17 March 1967

14 00067097D

SAFSP/SOC INTERFACE AGREEMENT

TOP SECRET

Copy 2 of 2 Copies
Page 1 of 11 Pages
BYE 52178-67

17 March 1967

SAFSP/SOC INTERFACE AGREEMENT

I. INTRODUCTION

The SOC pre-mission planning and post mission analysis responsibility requires a close and well-coordinated relationship with the Program Director. A set of procedures whereby the Program Director and the SOC Director can most economically and expeditiously accomplish those tasks and functions which utilize common resources is required.

During a three-day meeting (14-17 March 1967) of SAFSP and the SOC a number of policy, functional and procedural agreements were reached. These agreements, which pertain to all SOC assigned satellite programs, are contained in this document. The agreements are separated into five general groups:

1. Pre-SOC 70 Plan Implementation.

2. SOC 70 Plan Implementation.

3. Software Acquisition/Modification.

4. Interface Requirements.

5. Procedures.

II. CONCEPT

The SOC is solely responsible for the selection of the orbit which is to be flown, selection of the launch date and time, through consultation with the Program Director, and the designation of individual targets to be covered during the mission from among those specified by COMOR. The SOC has a

Copy __2__ of __2__ Copies
Page __2__ of __11__ Pages.

continuing requirement for assuring that these responsibilities are met to

the fullest extent possible. In keeping with this requirement the SOC has

developed the SOC 70 Plan which describes and, when approved, will

provide the resources necessary to fully exercise these assigned functions.

The SOC has a vested interest in these resources and will necessarily have

to participate in the definition, acquisition and modification of all these resources.

The SOC 70 Plan includes a mission simulation capability at the SOC

which will be used in the planning and selection of orbits and launch dates. The

simulation capability will also be used to select the target selection criteria

(based primarily on satisfying the COMOR requirements) that are needed for

the optimum selection of individual payload operations. The computer operation

which performs the actual selection of each individual payload operation will

be at the STC for all SOC assigned NRP satellite programs. Under this concept

the SOC will approve each specific payload operation prior to the actual

satellite payload operation.

III. PRE-SOC 70 PLAN IMPLEMENTATION

Until the time that the SOC acquires a computation capability it will

be necessary to rely heavily on the resources of SP/TMA to provide additional

support for many aspects of pre-mission planning, post-flight analysis, and

specific studies for the SOC.

The SOC is presently limited to the use of card processing equipment

for supporting internal functions. This limitation will exist for at least

fifteen months from the time when, and if, approval is given for the SOC

computation capability. The card processing equipment will be used to support record keeping, prioritizing target decks, and weighting of targets within the priority structure.

The required support during this interim will be provided as follows:

1. The use of the SAFSP (CDC 3600) and/or STC computer complex to run all studies of SOC origin until the SOC has a computational capability. This requested help will be provided on a specified case by case basis and will be supported to the limits of the SP/TMA capability available at the time.

2. The use of SAFSP and/or STC computers to perform operational pre-mission planning and post-flight analysis. This requirement will continue on a mission basis until the SOC acquires a computation capability.

3. The utilization of SP/TMA personnel in providing consultation and operational support in performing SOC studies and planning functions on the SAFSP/STC computers.

4. The provision by the SOC to SP/TMA of all necessary documentation, consultation, and orientation sessions on procedures and content for all mission planning and study software which is developed specifically for the SOC as required for the accomplishment of these functions on the SAFSP/STC computers.

5. The direct, on-site supervision of the conduct of pre-mission planning and post-flight analysis functions on the SAFSP/STC computers by SOC personnel. The on-site participation by the SOC will be reduced as permitted.

TOP SECRET

Copy 2 of 2 Copies
Page 4 of 11 Pages.
Control No. BYE-52128-67

IV. SOC 70 PLAN IMPLEMENTATION

The following general agreements were reached concerning the

implementation of the SOC 70 Plan:

1. The computer operation which performs the actual selection of each

individual payload operation will be at the STC for all assigned SOC satellite

projects. The SOC will provide target selection criteria to the STC on a

mission and load by load basis to optimize the individual payload operation

selection process which is performed at the STC. These selection criteria will

be derived from the mission simulation software used in a predictive mode at

the SOC. The SOC mission simulation capability will be used almost exclusively

to produce the maximum satisfaction of the COMOR requirements.

2. For those satellite projects which require the use of predicted weather

for target planning, the predicted weather integration function will be performed

at the SOC. The results of this integration will form part of the target selection

criteria used by the STC in the actual target selection which will be performed

immediately prior to command generation.

3. All mission, payload and product history data will be maintained at

the SOC. Only that data acquired during a current mission will be maintained

at the STC. At the conclusion of each mission the STC payload selection history

will be destroyed.

4. The orbit selection function performed at the STC will provide all

possible orbits to the SOC, both with or without piggy-back payloads, which are

considered usable by the Program Director. Based on intelligence factors,

TOP SECRET

Copy 2 of 2 Copies
Page 5 of 11 Pages.
Control No. BYE 52128-67

the SOC will determine which of all these possible orbit options will be used.

5. The prioritizing function required for all those targets which are not provided a priority by the COMOR will be accomplished at the SOC using the most recent cumulative program product history and data base and frequency requirements.

6. The weighting or shading of the individual targets within their assigned priorities will be accomplished at the SOC.

7. A complete SOC backup pre-mission planning, on-orbit operations and post-flight analysis capability will be provided at the STC under the direct supervision of on-site SOC personnel.

