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DEPARTMENT OF THE AIR FORCE
DIRECTORATE OF SPECIAL PROJECTS (OSAF)
AF UNIT POST OFFICE, LOS ANGELES, CALIFORNIA 90045

REPLY TO
ATTN OF: SP-7

20 Jul 66

SUBJECT: Proposal Evaluation Procedures for HEXAGON System Satellite Basic Assembly (SBA)

TO: DNRO (Dr. A. Flax)

1. The specific evaluation criteria and a scoring standard to be used in the proposal evaluations for the HEXAGON System Satellite Basic Assembly (SBA) are presented for your review.

2. Attachments 1, 2, and 3 describe the specific criteria and subcriteria to be considered by the Scientific and Technical, the Management and Production, and the Operations Evaluation Working Groups, respectively. Attachment 4 describes the scoring standard to be used by all evaluators in each group. The Management and Production and the Operations Working Groups will use only the even integers between 0 and 10 for scoring. Because the Scientific and Technical Group has a more definitive basis for assessing points than the other groups, they will use all the integers between 0 and 10 for scoring.

3. Because of the airline strike and the inability of East Coast Board members to attend meetings in Los Angeles, the attached specific criteria were reviewed and approved by the following personnel:

Col F. S. Buzard

Copies of these documents are also being submitted concurrently to the absent Board members for their comments and concurrence.

F. S. Buzard

F.S. Buzard, Colonel, USAF
Chairman, Source Selection Board

4 Atchs
1. S&T Evaluation Criteria
2. M&P Evaluation Criteria
3. Ops Evaluation Criteria
4. Scoring Rationale

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ATCH 1
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SCIENTIFIC AND TECHNICAL EVALUATION WORKING GROUP

EVALUATION CATEGORY

1. ORBIT ADJUST SUBSYSTEM

Specific Evaluation Criteria

Lifetime - Capacity of system to operate for a required period of time or number of cycles, including a storage and test cycle. This will include normal wearout and ageing as well as depletion of expendables.

Performance - Capability of design to meet stated requirements.

Technical Concepts - The feasibility of the design considering current state-of-the-art and developmental risks.

Producibility - Can the design be manufactured without excessive production effort and schedule delays?

Reliability - The capability of this subsystem to meet its reliability requirements.

Physical Characteristics - Will consider whether such items as the weight, size, shape and interfaces are realistic.

Electrical Power - Is the amount and type of power required consistent with the functional requirements of the subsystem.

Operational Flexibility - This area will consider the degree of restraints imposed by the subsystem on operational decisions.

Growth Potential - The capability to expand the system without major redesign.

Maintainability - The ease of isolation and replacement of a malfunctioning component.

Testability - The ability to determine the condition of a component at all levels of assembly.

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Specific Evaluation Criteria

Environmental Performance - The ability of the system to meet the environmental criteria and the ability of the subsystem to perform satisfactorily under all environmental conditions it can experience, including transportation.

Vulnerability - This section will consider protection against inadvertent or forceful operational interference with the functions of the subsystems.

Safety - This section will evaluate personnel and property safety.

Analysis & Data - Will consider understanding of subject, scope and penetration of analyses, and experimental or analytical bases establishing feasibility of design.

EMI - Have the EMI susceptibility and suppression requirements been recognized and incorporated in the design.

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SCIENTIFIC AND TECHNICAL EVALUATION WORKING GROUP

EVALUATION CATEGORY

2. ELECTRICAL DISTRIBUTION AND POWER SUBSYSTEM

Specific Evaluation Criteria

Lifetime - Capacity of system to operate for a required period of time or number of cycles, including a storage and test cycle. This will include normal wearout and ageing as well as depletion of expendables.

Performance - Capability of design to meet stated requirements.

Technical Concepts - The feasibility of the design considering current state-of-the-art and developmental risks.

Producibility - Can the design be manufactured without excessive production effort and schedule delays?

