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LMSC  
STATEMENT OF WORK  
DEVELOPMENT OF A SATELLITE RECONNAISSANCE & RECOVERY SYSTEM  
CORONA "L" PROGRAM

This Statement of Work has been reviewed and approved by SE

Declassified by [redacted]

In Accordance with E. O. 12958  
on NOV 26 1997

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Manager, SE

[redacted]  
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STATEMENT OF WORK

DEVELOPMENT OF A SATELLITE RECONNAISSANCE & RECOVERY SYSTEM

CORONA "L" PROGRAM

Item 1

Design, develop and test as part of the Lanyard Reconnaissance System a space structure subsystem which will functionally integrate the Agena vehicle, camera and recovery subsystems.

Item 2

Prepare and furnish to the Government a specification for the space structure subsystem designed and developed under Item 1.

Item 3

Fabricate eight (8) each of the space system structure subsystem designed and developed under Item 1 assuming full and complete responsibility for integration with the camera and recovery subsystem and functional and operational interface with the Agena vehicle.

Item 4

Provide mock-ups as follows:

- a. One structural mockup of the space structure assemblies and similar subassemblies relative to this physical interface with associate contractors will be fabricated and delivered to the associate contractor (ITK).
- b. The contractor shall provide and maintain a mockup of the space structure subsystem and similar subassemblies relative to physical interface with associate contractors such that a completely satisfactory physical interface is assured.

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- c. Two clock simulators will be delivered to the associate contractor (ITEK) for use during subsystem test to assure satisfactory functional interface.

Item 5

Contractor shall furnish GHE and GSE including but no necessarily limited to the followings

<u>ITEM</u>	<u>QUANTITY</u>
a. Shipping Mating Dolly	2
b. Cradle Assembly	2
c. Tie Down Cable	8
d. Barrel Dolly	4
e. Sling, Barrel Vertical	3
f. Sling, Barrel Mating (With Cross)	2
g. Sling, System Handling	4
h. Security Cover (sets)	5
i. Barrel Dolly, Wooden, Horizontal	3
j. Barrel Dolly, Wooden, Vertical	1
k. Payload Loading Dolly	2
l. Cassette Simulator	2
m. Alignment Dolly	1
n. Payload Retriever	2
o. HATS Pallet	1
p. Checkout Console	3
q. Cable Set	3
r. Breakout Boxes, Test	33
s. Breakout Boxes, Pyrotechnics	6
t. Extension Cables	15
u. Simulator:	
1) Payload	4
2) Clock (AP)	1
3) Clock (NY)	2
4) Instrument, Main	1
5) Instrument, Stellar Index	1
6) Decoder	1
7) Roll Joint	1

Item 6

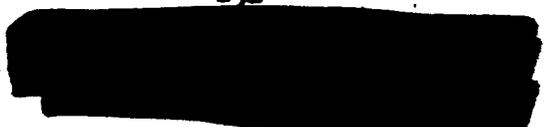
Contractor shall perform Inspection, Qualification and Acceptance tests in accordance with the following:

- a. Shipment is F.O.B. VAFB, via such carriers and to such destinations as may be designated by the customer.

- b. Final acceptance of equipment and materials to be delivered shall be VAFB. Government representatives will be notified five (5) days prior to the beginning of the final acceptance tests. These tests shall be administered in accordance with the approved Acceptance Test Procedures. Request for waivers on end item equipment deliveries shall be submitted to the Government via SE (See Item 15) for resolution. The execution of a DD Form 250 by the Contractor and the Government shall constitute final acceptance. Copies of the DD Forms 250 will be forwarded to the Contracting and Finance Officers.
- c. All Qualification and Acceptance Test Specifications and Procedures (QTS/QTP and ATS/ATP) shall be prepared by the Contractor and the QTS and ATS shall be furnished to SE for review and approval by the Government prior to the performance of the Qual or Acceptance Test, whichever is applicable. If at the expiration of fifteen (15) days from the furnishing of such specifications to SE, SE and the Government has neither approved nor disapproved the specifications they shall be deemed to have been approved.
- d. The contractor shall establish and maintain a Quality Assurance program to ensure compliance with the quality standards established by LMSC as project requirements and/or design control specifications.

