.

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(2) To accomplish this, the software routines developed by the SPD for mission optimization and target selection will include appropriate algorithms to enable automatic accomplishment of SOC responsibilities concerning emitter, area, and target selection, and forecast weather in the computer runs of these routines. The SPD will coordinate the development of these algorithms with the SOC, and the SOC will specify to the SPD the weighting factors and selection criteria which will be used in the operation of the software routines during the conduct of the mission. For example, the software logic for photographic systems will provide for counting down the initial target or area priorities, based upon the priorities at the start of the mission, the number of times photography has been obtained, the weather condition at the time, etc., with the weighting parameters of each algorithm to be specified by the SOC. Similarly, the logic will provide for deleting, on the basis of forecast weather, coverage that would otherwise be obtained, with weighting parameters that vary with gradations of forecast weather and target priorities.

(3) The basis for SOC specification of these weighting factors and selection criteria will be library cases of data, obtained from studies conducted by the SPD for the SOC for this purpose, as well as actual records of previous missions, and from statistical calibration data prepared for the SOC by the SPD.

(4) Statistical calibration of the SOC selection criteria and weighting parameters will be accomplished by the SPD through appropriate length computer gaming of control parameters versus USIB collection requirements provided by the SOC. This computer gaming will be accomplished on the SPD(s) computers using the actual mission software routines during the idle or non-peak computer loading periods. For a given intelligence requirement, the stated control parameters will be selected based upon statistics that optimize and control the integrated vehicle and payload operations. Once obtained, they will remain valid until either the target model or the satellite collection capabilities are substantially altered. These control parameters will then be specified by the SOC for each mission, on the basis of such calibration data, and changed by the SOC whenever new information indicates a change is necessary to obtain the desired mission results (for example, examination of the results of a recovered capsule may indicate a desirable change in weather and countdown parameters for the next capsule on the basis of actual coverage obtained in the first

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one). This procedure is applicable to any length mission, but is particularly suitable for the long mission lifetime projected for the 1970 time period (such as the 45-day HEXAGON objective).

c. Mission Planning

(1) The SOC will select satellite orbits, within the capabilities of each specific system, when such selection significantly affects the intelligence collection desired (as, for example, in photographic missions of only one or two weeks planned duration). Because of uncertainties associated with the attainment of a particular set of orbit parameters (i. e., booster injection limitations, drag prediction uncertainties) pre-flight orbit selection will be accomplished by the generation by the responsible SPD of sets of "library orbit" cases which:

(a) Are attainable within hardware limits of the system.

(b) Are operable within the configuration of the Satellite Control Facility environment (or other applicable operating environment).

(c) Statistically satisfy general and unique coverage requirements.

(2) Based upon the analyses, these library orbit cases, and each satellite system collection capability, the SOC will determine the number of successful on-orbit days needed, by calendar period (month or months) and by system, to satisfy the USIB intelligence collection requirements.

(3) After a specified vehicle attains orbit, the SPD will plan and execute orbit adjusts when possible and necessary to:

(a) Correct significant deviation from the desired orbit.

(b) Fulfill unique new requirements established by the SOC after commencement of the mission, such as repeated access to certain areas.

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d. Mission Tasking

(1) In order to assure the optimum accomplishment of mission objectives, the SOC will interpret and format USIB collection criteria, photographic and SIGINT, in terms of:

(a) The relative value (priority) of emitter-area target coverage relative to other emitters-areas-targets. (Photo and SIGINT)

(b) The relative value of an emitter-area-target to its original value after it has been successfully acquired. (Photo and SIGINT)

(c) Payload operating mode versus each specified emitter-area-target. (Photo and SIGINT)

(d) Maximum acceptable scale factor (photo) or maximum location uncertainty (SIGINT).

(e) The weather prediction thresholds of acquisition timing which determine, as related to various other utility factors, whether or not to operate the payload(s). (Photo and SIGINT)

(f) Order or preference of payload states and mandatory disable/enable overrides (SIGINT).

(g.) The priority, target classification, and mode/time-of acquisition deletion thresholds for expendable control. (SIGINT)

e. Mission Data Flow

(1) Prior to each mission, the SOC will determine and provide to the SPD(s) the mission objectives (emitter-area-target prioritized list) and collection criteria parameters. Based upon these inputs, the SPD(s) will determine and provide to the SOC the planned mission profile and projected target accessibility.