8. The SOC requirement of the STC inherent during all planning functions are:

    a. The capability of loading payload commands for every rev over the area of interest for targeting and other areas as appropriate.

    b. The capability to load commands at each station contact based on weather data no more than two hours old.

    c. Integration of predicted weather into the planning for the complete load span of revs being loaded.

9. The SOC-STC interface will be provided with a direct real time data communications line for two-way transmission during the operational phases of all satellite missions. Included in this requirement is the need for:

    a. Initiation of transmission of data in each direction by the SOC. The STC will signal the availability of data to the SOC which in turn will call for the data as required.

TOP SECRET

Copy 2 of 2 copies
Page 6 of 11 Pages
Control No. BYE 52128-67

b. The availability of STC generated data to the SOC at the same time it is locally accepted at the STC and prior to the further use of this data in the next serial software module or routine. This means that for example the output of TMOP will be made available to the SOC prior to its use in the command generation software.

c. An absolute minimum of equipment, including modems, encryption devices, and storage media will be installed between the STC computer performing the SOC functions and the SOC.

d. The NRO Communications Section personnel will provide the necessary personnel and terminal equipment for this real time communication requirement and will monitor the lines for satisfactory quality. Communications will beresponsible for correcting transmission errors between modems.

e. A backup mode for transmission of operational data will be provided by NRO Communications. This is defined as the use of that capability normally used for all traffic other than the operational data.

f. The SOC will make available the direct real time communications lines to the normal NRO communications function during periods of operational inactivity at the SOC.

V. SOFTWARE ACQUISITION/MODIFICATION

With the advent of an increased capability at the SOC it is necessary to
provide a measure of consistency and a minimum of duplication of effort among
the assigned satellite programs. Because of the vested interest in the resources
required for mission planning the SOC will necessarily participate in the
definition, acquisition and modification of all the resources affecting SOC areas
of responsibilities. The SOC will provide requirements to the Program Director
and will coordinate and/or approve all such resources.

1. In implementing the above considerations it is agreed that:

a. The SAFSP will fund the program unique operational software
necessary for SOC support.

b. The SOC will actively participate in all review and technical direction
meetings during the acquisition and modification of the mission planning software.

c. A Configuration Control Board will be established to direct and
coordinate the acquisition and modification of mission planning software for all
SOC assigned NRP programs.*

d. All SOC support contracts will be contracted by field organizations
with the SOC providing that technical direction necessary to assure that the products
satisfy the requirements.

e. The SOC will coordinate and/or approve all software affecting the
SOC areas of responsibility.

* A memorandum on the CCB will be coordinated with SP and provided to Dr. Flax
from the SOC. This memorandum will ask the DNRO to direct that a CCB be
established to accomplish the above.

Copy 2 of 2 copies
Page 8 of 11 Pages.
Control No. BYE-52128-67

2. The SOC will participate in the acquisition and/or modification of mission planning software affecting SOC areas of responsibility by providing:

    a. Membership on Source Selection Boards.

    b. Membership on the Configuration Control Board.

    c. Attendance at Technical Direction meetings.

    d. Attendance at Program Review meetings.

    e. Submission of requirements to the Program Director.

VI. INTERFACE REQUIREMENTS

The automation of the SOC requires close coordination and a free flow of information between SP/SSD and the SOC to insure a minimum of duplication of the effort of the STC and the SOC, and to insure that a complete SOC backup capability does exist at the STC.

This requirement for information includes complete and up-to-date information on the current state of development, the planned development, and implementation schedules of the System II software, the CDC 3600/3800 systems hardware, the Advanced Data System (ADS), and SOC resources. This requirement will exist on a continuing basis. The SOC will participate in the development of new hardware and system software for the SCF to the extent that it affects the operations at the SOC. Contractors providing direct support to the SOC will be provided ready access to that information required to develop the resources as specified in the SOC 70 Plan.

The SOC will participate in the coordination and flow of information through:

1. Attendance at appropriate meetings.

2. Submission of SOC requirements based on projected hardware and system software needs.

3. Attendance at coordination meetings for system software and hardware development.

4. Use of informal information channels.

5. Interchange of appropriate documents (both Black and White documents).

VII. PROCEDURES

In order to accomplish the SAFSP/SOC interface agreements it is further agreed that [   ] will assume responsibility for developing and providing to the SOC the procedures necessary for accomplishing communication and information flow as follows:

1. Establishing term and special clearance for SOC representatives with appropriate SP and SSD offices and contractors.

2. Establishing a cover story for the SOC function, as required, under which SOC representatives may conduct business with appropriate SP and SSD contractors.

3. Placing SOC representatives on appropriate distribution lists for initial issue documents, follow-on information, and changes/modifications as they are made.

4. Distributing agendas, minutes, milestones, and schedules where appropriate.

5. Obtaining advanced information in specific SOC areas of interest.

6. Inviting SOC representatives to attend appropriate meetings with SP/SSD personnel and contractors.

7. The use of SDC computers for the development and checkout of computer programs by SOC representatives.

8. Providing SOC technical Direction inputs to cognizant agencies.

9. Informal contacts, when necessary, between SOC representatives and appropriate SP/SSD personnel and contractors. These contacts will be coordinated through [   ]

10. Providing a definition of relationships of SOC representatives with appropriate SP/SSD offices and contractors.

KENNETH R. DUNCAN
Colonel, USAF
SAFSP

HENRY C. HOWARD
Colonel, USAF
Deputy Director for Satellite Operations
NRO Staff