Reliability - The capability of this subsystem to meet its reliability requirements.

Physical Characteristics - Will consider whether such items as the weight, size, shape and interfaces are realistic.

Electrical Power - Is the amount and type of power required consistent with the functional requirements of the subsystem.

Operational Flexibility - This area will consider the degree of restraints imposed by the subsystem on operational decisions.

Growth Potential - The capability to expand the system without major redesign.

Maintainability - The ease of isolation and replacement of a malfunctioning component.

Testability - The ability to determine the condition of a component at all levels of assembly.

Control System

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Specific Evaluation Criteria

Environmental Performance - The ability of the system to meet the environmental criteria and the ability of the subsystem to perform satisfactorily under all environmental conditions it can experience, including transportation.

Vulnerability - This section will consider protection against inadvertent or forceful operational interference with the functions of the subsystems.

Safety - This section will evaluate personnel and property safety.

Analysis & Data - Will consider understanding of subject, scope and penetration of analyses, and experimental or analytical bases establishing feasibility of design.

EMI - Have the EMI susceptibility and suppression requirements been recognized and incorporated in the design.

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SCIENTIFIC AND TECHNICAL EVALUATION WORKING GROUP

EVALUATION CATEGORY

3. TELEMETRY, TRACKING AND COMMAND SUBSYSTEM

Specific Evaluation Criteria

Lifetime - Capacity of system to operate for a required period of time or number of cycles, including a storage and test cycle. This will include normal wearout and ageing as well as depletion of expendables.

Performance - Capability of design to meet stated requirements.

Technical Concepts - The feasibility of the design considering current state-of-the-art and developmental risks.

Producibility - Can the design be manufactured without excessive production effort and schedule delays?

Reliability - The capability of this subsystem to meet its reliability requirements.

Physical Characteristics - Will consider whether such items as the weight, size, shape and interfaces are realistic.

Electrical Power - Is the amount and type of power required consistent with the functional requirements of the subsystem.

Operational Flexibility - This area will consider the degree of restraints imposed by the subsystem on operational decisions.

Growth Potential - The capability to expand the system without major redesign.

Maintainability - The ease of isolation and replacement of a malfunctioning component.

Testability - The ability to determine the condition of a component at all levels of assembly.

Control Systems

Specific Evaluation Criteria

Environmental Performance - The ability of the system to meet the environmental criteria and the ability of the subsystem to perform satisfactorily under all environmental conditions it can experience, including transportation.

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Safety - This section will evaluate personnel and property safety.

Analysis & Data - Will consider understanding of subject, scope and penetration of analyses, and experimental or analytical bases establishing feasibility of design.

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SCIENTIFIC AND TECHNICAL EVALUATION WORKING GROUP

EVALUATION CATEGORY

4. ATTITUDE CONTROL SUBSYSTEM

Specific Evaluation Criteria

Lifetime - Capacity of system to operate for a required period of time or number of cycles, including a storage and test cycle. This will include normal wearout and ageing as well as depletion of expendables.

Performance - Capability of design to meet stated requirements.

Technical Concepts - The feasibility of the design considering current state-of-the-art and developmental risks.

Producibility - Can the design be manufactured without excessive production effort and schedule delays?

Reliability - The capability of this subsystem to meet its reliability requirements.

Physical Characteristics - Will consider whether such items as the weight, size, shape and interfaces are realistic.

Electrical Power - Is the amount and type of power required consistent with the functional requirements of the subsystem.

Operational Flexibility - This area will consider the degree of restraints imposed by the subsystem on operational decisions.

Growth Potential - The capability to expand the system without major redesign.

Maintainability - The ease of isolation and replacement of a malfunctioning component.

Testability - The ability to determine the condition of a component at all levels of assembly.

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Specific Evaluation Criteria

Environmental Performance - The ability of the system to meet the environmental criteria and the ability of the subsystem to perform satisfactorily under all environmental conditions it can experience, including transportation.