(2) As the mission progresses, the SPD(s) will provide to the SOC daily payload operations summaries, projected mission profile, and vehicle/expendable status. The SOC will modify the on-going mission(s) objectives and collection criteria when necessary to meet new

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or changed USIB collection requirements. Further, as actual mission readout becomes available, (from recovered capsules or processed SIGINT data) the SOC will purge or modify mission objectives and update as required, the mission collection criteria.

f. Reporting

(1) The SOC will establish and control the NRO operational reporting system. This reporting system will inform the DNRO and USIB of those specific collection requirements which have been assigned to particular systems/missions and the current and projected status of USIB collection objectives.

(2) In support of this reporting system, the SPD(s) will provide reports to the SOC that specify: current and projected mission schedules, potential system collection capabilities, current mission collection status and its projected mission profile, and mission correlation data. Any substantive change of status in the collection capability occurring during mission operations will be reported by the SPD to the SOC so that the need to modify the collection requirements and/or criteria for that mission may be examined.

(3) The SOC will arrange for the intelligence community to close the reporting loop by rapidly feeding back actual mission results to the SOC data file so that it will continually be updated.

(4) Other than as outlined above, recurring reports will not normally be used to provide information simply to enable the SOC to answer any inquiries which may arise during the course of reconnaissance missions. Such inquiries will be handled on a specific case-by-case question--answer basis directly between the SOC and the responsible SPD. Existing communications capability between the SOC and the SPD's is adequate to insure prompt response to all such inquiries.

6. DATA PROCESSING

a. General

The SOC needs computer programs and computational support to satisfactorily accomplish those aspects of the SOC mission outlined in para 2d and 2e. These require no "real-time" computer processing

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or direct coupling with any SPD satellite operational computer software. Hence, there is no requirement for identical SOC and SPD computers or software nor an increase in the existing data link capacity between the SPD facilities and the SOC. The required SOC software is of the data processing type which requires manipulation of large data files. The following paragraphs define a data file capability that will be developed for SOC usage.

b. Data File

(1) The SOC will develop, maintain, and operate a data file which will be primarily a library of collection requirements assigned to the NRO by the USIB, and collection accomplishments of NRO missions. The SOC will receive all requirements, and accomplishments, translate them into the data file, then operate on this basic information to provide specific outputs. Results of mission-peculiar computer runs provided by the SPD's at the request of the SOC will also be input to this data file.

(2) The data file will be used along with information on projected capabilities and collection criteria to provide the basis for establishing the number of successful missions of each NRO system required to meet the USIB requirements, and for evaluation of new systems, or modified existing systems, in support of the USIB and/or DNRO.

(3) The data file also will be used in conjunction with statements of current collection capabilities and intelligence collection criteria, as furnished by the SPD(s) and the USIB respectively, to define system collection requirements and mission collection requirements.

(a) System collection requirements will be a statement of the assignment of a given subset of the total collection requirements to a particular type of system (expressed in terms operatively applicable to that system), based on its unique collection capabilities and how they relate to the total collection requirements and criteria.

(b) Mission collection requirements will be a more refined statement of the system requirements, relative priorities, and weighting parameters for the selection logic in the SPD system software, expressed in compatible terms, based on current capabilities and requirements. The mission requirements will be changed as necessary

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on the basis of feedback from recovered photography or processed SIGINT data, or receipt of new corollary intelligence information from the USIB. The SPD(s) will use these SOC furnished requirements in conducting the operational mission.

(4) An essential by-product of the data file operations will be reports which will be used to inform the DNRO and the USIB intelligence community of the status of tasks assigned to the NRO and the accomplishment and performance levels of NRO missions.

(5) To maintain currency of the data file, the SOC will manage the internal data by receiving collection verification and confirmation reports from the SPD(s) and intelligence community, and, based on criteria established in close coordination with the USIB, purging or modifying the data file as a continuous process.

c. Tasked Studies

The SOC will task the responsible SPD to accomplish any study or analysis which requires computer operations with mission software, or which require any simulation of mission capability. The capability for such computer operations will not be duplicated within the SOC.

7. RESOURCES

a. Communications

The present communication and data transmission capabilities are adequate to support mission operations and SPD studies for the SOC under the procedures outlined in this plan. As new SPD field facilities are added, such as the program-peculiar mission ground station planned for Program communications of the same general capability will be provided between these facilities and the SOC.

b. Computer

(1) The computational capability to accomplish the SOC data processing functions outlined in this plan requires one medium-sized computer, comparable to the IBM 360/40, to be installed within the SOC.

(2) Since there is no requirement for SOC computation on an in-line or rev-by-rev basis with respect to missions in progress, there is no need for redundancy in the SOC computer capability.

