

A. NOTICE: The following solicitation provisions and/or contract clauses pertinent to this section are hereby incorporated by reference:

I. FEDERAL ACQUISITION REGULATION CONTRACT PROVISIONS

- 52.204-06 DATA UNIVERSAL NUMBERING SYSTEM (DUNS) NUMBER (APR 1998)
- 52.214-34 SUBMISSION OF OFFERS IN THE ENGLISH LANGUAGE (APR 1991)
- 52.215-01 INSTRUCTIONS TO OFFERORS--COMPETITIVE ACQUISITION (OCT 1997) -
ALTERNATE I (OCT 1997)
- 52.215-16 FACILITIES CAPITAL COST OF MONEY (OCT 1997)
- 52.215-20 REQUIREMENTS FOR COST OR PRICING DATA OR INFORMATION OTHER THAN
COST OR PRICING DATA (OCT 1997) - ALTERNATE IV (OCT 1997)
- 52.216-01 TYPE OF CONTRACT (APR 1984)
The Government contemplates award of Firm Fixed Price (Completion) contract resulting from
this solicitation.

II. DEFENSE FEDERAL ACQUISITION REG SUPP. CONTRACT PROVISIONS

- 252.204-7001 COMMERCIAL AND GOVERNMENT ENTITY (CAGE) CODE REPORTING (DEC 1991)
- 252.211-7004 ALTERNATE PRESERVATION, PACKAGING, AND PACKING (DEC 1991)
- 252.227-7028 TECHNICAL DATA OR COMPUTER SOFTWARE PREVIOUSLY DELIVERED TO THE
GOVERNMENT (JUN 1995)

A. FEDERAL ACQUISITION REGULATION CONTRACT PROVISIONS IN FULL TEXT

**1. 52.222-24 PREAWARD ON-SITE EQUAL OPPORTUNITY COMPLIANCE EVALUATION
(DEVIATION) (APR 1984)**

An award in the amount of \$10 million or more will not be made under this solicitation unless the offeror and each of its known first-tier subcontractors (to whom it intends to award a subcontract of \$10 million or more) are found, on the basis of a compliance evaluation, to be able to comply with the provisions of the Equal Opportunity clause of this solicitation. If the offeror's proposal is for a contract of \$10 million or more, each of the offeror and its known first-tier subcontractors to whom the offeror intends to award a subcontract of \$10 million or more shall be subject to a compliance evaluation, unless within the preceding 24 months the Office of Federal Contract Compliance Clearance has conducted a compliance evaluation and found them to be in compliance with Executive Order 11246.

4. 52.233-02 SERVICE OF PROTEST (AUG 1996)

(a) Protests, as defined in section 33.101 of the Federal Acquisition Regulation, that are filed directly with an agency, and copies of any protests that are filed with the General Accounting Office (GAO), shall be served on the Contracting Officer (addressed as follows) by obtaining written and dated acknowledgment of receipt from

Ronald A. Poussard, Contracting Officer
Discoverer II Joint Program Office (DJPO)
3803 North Fairfax Avenue
Arlington, VA 22203

(b) The copy of any protest shall be received in the office designated above within one day of filing a protest with the GAO.

DRAFT

5. 52.252-01 SOLICITATION PROVISIONS INCORPORATED BY REFERENCE (FEB 1998)

This solicitation incorporates one or more solicitation provisions by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. The offeror is cautioned that the listed provisions may include blocks that must be completed by the offeror and submitted with its quotation or offer. In lieu of submitting the full text of those provisions, the offeror may identify the provision by paragraph identifier and provide the appropriate information with its quotation or offer. Also, the full text of a solicitation provision may be accessed electronically at this/these address(es): <http://farsite.hill.af.mil/>

6. 52.252-05 AUTHORIZED DEVIATIONS IN PROVISIONS (APR 1984)

(a) The use in this solicitation of any Federal Acquisition Regulation (48 CFR Chapter 1) provision with an authorized deviation is indicated by the addition of "(DEVIATION)" after the date of the provision.

(b) The use in this solicitation of any Defense Federal Acquisition Regulation Supplement (48 CFR Chapter 2) provision with an authorized deviation is indicated by the addition of "(DEVIATION)" after the name of the regulation.