Vulnerability - This section will consider protection against inadvertent or forceful operational interference with the functions of the subsystems.

Safety - This section will evaluate personnel and property safety.

Analysis & Data - Will consider understanding of subject, scope and penetration of analyses, and experimental or analytical bases establishing feasibility of design.

EMI - Have the EMC susceptibility and suppression requirements been recognized and incorporated in the design.

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SCIENTIFIC AND TECHNICAL EVALUATION WORKING GROUP

EVALUATION CATEGORY

5. ENVIRONMENTAL CONTROL SUBSYSTEM

Specific Evaluation Criteria

Lifetime - Capacity of system to operate for a required period of time or number of cycles, including a storage and test cycle. This will include normal wear-out and ageing as well as depletion of expendables.

Performance - Capability of design to meet stated requirements.

Technical Concepts - The feasibility of the design considering current state-of-the-art and developmental risks.

Producibility - Can the design be manufactured without excessive production effort and schedule delays?

Reliability - The capability of this subsystem to meet its reliability requirements.

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Electrical Power - Is the amount and type of power required consistent with the functional requirements of the subsystem.

Operational Flexibility - This area will consider the degree of restraints imposed by the subsystem on operational decisions.

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Testability - The ability to determine the condition of a component at all levels of assembly.

Control System

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Specific Evaluation Criteria

Environmental Performance - The ability of the system to meet the environmental criteria and the ability of the subsystem to perform satisfactorily under all environmental conditions it can experience, including transportation.

Vulnerability - This section will consider protection against inadvertent or forceful operational interference with the functions of the subsystems.

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SCIENTIFIC AND TECHNICAL EVALUATION WORKING GROUP

EVALUATION CATEGORY

6. STRUCTURE SUBSYSTEM

Specific Evaluation Criteria

Lifetime - Capacity of system to operate for a required period of time or number of cycles, including a storage and test cycle. This will include normal wearout and ageing as well as depletion of expendables.

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Technical Concepts - The feasibility of the design considering current state-of-the-art and developmental risks.

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Testability - The ability to determine the condition of a component at all levels of assembly.

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Specific Evaluation Criteria

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SCIENTIFIC AND TECHNICAL EVALUATION WORKING GROUP

EVALUATION CATEGORY

7. BACK-UP RECOVERY ATTITUDE CONTROL SUBSYSTEM

Specific Evaluation Criteria

Lifetime - Capacity of system to operate for a required period of time or number of cycles, including a storage and test cycle. This will include normal wearout and ageing as well as depletion of expendables.

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Technical Concepts - The feasibility of the design considering current state-of-the-art and developmental risks.

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Operational Flexibility - This area will consider the degree of restraints imposed by the subsystem on operational decisions.

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Maintainability - The ease of isolation and replacement of a malfunctioning component.

Testability - The ability to determine the condition of a component at all levels of assembly.

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Specific Evaluation Criteria

Environmental Performance - The ability of the system to meet the environmental criteria and the ability of the subsystem to perform satisfactorily under all environmental conditions it can experience, including transportation.

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SCIENTIFIC AND TECHNICAL EVALUATION WORKING GROUP

EVALUATION CATEGORY

8. RELIABILITY PROGRAM

Specific Evaluation Criteria

Adequacy of failure reporting (FR) System

Adequacy of Corrective Action (CA) System

Reaction time of FR and CA System

Realism of Reliability budgets to Subsystems and components.

Piece-part Reliability Program

Reliability Maintenance.

Adequacy of Qualification Program.

Participation of reliability personnel in all phases of Program.

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SCIENTIFIC AND TECHNICAL EVALUATION WORKING GROUP

EVALUATION CATEGORY

9. OVERALL SYSTEM DESIGN AND ANALYSIS

Specific Evaluation Criteria

Lifetime - Capacity of system to operate for a required period of time or number of cycles, including a storage and test cycle. This will include normal wearout and ageing as well as depletion of expendables.