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c. Contractual Support

(1) In accordance with the following arrangements, SAFSP will provide support involving contractual effort to the SOC for the purposes listed below. Each case refers to effort necessary to carry out the responsibilities and procedures outlined in this plan, and which has been specifically approved by the DNRO as to scope, content, and funding, and for which the SOC has provided the justification and obtained the approval.

(a) Contractor support for coding, programming, and machine operation tasks associated with the operation of computers within the SOC. SAFSP will contract for the amount and type of support specified by the SOC. This will be on a level-of-effort basis only, with no other end items. All such contracted level of effort will be under the daily direction of the SOC direct to the contractor personnel provided to the SOC under the terms of the SAFSP contract.

(b) Contractor consulting engineering service and technical assistance or software, computing machines, and satellite reconnaissance operations. This support will be provided by the Aerospace Corporation, as follows. SAFSP will budget for Aerospace MTS for this purpose within the applicable limitations and MTS ceiling. The Aerospace personnel will be selected from those having direct applicable experience in satellite reconnaissance work. They will be assigned to and stationed at the SOC and will work exclusively for and in support of the SOC in regard to computing machines, techniques, and the software used by the SOC. The period of assignment to the SOC will be as mutually agreed to by the Director, SAFSS, and the Vice President and General Manager, Satellite Systems Engineering, Aerospace Corporation (normally a one-year tour followed by replacement and rotation back to El Segundo, California).

(c) Development of software to be used by the SOC. SAFSP will contract for the development of software to be used by the SOC, in conformance with direction from the SOC, as follows:

1. The SOC will provide to SAFSP a description of the desired software.
2. SAFSP will contract for the development of the software.

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3. Appropriate SOC personnel will participate with SAFSP and Aerospace in determinations of all software configurations and modifications. SOC representatives will also be invited to attend SAFSP meetings with contractors. In addition, SAFSP will keep the D/SOC fully informed of the status of this software development.

4. Whenever the SOC desires to change the work under development for use by the SOC, SAFSP will be informed by wire (or letter, as appropriate). Personal discussions may be used to insure full understanding, but changes will be written.

5. In order to insure no confusion on the part of the contractor(s) or dilution of contractual discipline or management, the SOC interface will be with SPD exclusively: the contractor(s) involved will see exactly the same interface with SPD as for other software developed by SAFSP. It is understood that at any meetings with contractors, directions or instructions to the contractors will be issued solely by the SPD. Such directions or instructions will be formulated exclusively by the SPD in compliance with SOC desires as outlined above, utilizing the SPD/SOC Aerospace support as required.

(2) In addition to the above support, SAFSP will keep the SOC currently informed on the status of SCF capabilities, including improvements under development, and any other pertinent information affecting the SOC responsibilities.

8. COORDINATION/INTERFACES

a. Each NRO SPD will coordinate with the SOC the development of the software necessary to operate each reconnaissance system under his responsibility in an optimum manner as outlined herein.

b. The SOC will interface directly with the responsible SPD in all cases, and not with the supporting resources employed by the SPD to conduct the missions (i. e., the SOC will interface with SAFSP, not the SCF, on GAMBIT, HEXAGON, and all other systems for which SAFSP is the NRO SPD; they will interface with the appropriate CIA office on and with SAFSL on DORIAN.

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SATELLITE OPERATIONS CENTER

FUNCTIONAL RESPONSIBILITIES

FOR

PHOTOGRAPHIC SATELLITES

Purpose.

The purpose of this paper is to set forth the responsibilities of the Satellite Operations Center (SOC). The responsibilities are divided into five general areas: Collection Requirements, Mission Planning, Satellite Operations, Reporting, and Bookkeeping.

SOC Responsibilities.

a. Collection Requirements.

(1) The SOC provides the NRO representative to the USIB subcommittees and working groups. It informs the appropriate USIB agencies of collection capabilities, current and projected, of the various NRP satellite reconnaissance systems and the cumulative status of collection requirements.

(a) The SOC defines current collection capabilities to the USIB by compilation of technical data on the configuration of each system, mission studies, and cumulative mission accomplishment records.

(b) The SOC assists in the formulation of collection criteria for new systems being developed or considered for development, through participation in the definition of operational concepts and evaluation of collection effectiveness. The SOC performs mission and trade-off studies which are used to analyze new operational concepts, performance requirements, capabilities, and collection effectiveness.

(c) The SOC maintains a cumulative account of the degree to which all intelligence collection requirements have been met on a day-by-day basis.

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(2) The SOC receives and interprets all intelligence collection requirements from the USIB, and maintains close and continual coordination to insure full understanding and effective interpretation.

