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28 January 1968

MEMORANDUM FOR: Comptroller, OSA

SUBJECT : Transmittal of AQUILINE Program Call FY 71 - FY 75

Forwarded herewith is Project AQUILINE, Program Call for FY 71 - FY 75.

Chief, Communications Division
OSA/DDS&T

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CATEGORY : Communications

SUB-CATEGORY: Operations

ELEMENT : Domestic Activity

SUB-ELEMENT : AQUILINE

1. PROGRESS TOWARD OBJECTIVES:

During the period Nov 1967 through Dec 1968, OSA Communications Division maintained a close liaison with ORD in the development of system parameters needed to design the ground control, staff communications, and data relay systems. A smooth transition from development phase to operational phase will be accomplished by the ORD/OSA working group.

2. OBJECTIVES:

To install, operate, and maintain two types of communications services. Provide staff communication circuits from the ground control station to Headquarters and supplementary communications from the ground control station to both the launch and recovery sites. Secure teletype and voice will be provided in the supplementary circuits to facilitate pre-launch tests and to coordinate recovery operations.

a. Method of Approach

1 Jan 1969 - 30 June 1970: Activity during this period will be primarily working groups maintaining close liaison until the test site is activated. When the test site is activated for flight tests, two communication engineer positions will be required. These engineers will accomplish the initial hardware orientation and familiarization to facilitate a smooth transition to operational use. Early requirements for circuits and terminals in contractor plants and the test site are expected both prior and during the flight test period. These contractor communication needs will continue through the entire project period whenever secure communications are required to support payload designs and operational applications.

FY 1971: The development of an operational capability will commence with the procurement of staff communications equipment. Additional supporting circuits are anticipated to both the launch and recovery sites from the ground control system should either or both be remoted. The transmission and distribution requirements for relay of payload data to Headquarters or other field terminals will require teletype transmission and relay equipment. Six positions are required to staff the communication positions needed on one deployment. These positions are: 1 Communications Operations Officer, 3 technical positions comprised of 2 Engineers and 1 Technician, and 2 Cryptographers.

FY 1972: A second team will be organized and maintained at the domestic test site to augment the first team and provide a deployment capability using the ORD funded ground control station. Testing and operational evaluation work would cease at the domestic site during the dual deployment. Six additional positions will be required resulting in a total complement of twelve positions.

FY 1973, 1974 and 1975: No additional positions will be required above those indicated in FY 1973 for communications, assuming staff and data transmission volumes do not increase. Equipment funding will be required primarily for augmenting and modifying the communications systems to accommodate new control and/or payload devices.

b. Coordination and Joint Planning

Coordination is now being effected with ORD for joint planning during the remaining development phase. Joint planning will be established as necessary with other components of CIA to insure proper communications support for this program.

c. Risks Involved

Communications operations are conducted in locations where loss of assets is considered an unlikely event. Support requirements are expected to remain within current communications technology and reliability factors.

d. Alternatives Considered

Four levels of effort were considered for the period FY 70 - 74

The first consideration was attainment of a full operational capability during FY 70.

The second was establishment of a lesser capability during FY 70. Both of these alternatives involved the procurement of sophisticated control and navigations and communications equipment to be funded during FY 69. The funding required was in excess of availability of FY 69 funds. Further, it was questionable that the systems could be developed sufficiently early to enable production during FY 70.

The third alternative considered establishing one mobile unit during FY 70 capable of operating at ranges up to [redacted] This would still require the sophisticated relay systems and control equipment which may or may not be available within the time required.

The fourth alternative which is recommended and funding for which is indicated in the assets required section of this call, is to establish a capability during FY 71, to concentrate on training, testing, and development of operational employment concepts. The equipment would be used to control the AQUILINE vehicle and will enable its recovery. This approach further will allow for a steady development program and an orderly transition from development over the years covered by this call.

e. Resources Required (Manpower and Funds):

Summary of Positions and Funds

	FY 68	FY 69	FY 70	FY 71	FY 72	FY 73	FY 74	FY 75
Positions	--	--	--	6	12	12	12	12
Funds								
Pers. Svs.	--	--						
Other	--	--						
Total	--	--						
Leases	--	--						
Contract Support	--	--						
Satellite Terminal Interface	--							
Support Commo Equip. 2 ea.	--							
Staff Circuit Terminals	--							
Total	--	--						

The following positions are required to support this activity:

	FY 71	FY 72	FY 73	FY 74	FY 75
Commo Ops	1	2	2	2	2
Technical	3	6	6	6	6
Cryptographer	2	4	4	4	4
Total	6	12	12	12	12

PERSONNEL DESCRIPTIONS

FY-70

ELECTRONIC ENGINEER (Two) (Unfunded) GS-12

Two electronic engineers are required to study the theory and techniques used in the ground control systems. Familiarization and orientation will be required for the transition from R&D to Operational use.

FY-71

COMMUNICATION OPERATIONS OFFICER (One) GS-13

Responsible officer performing chief communications' duties of initiating actions for establishing required circuits, maintains cryptographic security, and supervises communication complement.

TECHNICAL POSITIONS

ELECTRONIC ENGINEER (Two) GS-12

Responsible for installation, calibration, and supervise maintenance of communications systems in ground control system.

ELECTRONIC SEPCIALIST (One) GS-11

Perform systems test, maintenance, and repairs for all communications systems. Maintain and service all staff and auxiliary communications equipment.

CRYPTOGRAPHERS (Four: 2 Field; 2 Base) GS-08 & GS-09

Perform all duties required in processing staff communications and operate cryptographic devices needed on the support circuits to the remote launch and recovery sites.

FY-72, 73, 74, 75

All positions are duplicated.