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Specific Evaluation Criteria

Environmental Performance - The ability of the system to meet the environmental criteria and the ability of the subsystem to perform satisfactorily under all environmental conditions it can experience, including transportation.

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SCIENTIFIC AND TECHNICAL EVALUATION WORKING GROUP

EVALUATION CATEGORY

10. INTEGRATION AND INTERFACE CONSIDERATION

Specific Evaluation Criteria

Recognition of System Design Impact

Regard for trade-off Study Requirements

Regard for Technical Interchange Meetings

Thermal Interface Considerations

Design of Subsystem and Component Interfaces

EMI Control with respect to System

Electrical Interface Design

Mechanical Interface Design

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SCIENTIFIC AND TECHNICAL EVALUATION WORKING GROUP

EVALUATION CATEGORY

II. TEST PROGRAM

Specific Evaluation Criteria

Types of Tests (Do they include Developmental, Acceptance, Qualification and Reliability)

Level of Testing (Do they propose extensive piece part testing or only module, etc.).

Thoroughness of Testing (100 percent inspection and testing or only a sampling plan, all functions, or major functions only, etc.)

Environmental factor adequacy (Levels and types of Testing)

Instrumentation Compatibility

Calibration Program Adequacy

Factory-to-Pad Compatibility

Data Reduction and Reporting

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SCIENTIFIC AND TECHNICAL EVALUATION WORKING GROUP

EVALUATION CATEGORY

12. OTHER TECHNICAL CONSIDERATIONS

Specific Evaluation Criteria

Realism of Schedule (Research, development and test).

FACI and Design Reviews (Timeliness and content)

Planned Investigations

Critical Items Identification (Items to be controlled by contractual specifications, items of critical supply, etc.).

Participation of Production, Q.C., and Reliability Engineers in design.

Alternate approach review.

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SCIENTIFIC AND TECHNICAL EVALUATION WORKING GROUP

EVALUATION CATEGORY

13. AEROSPACE GROUND EQUIPMENT

Specific Evaluation Criteria

Lifetime - Capacity of system to operate for a required period of time or number of cycles, including a storage and test cycle. This will include normal wearout and ageing as well as depletion of expendables.

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Technical Concepts - The feasibility of the design considering current state-of-the-art and developmental risks.

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Testability - The ability to determine the condition of a component at all levels of assembly.

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Specific Evaluation Criteria

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EMI - Have the EMI susceptibility and suppression requirements been recognized and incorporated in the design.

Missile Flight Control System

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Management and Production Evaluation Working Group

Evaluation Category - Organization

Specific Evaluation Criteria

1. That the Contractor Program Director will have adequate and proper authority over the company resources necessary for the efficient performance of the contract. This entails authority over personnel assigned to his program and authority over the support provided his program by staff and other departments, except for those company functions exercising surveillance over his operations such as quality control, internal audit, etc.

2. That there will be adequate provision for a responsib[illegible] official above the program director - surveilling department lev[illegible] resolve disputes.

3. That the Contractor's Program Director will have adequate direct lines of communication to top management to insure top management participation in program problems.

4. That a top management official, i.e., Vice President or comparable official, will be assigned personal responsibility for surveillance of the program and given authority to marshall necessary company resources to insure program performance.

5. That the contractor has an adequate plan covering communication channels and interface/integration relationships with the System Program Office, other Air Force agencies in the Program, the GSE/TD contractor and associate contractors to expedite program actions and exploit the factory to pad concept to the fullest possible extent.

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Management and Production Evaluation Work Group

Evaluation Category - Past Performance

Specific Evaluation Criteria

1. Past achievement of planned system performance (management).

2. Ability to meet program schedules and other contract requirements.

3. Past Financial Management (overruns/underruns) and past practices in accounting.

4. Past practice of overloading management and plant capability.

5. Past practices in configuration management (implement and document required design changes) and quality control plan, procedures and practices.