(a) The SOC interprets and translates the USIB collection requirements into specific collection tasks for areas, targets, and high priority interest events in the form of collection modes, location, quality, accuracy, and other characteristics which uniquely define the specific collection desired.

(b) The SOC interprets USIB statements into specific relative priorities for each area, target or high interest event, and supplements the collection guidance received from the USIB through the results of the SOC analyses of NRP mission accomplishments; thereby establishing current specific collection priorities for each mission.

(3) The SOC recommends the overall number of successful missions for each NRP satellite program required to obtain the desired collection.

(a) The SOC will define the overall number of successful missions of each NRO satellite reconnaissance system required to obtain the desired collection on the basis of the collection requirements and SOC analyses. The SOC will also define the general time period (i. e., month) in which these missions are desired.

(4) The SOC provides mission-peculiar collection requirements and relative priorities to the respective SPD for each mission. The SPD uses these data to generate the optimum mission profiles for SOC selection and approval.

(a) The SOC specifies to the responsible SPD the weighting factors and selection criteria which are used in the operation of the software routines during premission planning. The SOC determines weighting factors and selection criteria from studies, records of previous missions, and from statistical calibration data.

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b. Mission Planning.

(1) The SOC selects satellite orbits from mission profiles provided to SOC by the responsible SPD.

(a) The SOC requests the SPD's to conduct a search of the orbit options with and without auxiliary payloads for those which meet the system requirements and provide the largest target access. Those orbits that are not satisfactory due to hardware limitations, remote tracking station contacts, and recovery zones are eliminated by the various programs.

(b) The SOC decides the orbit to be flown for a particular mission from among those prepared by the responsible SPD which provides the highest assurance of USIB requirements as they are known at the time the selection is made.

Not True → (c) The SOC maintains a library of orbits ^{may be} and USIB requirements that can be met if the specific orbit is again selected. The generation of this library of orbits has been delegated by SOC and provides:

(to the program office)

1. Orbits which are attainable within hardware limits of the system.
2. Orbits which are attainable within the configuration of the Satellite Control Facility environment.
3. Orbits which satisfy general and current USIB collection requirements.

c. Satellite Operations.

(1) The SOC is provided payload operational summaries, projected mission profile, forecast of weather, and vehicle/expendable status by the SPD after a specified vehicle attains orbit and the mission progresses.

(2) The SOC modifies the on-going mission(s) objectives and collection criteria as necessary to meet USIB collection requirements.

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(3) The SOC considers the targets available on the orbit selected, frequency and quality of coverage, the predicted weather over potential target areas, film availability, the coverage obtained to date, and the projected coverage for the current mission to optimize the payload operations.

provide parameters of the SPD programs
(4) The SOC makes the decision as to what targets or areas should be photographed, *the SOC reserves the prerogative to transmit change or concurrence* and transmits the decision to the SPD. SPD insures that camera decisions are within operational constraints, i. e., performance and health of the on-orbit vehicle.

d. Reporting.

(1) The SOC controls the NRO operational reporting system. This reporting system informs the DNRO and USIB of those specific collection requirements which have been assigned to particular systems/mission and the current status of USIB collection objectives.

(a) The SOC prepares and distributes Reports Control Manuals to be used for each satellite reconnaissance project. Manuals are similar in format and adjusted to each specific system.

(b) Any substantive changes in status in the collection capacity occurring during mission operation are reported to the SOC so that the need to modify the collection requirements and criteria may be examined.

(c) The SOC receives from the intelligence community results of the actual mission as soon as the product has been reviewed.

(d) The SOC receives from the Weather Central forecast weather for the area of interest on a station-contact by station-contact basis and verified weather for areas of interest photographed as soon as feasible. This permits the SOC to add or delete targets on subsequent accesses to the same target.

e. Bookkeeping.

SPD
(1) The SOC maintains and operates a data file which is primarily a compilation of all actions in which the SOC has participated since the launching of the first photographic reconnaissance satellite.

The SOC maintains an index of data held at each SPD and prescribes changes, additions, as necessary to data base -

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(a) The data file is used with information on projected capabilities and collection criteria to provide the basis for establishing the number of successful missions of each NRO system required to meet USIB requirements and for the evaluation of new systems in support of the USIB, DNRO and NRO Staff.

(b) The data file is used in conjunction with statements of current collection capabilities and intelligence collection criteria to define system collection requirements and mission collection requirements.

(c) Reports compiled from the data file apprise the DNRO and USIB of the status of tasks assigned to the NRO and the accomplishment and performance levels of NRO missions.

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