Item 7

- a. Flight Support. The contractor shall perform technical functions in support of the establishment of mission plans and programs, conduct flight operations, and analyze in-flight I/M data toward the attainment of the mission objectives. The contractor shall



establish system instrumentation requirements, coordinate data acquisition functions, reduce and analyze flight test data, and prepare flight test reports. The contractor shall provide for support of launch activities after delivery of the total payload system to the launch site through actual launch date.

- b. Post Flight Support. The contractor shall furnish selected personnel to participate in post flight analysis for purposes of technical information feed back of total system results.

Item 8

- a. On or before 15 December 1962 the Contractor shall furnish SE seven (7) copies of a list by subsystem, containing the part number, description, and quantity and need date of spare parts deemed necessary by the contractor to be furnished by the Government to support the equipments during checkout and flight operations. This list shall also indicate those long lead time items already released to support the equipment. These spare parts when furnished by the Government will be assumed to be in a flight worthy condition.
- b. If within thirty (30) days from the date of submission, the SE and the Government has neither approved nor disapproved all the items contained in such list, those items shall be deemed to have been authorized for Contractor provisioning purposes.
- c. The delivery schedule of these spares shall be determined at a later date.
- d. Contractor shall maintain stockrooms and inventories of all spare parts provisioned to support the program.

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Item 9

The Contractor shall provide for such refurbishments and retesting as may be necessary on subassemblies, assemblies, and subsystems, other than camera subsystem and related spare parts, to efficiently maintain a level of these categories for flight usage. The space structure subsystem used in qualification testing is not required to be refurbished for use as a flight system.

Item 10

The Contractor shall provide maintenance and/or potential restoration of any or all total payload system in or to a flight readiness condition beyond the scheduled dates as set forth in Item 18 hereof. Costs for this item shall be the subject of separate negotiations.

Item 11

The Contractor shall modify two (2) each Government-owned film spool carrying cases to satisfy requirements for security and environmental design.

Item 12

The Contractor shall furnish the following handbooks and technical manuals:

- a. Technical ground handling equipment manuals to ensure safe handling of all equipment.
- b. One each, of a Lanyard Reconnaissance System Manual to be composed of a complete set of Systems Test Specifications and Test Procedures.
- c. One each, of a "buy-off book" for each flight system recording all useful data from the time of receiving inspection through the R-2 day activities.



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d. R-2 is defined as "Mission Film Loading and Checkout".  
These manuals shall contain sufficient information to install, maintain, and operate the equipments and shall also contain such illustrations, safety notes, schematics, and drawings as are required. These manuals shall be in sufficient detail for the use of personnel operating research and development programs. In the case of Item 12 a, delivery shall be per Government direction at the time of acceptance by the Government of the first flight unit. In the case of Item 12 b, and any changes in Specifications and/or Procedures, delivery shall be per Government direction, within forty-five (45) days after R-2 activities for each of the flight systems. In the case of Item 12 c, delivery shall be per Government direction within fifteen (15) days after R-2 activities for each of the flight systems.

Item 13

The Contractor shall provide manufacturing extras in form of raw stock and small parts which are expended as scrap and spoilage and are not included as items within spares provisioning requirements.

Item 14

The Contractor shall furnish logistics data on failure rates and consumption information and other technical data required for logistics management, including:

- a. Maintenance of continuing liaison with associate contractors, vendors and all suppliers to insure the timely delivery of spares for the GFE hardware.
- b. Establishment of hardware recycling plan where rework and/or repair is involved.

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- c. Monitoring follow-up in all of the above functions and the maintenance of status records of hardware at all times.

Item 15

The Contractor shall provide services hereunder within the framework of the following delineation of contractor, associate contractor, and SE contractor responsibilities:

- a. From the inception of this contract through 31 Oct. '62 the Contractor will perform Systems Engineering as defined in SE Operating Procedures dated 4 April 1962. From 1 November 1962 through completion of the program such Systems Engineering will be performed by the Contractor under a separate contract. The SE is concerned with program coordination, determination and affirmation of requirements, design evaluation, systems interfaces, and systems integration. The purview of SE includes, but is not limited to, systems requirements and parameters, systems and major assembly design specifications, test specifications and procedures, systems integration, establishment and revision of program milestones, reliability, modifications to systems and subsystems, and requests for design and performance waivers on end item equipment. Technical Direction will be accomplished by Technical Directives prepared by SE which shall obtain prior approval thereof by the Government before issuance.
- b. The Contractor shall have the overall management and system responsibility to direct and guide the efforts of field representatives of associate contractors in the following respects:
- (1) Security at all contractor's facilities and VAFB.
  - (2) Housekeeping at all contractor's facilities and VAFB.