6. Past practices in purchasing and subcontracting.

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Management and Production Evaluation Working Group

Evaluation Category - Master Plan and Scheduling

Special Evaluation Criteria

1. Adequacy of overall plan and detailed schedules to meet program Requirements and Milestones.

2. Optimization of plans and schedules for cost effectiveness.

3. Realism of delivery dates.

4. Realism and flexibility of plans/schedules as related to the availability of resources (plant, equipment and manpower).

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Management and Production Evaluation Working Group

Evaluation Category - Configuration Accounting and Control

Specific Evaluation Criteria

1. Has AFSCM 375-1 or an acceptable total configuration plan been proposed and is the degree of control adequate?

2. Does proposal indicate management awareness and emphasis on configuration control of documentation, equipment and computer programs from production thru operations of the system (e.g., organizational importance)?

3. Are thorough procedures proposed for configuration control and accounting?

   a. Technical and management review of documentation.

   b. Change control review boards considered.

   c. Plans for retirement and/or destruction of documentation.

4. Are configuration status data to be provided at proper intervals?

5. Are procedures included for handling control and dissemination of data and equipment to/from associate contractors and/or the government?

6. Have reasonable manpower levels been apportioned to configuration control and accounting tasks?

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Management and Production Evaluation Working Group

Evaluation Category - Production Capability and Subcontracting Program

Specific Evaluation Criteria

1. Degree of production experience and capability for items to be fabricated by the prime contractor and proposed subcontractors.

2. Degree of responsiveness of contractor's Make-or-Buy Program or RFP requirement.

3. Extent to which contractor is making and buying items where the best capability exists. (Willingness to utilize other companies to perform essential tasks.)

4. Extent of utilization of Small Business contractors. (Above 25% - 5 points; 20-25% - 4 points; 15-20% - 3 points; 10-15% - 2 points; 5-10% - 1 point; below 5% - zero).

5. Feasibility of proposed production plan, including provisions to implement the factory-to-pad concept.

6. Extent to which contractor efficiently utilizes readily available components and existing production techniques and tooling.

7. Contractor's plans to manage activities of subcontractors to insure attention to design simplicity, cost/performance tradeoffs, quality assurance, and the factory-to-pad concept.

8. Degree of task and material control indicated.

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Management and Production Evaluation Working Group

Evaluation Category - Facilities, Special Tooling and Special Test Equipment

Specific Evaluation Criteria

1. Completeness, realism and adequacy of facilities plan. (Identification and description of facilities required. Comprehensive plan for obtaining facilities. Comprehensive plan for integrating launch facilities criteria and activation required by Statement of Work Sub-Task 3.4)

2. Availability of engineering, test and production facilities.

3. Optimization of facilities planning for cost effectiveness.

4. Requirement for Government financing.

(Note: Against Government Policy to finance.)

If financing is not required - Score 5
If financing is required - Score 0

5. Adequacy and timeliness of commercial or corporate funding commitment to meet facilities, special tooling and special test equipment requirements.

6. Requirement for additional Government furnish facilities, tooling and special test equipment over and above that now at Contractor's plant.

If No, Score 5; if yes, Score 0)

Note: For items already in possession of contractor, competitive advantage will be judged in evaluating Contractor Cost Proposal.

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Management and Production Evaluation Working Group

Evaluation Category - Manpower

Specific Evaluation Criteria

1. That contractor's plan adequately assesses the skills, numbers, and security clearances of people required to do the job (Key personnel and their qualifications should be shown).

2. That contractor adequately demonstrates that these people will be available for performance of the contract.

3. That contractor's personnel utilization plan makes adequate provision for optimum use of skills and the efficient programming and administration of personnel to meet performance needs.

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Management and Production Evaluation Working Group

Evaluation Category - Quality Assurance Program

Specific Evaluation Criteria

A. Management

1. Is organization included at proper level?

2. Is initial Quality Planning stated and adequate?

3. Are work instructions provided?

4. Are adequate records to be kept, including malfunctions reports?

5. Are corrective actions properly planned?

6. Have reasonable manpower levels been apportioned and are qualified personnel available?

B. Facilities and Standards

1. Are drawings, documents and changes related to QA planned for and outlined? Are adequate standards specified.

2. Are measuring, test and calibration equipment available and is an adequate calibration program planned?

3. Is contractor inspection equipment available?

4. Has the company established an adequate program for the training and qualification of quality assurance personnel?

C. Manufacturing Control

1. Is materials control planned for?

2. Are production processing and fabrication cycles stated and adequate?

3. Are completed item inspections and testing plans provided and adequate?

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Quality Assurance Program, Cont.

4. Are handling, storage and delivery plans provided and adequate?

5. Are statistical quality control and analyses to be accomplished?

6. Has the company established a program for the training, certification and re-certification of manufacturing personnel?

D. Control of Purchases

1. Are subcontractor/supplier responsibilities stated?

2. Will purchasing data be provided and adequately controlled?

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Control Systems

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Management and Production Evaluation Working Group

Evaluation Category - Documentation Plan

Specific Evaluation Criteria

1. Does proposal indicate management awareness and emphasis on program documentation?

2. Have major program documents been identified?

   a. AVE, AGE, spec.

   b. Qual, Engineering, Acceptance Test Procedures and Plans.

   c. Management, QA, Configuration Control, Plans, etc.

3. Has a realistic schedule for documentation been provided whch enables adequate time for in-house technical and management review?

4. Are documentation standards adhered to (i.e., AFSCM 310-1 or acceptable substitute)?

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Management and Production Evaluation Working Group

Evaluation Category - Security

Specific Evaluation Criteria

1. Does the contractor proposal reflect past experience in a covert/overt work effort and environment?

2. Does the proposal reflect a management awareness of the total security and interface requirements - black and white?

3. Does the contractor proposal contain a definitive Security Plan?

4. Is the depth and scope of the Security Plan adequate?

a. Does the Security Plan indicate an adequate covert labor base?

b. Does the Security Plan indicate provisions for an adequate "restricted" work area for covert activities?

c. Does the Security Plan reflect that appropriate covert control procedures are understood and can be implemented?

d. Does the Security Plan reflect an awareness of the role of the "cognizant" Security Office?

e. Does the Security Plan reflect an adequacy of approved covert storage capability?

f. Does the Security Plan contain cost estimates and schedule of special security requirements?

g. Does the Security Plan distinguish between overt and covert security procedures?

h. Does the Security Plan reflect an awareness of the overt-covert interface and an awareness of contractor - subcontractor covert interface?

5. Does the contractor proposal reflect management awareness of the provisions of the Industrial Security Regulation?

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2-10

OPERATIONAL EVALUATION CATEGORIES

1.0 GENERAL

1.1 Understanding of Operational Requirements

This category includes the Contractor's understanding of the operational requirements leading to the end product. This involves insight into user requirements, an appreciation of the limitations of weather and satellite control capability, and methods of compromise available to best serve user interests.

1.2 Compliance with Specification

"Specification" is defined as the design requirement exhibits accompanying the RFP Statement of Work. This requires a thorough understanding of the design requirements, and a response to all requirements related to operations. Unless adequately justified, this response must always be compliance.

1.3 Operational Soundness

Although this category will overlap with others listed below, it allows a point assignment for an overview of the operational soundness of the system. This overview should be based on the reliable return of adequate product meeting user requirements at a reasonable cost. The general compatibility with supporting services should also be considered in this category. A balanced system from an operational point of view will be a major factor.

1.4 Interfaces with Operational Activities

This category relates to the compatibility with other system elements. The estimated complexity of interfacing with the SCF and launch base should be considered in this area. As an example, a demand by an SBA contractor for additional equipment at a tracking station would be considered.