- (3) Day to day work schedules and the necessary manpower requirements at all contractor's facilities and VAFB.
- (4) Payload system acceptance tests. All functional, environmental, and acceptance tests at the contractor's facility and VAFB.
- (5) Film handling at the contractor's facilities and VAFB except as noted in paragraph (7) below.
- (6) Processing of film at the contractor's facilities.
- (7) (a) The Associate Contractor, ITEK, shall have the responsibility to furnish technical support to the Contractor during all testing functions wherein the instrument subsystem is a functional part of the test.  
(b) The Associate Contractor, ITEK, shall have the responsibility for:
  1. Panoramic and index-stellar camera subsystems acceptance at the Contractor's (IMSC) facility.
  2. Retrofits, modifications, and maintenance of the camera subsystems.
  3. Loading and splicing of flight payload prior to launch, and
  4. The recommendations and certification of camera subsystem prior to launch.
- (8) Contractor shall review spares proposals of associate contractors and provide the SE and/or the Government with its recommendations with respect thereto.

Item 16

Contractor shall furnish the following reports and attend required meetings as follows:

- a. Systems Qualification Test Reports - to be forwarded to SE two (2) weeks or sooner after completion of each major subassembly test phase. A consolidated summarizing report shall be forwarded forty-five (45) days after the Subsystem Qualification Test Program.
- b. Subassembly Qualification Test Reports - to be forwarded to SE two (2) weeks or sooner after completion of each major subassembly test phase. A consolidated, summarizing report shall be forwarded forty-five (45) days after the Subsystem Qualification Test Program.
- c. Acceptance Test Reports - to be forwarded as part of each subsystem logbook.
- d. Systems Engineering Meetings to be held once each month alternately at Contractor's plant and associate's plant. Such meetings shall be chaired and minutes prepared and distributed by SE. Contractor shall present such briefing aids and data as required.

Item 17

The Contractor will convert the Mark 5A REC subsystem and associated spares, furnished as GFE, to the "L" REC configuration.

Item 18

Contractor shall make deliveries as follows:

<u>WORK STATEMENT ITEM NUMBER</u>	<u>DESCRIPTION</u>	<u>DESTINATION</u>	<u>DATE</u>
2	System Specification	See Item 12	
3	Payload System-1	Government	February 1963

Item 18 (Continued)

<u>WORK STATEMENT ITEM NUMBER</u>	<u>DESCRIPTION</u>	<u>DESTINATION</u>	<u>DATE</u>
3 (Cont'd)	Payload System-2	Government	March 1963
	Payload System-3	Government	April 1963
	Payload System-4	Government	May 1963
	Payload System-5	Government	June 1963
4 a.	Mock-up of payload structure assembly	ITEK	17 Sept. 1962
4 c.	Clock simulator-1	ITEK	7 July 1962
	Clock simulator-2	ITEK	7 August 1962
16 a.	System Qualification Test Report (preliminary)	SE	14 days after completion of each major subassembly
	System Qualification Test Report (final)	SE	45 days after completion of subsystem qualification test program
16 b.	Subassembly Qualification Test Reports (prelim.)	SE	14 days after completion of each major subassembly test phase
	Subassembly Qualification Test Report (final)	SE	45 days after the subsystem qualification test program
16 c.	Acceptance Test Reports	SE	45 days after Acceptance Test for each flight
11	Film spool carrying case-1	Government	15 February 1963
	Film spool carrying case-2	Government	15 February 1963
12 a.	Technical Ground Handling Manuals	) - See Item 12	
12 b.	Lanyard Reconnaissance System manual		)

WORK STATEMENT  
ITEM NUMBER

DESCRIPTION

DESTINATION

DATE

12 c.	Buy-Off Book-1	} - See Item 12
	Buy-Off Book-2	
	Buy-Off Book-3	
	Buy-Off Book-4	
	Buy-Off Book-5	