2.0 SYSTEM TEST

2.1 Thoroughness of Factory Testing

This category includes the adequacy of the acceptance test program performed on every vehicle at the factory. The operational area does not include engineering or qualification tests. The score in this category is an estimate of how close the Contractor will come to verifying every useful property of the system under all conditions to be encountered during the operation. This includes all modes and sequences of SBA operations under all types of operating environments.

2.2 Efficiency

This category considers the conservation of time, people AGE and facilities. Credit will be given if the flight system can be tested with a minimum of time and personnel (favoring automated test equipment). Credit will also be given if systems testing can be performed with inexpensive AGE and facilities (thus constraining the use of automated test equipment).

2.3 Factory-to-Pad Integrated Planning

Planning for a factory-to-pad test flow is required as a part of factory testing. Credit will be given for preparation of a data package and test procedures that are compatible with the mission profile and with pad test capability. An integrated concept of factory and field testing will be considered in this category.

3.0 LAUNCH OPERATIONS

3.1 Thoroughness of Validation

This category is analogous to Category 2.1, and relates to the capability to detect any deficiency in the system prior to launch.

3.2 Efficiency of Pad Operations

This category is analogous to Category 2.2, relating to operating with a minimum of time, people, AGE and facilities. Consideration will be given to support of a relatively short pad cycle and system countdown.

3.3 Capability for Corrective Action

This category includes the capability to isolate a failure to a replaceable module and provision of access on the pad so the replacement can be made without undue risk, and with efficient and adequate revalidation. A system of spares must be provided.

3.4 Launch Flexibility

This category includes the capability of the SBA to support a flexible launch such as last-minute changes in the time of launch or desired injection parameters. A capability for long holds will be considered.

3.5 Training

This category includes the capability to maintain a proficient Contractor force at the launch base throughout the life of the program. It should also consider the availability of required skills and the complexity of required training of all launch support personnel.

4.0 FLIGHT OPERATIONS CAPABILITY

4.1 Accuracy of Sensor Command

This includes the capability to accurately command all payloads. The capability to turn payloads on and off at a precise position on the orbit shall be considered, as well as the capability to command payload adjustments which are a function of orbital position. Adequate command capability for control of payload options shall also be considered.

4.2 Responsiveness to Modified Requirements

This category relates to the efficiency of SCF processing and its relationship to the SBA. Within the SBA responsibility, consideration will be given to vehicle equipment which can be reprogrammed rapidly, complements a high speed capability within the SCF, and provision of software at the STC which can respond rapidly to modified requirements, anomalies or weather conditions.

4.3 Orbital Flexibility

This category applies primarily to the capability of the SBA to provide flexible control on orbit. Examples of flexible control are small and frequent firing of the orbit adjust engines and adequate options available for telemetry recording and servicing of a tracking station pass. The orbital envelopes shall be considered.

4.4 Orbital Lifetime and Growth

This category includes a reserve control capability to command and instrument additional payloads or survivability aids. Consideration shall also be given to the capability to operate for long periods of time (such as 12 hours) without contact with the ground, extended life, etc.

5.0 FLIGHT OPERATIONS RELIABILITY

5.1 Operational Telemetry

Telemetry will be used during an operation to detect performance anomalies which can be circumvented by modified commanding. This category considers the adequacy of this telemetry in increasing the operational reliability of the system.

5.2 Simplicity

The reliability of the flight equipment will be considered in the operations area where factors having an impact on operations can be identified. For this category, simplicity will be credited because of the related improvement in the understanding of the equipment by ground and flight test personnel.

5.3 Capability to Circumvent Failure

This category includes the capability of the personnel, ground facilities and vehicle command equipment to work around vehicle equipment malfunctions. The primary emphasis will be on a proper choice of commandable operating modes to permit the ground personnel to circumvent failure.

5.4 Susceptibility

This category includes the capability to survive friendly but disturbing influences from outside the SBA. These disturbances include personnel error (such as false commanding), a tracking station malfunction, and the distortion of ground-to-vehicle communications due to non-hostile interference.

5.5 Vulnerability to Hostile Environment

This category includes the capability of the system to survive attack, and the ease with which the design of the system can be changed to improve its chances for survivability. Both communicat interference and weapons attack will be considered.

5.6 Reliability of SCF-SBA Interface

This category concerns the reliability of SCF hardware and software support as influenced by SBA design. As an example, vehicle telemetry, tracking and command equipment should be selected so that continued support by a tracking station is likely after the station experiences a partial failure.

6.0 FLIGHT OPERATIONS SUPPORT

6.1 Software Capability

This category includes the capability of the operational softwares to provide adequate control of the SBA and payload, including an understanding of orbit mechanics, malfunction analysis, vehicle-to-target geometry, payload adjustments, etc. The capability of the software to adjust to modified operating modes, malfunctioning subsystems and target changes shall also be evaluated. The completeness of theoretical understanding of the software shall be included in this category.

6.2 Software Reliability

This category includes the capability to support the first and subsequent flights without software malfunction. Previous delivery of similar software packages shall be considered. The capability for pre-flight checkout with other SCF elements shall be considered. Interfaces with the operator contributing to reliability shall also be considered.

6.3 Training and Reference Material

This category includes handbooks and other reference material provided to the Air Force in support of orbital operations, and training courses for all flight support personnel.

6.4 Mission Planning Support

This category includes the capability of the Contractor to provide inputs to the ORD, PRD, STO, etc., and any special planning required for orbital operations.

7.0 DATA CORRELATION

7.1 Return of Required Information

This category includes the return of sufficient data to provide the required information on attitude, position and inter-instrument relationships.

7.2 Accuracy

This category includes the accuracy of the measurements associated with the SBA, and have proper alignments been established between the payloads and the vehicle attitude reference.

7.3 Ephemeris Correlation

This category includes the accuracy of the vehicle clock, accurate interfacing of the clock with the telemetry system and the payloads, accurate tracking trnsponders, and ground software compatible with SCF orbit determination programs.

8.0 POST FLIGHT ANALYSIS

8.1 Diagnostic Telemetry

This category includes the adequcy of the instrumentation provided to determine the cause of a malfunction.

8.2 Data Reduction

This category includes the plan of the Contractor to perform a thorough data reduction of flight data.

8.3 Timeliness of Analysis

This category includes the plan to respond to the results of analysis, and provide recommended modifications shortly after an experienced malfunction. The quality of preliminary reports will be considered in this category.

Control System

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Rationale for Scoring

Points	
10	Outstanding - Contractor proposes to exceed requirement in a way that is significantly important to program, can provide greater assurance of program success, would increase program performance, would provide unique solution.
8	Excellent - Complete understanding, fully qualified, very good capability indicated, no problem apparent.
6	Good - Good understanding, adequately qualified, adequate capability, some problem indicated.
4	Fair - Fair or incomplete understanding, fair qualification, fair capability, major problems indicated.
2	Poor - Understanding of requirement, limited qualification indicated, limited capability, very difficult problem to overcome.
0	Unacceptable - No capability indicated, completely nonresponsive to requirement of RFP, insurmountable problem apparent. (Any zero rating must be specifically called to the attention of the Source Selection Board.)

Note: The evaluator is expected to study the proposal, compare it with the criteria established for each evaluation category, and assign a point rating which most closely describes the proposal. Opposite each point rating, several word descriptions have been provided to assist the evaluator in determining a point rating. After assigning a point rating for each criteria under an evaluation category, the evaluator will write a narrative justification describing the strengths and weaknesses of the proposal as they pertain to the particular criteria against which the proposal is being judged. The working group members will utilize only this point scoring scheme in their evaluation work.

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