Item 19

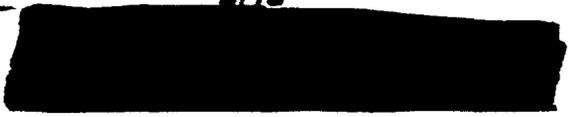
The following Government facilities, services and equipments will be furnished at the locations and times specified:

a. Government Facilities

- (1) Vandenberg Missile Assembly Area
- (2) Vandenberg L Building
- (3) Vandenberg Launch Pads
- (4) [REDACTED]
- (5) Engineering and office space, plus necessary office furnishing and equipments, at all sites.
- (6) Hlock House space at VAFB for checkout and firing.  
Consoles and special instrumentation as required.
- (7) Outdoor storage area at all sites, if required.
- (8) Hazard storage area at all sites.
- (9) Shop and laboratory space, plus necessary machine and portable tools, laboratory and testing equipment, material handling equipment, and necessary installation costs at VAFB.

b. Government Furnished Services

- (1) Equipment transportation to and from the sites, except between VAFB and the contractor's checkout facility.



- (2) Ships, boats, aircraft and related equipment required in support of recovery operations on re-entry capsules.
- (3) Use of military base services, when available, and in accordance with DOD policy, such as mess, card service, transportation, recreation facilities, utilities, fire protection, first aid and major maintenance service of buildings, grounds and utilities.

c. Government Furnished Equipment

- (1) Five (5) Panoramic camera subsystems and contractor established spares (FOB Boston) (One of these units to be used in total system qualification testing)  
Refurbished qual unit becomes -
 

1st unit-Nov 22, 1962
2nd unit-Dec 22, 1962
3rd unit-Jan 22, 1963
4th unit-Feb 22, 1963
5th unit-Mar 22, 1963
- (2) Five (5) Index-Stellar cameras and contractor established spares (FOB Boston) (One of these units to be used in total system qualification testing)  
Refurbished qual unit becomes -
 

1st unit-Nov 22, 1962
2nd unit-Dec 22, 1962
3rd unit-Jan 22, 1963
4th unit-Feb 22, 1963
5th unit-Mar 22, 1963
- (3) Six (6) cassettes and contractor established spares (FOB Boston) (One of these units to be used in total system qualification testing)  
Refurbished qual unit becomes -
 

Spare unit Nov 22, 1962
1st unit-Nov 22, 1962
2nd unit-Nov 22, 1962
3rd unit-Dec 22, 1962
4th unit-Jan 22, 1963
5th unit-Feb 22, 1963
6th unit-Mar 22, 1963
- (4) Five (5) recovery subsystems and contractor established spares (FOB Philadelphia) — may be interchanged with other programs
 

1st unit-Sep 24, 1962
2nd unit-Oct 12, 1962
3rd unit-Nov 2, 1962
4th unit-Nov 13, 1962
5th unit-Dec 14, 1962
- (5) Film of type and quantity sufficient to fill all needs for testing, checkout and flight operations
 

All film to be furnished on "As Required" basis
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- (6) Raw film shipping cases for items above
 

As required
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- (7) Panoramic and Index-Stellar camera sub-systems test, checkout and operating consoles for use by contractor. Nov. 22, 1962
- (8) Camera subsystems handling dollies/slings as required from associate contractor. Nov. 22, 1962
- (9) One Collimator - target simulator - to be installed at the contractor's facility - on or before Oct. 19, 1962  
Jan. 8, 1963
- (10) Optical alignment fixtures to check the camera alignments - to be installed at the contractor's facility - on or before Oct. 19, 1962  
Jan. 8, 1963
- (11) Five (5) each of all tools, jigs and similar items needed to install, check and adjust any components, assembly or subassembly of the camera subsystem during system assembly, checkout and post recovery operations. Nov. 22, 1962
- (12) Maintenance manuals for the camera subsystem. (Delivery must be compatible with the delivery of the first camera subsystem.) Nov. 22, 1962
- (13) Space Mockup. One space (wooden and/or metal), non-functional. June 21, 1962
- (14) Recovery System Checkout Console. One re-entry system checkout console (as available from other programs.) On hand.
- (15) Ampex Tape Recorder FR107B. On hand.
- (16) RT-12 Processor (Eastman Kodak) or equivalent Nov. 7, 1962