B. AIR FORCE FEDERAL ACQUISITION REGULATION SUPPLEMENT CONTRACT PROVISIONS IN FULL TEXT

1. 5352.215-9000 FACILITY CLEARANCE (MAY 1996)

The offeror must possess, or acquire prior to award of a contract, a facility clearance equal to the highest classification stated on the Contract Security Classification Specification (DD Form 254) attached to this solicitation.

C. AIR FORCE MATERIEL COMMAND FAR CONTRACT PROVISIONS IN FULL TEXT

1. 5352.215-9007 USE OF NON-GOVERNMENT ADVISORS (AFMC) (JUL 1997)

Offerors are advised that data submitted to the Government in response to this solicitation may be released to non-Government advisors for review and analysis. These advisors include **XXXXXXXXXX**

2. 5352.215-9014 SUBMISSION OF COST OR PRICING DATA (AFMC) (JUL 1997)

(a) It is anticipated that pricing of this action will be based on adequate price competition; therefore, offerors are not required to submit cost or pricing data. However, if after receipt of proposals it is determined that adequate price competition does not exist, cost or pricing data (see FAR 15.804-4, Certificate of Current Cost or Pricing Data) shall be required. Use of a Standard Form 1411, Contract Pricing Proposal Cover Sheet, for the submission of the offer and any supporting data is required only if certification is required. In lieu of the Standard Form 1411, contractor format acceptable if the same information is provided.

(b) If it is determined that adequate price competition does not exist, the offeror shall provide current, complete and accurate cost or pricing data within 5 calendar days after receipt of the Contracting Officer's request.

3. 5352.215-9016 ACQUISITION OMBUDSMAN (AFMC) (JUL 1997)

An Ombudsman has been appointed to hear concerns from offerors or potential offerors during the proposal development phase of this acquisition. The Ombudsman does not diminish the authority of the program director or Contracting Officer, but communicates Contractor concerns, issues, disagreements, and recommendations to the appropriate Government personnel. When requested, the Ombudsman shall maintain strict confidentiality as to the source of the concern. The Ombudsman does not participate in the evaluation of proposals or in the source selection process. Interested parties are invited to Les Bordenlon (SMC/AX) at (310) 363-3818.

DRAFT

4. 5352.232-9000 NOTICE OF FUNDING STATUS (AFMC) (JUL 1997)

Funds are not currently available for this requirement. Offerors are advised that the cost of any response to, or other cost incurred as a result of, this solicitation is at the offeror's own risk. Unless funds are made available for this requirement, no contract will be awarded.

5. 5352.232-9002 ROUGH ORDER OF MAGNITUDE (ROM) ESTIMATE PROFILE (AFMC) (JUL 1997)

(a) A total Government Rough Order of Magnitude (ROM) estimate for CLINs 0001, 0002, 0003, 0004, 0005, 0006, and 0007 by Fiscal Year for all awarded contracts resulting from this solicitation is as follows:

<u>FY</u>	<u>Estimated Amount</u>
1999	\$ 23,000,000.00
2000	\$ 37,000,000.00

(b) The offerors may consider these Base Year (BY) 1998 ROMs in developing their proposal. Offerors are encouraged to develop best-value proposals. The Government makes no assurances that the projected funds shall be made available for this program nor shall this solicitation provision be the basis for a claim under the contract in the event the projected funds fail to materialize. This provision will not be incorporated in any contracts awarded as a result of this solicitation.

4. 5352.245-9005 ELIMINATION OF COMPETITIVE ADVANTAGE IN THE USE OF GOVERNMENT PROPERTY (AFMC) (JUL 1997)

(a) Unless otherwise specified in this solicitation or attachments, the Government does not plan to furnish any facilities, special tooling, special test equipment or other Government property for use in the performance of the contract resulting from this solicitation.

(b) The Government may, however, authorize such use in accordance with FAR 45.3, Providing Government Property to Contractors. To use existing Government property in the performance of this proposed contract, a copy of the cognizant Contracting Officer's written concurrence with such use must be furnished to the Government as a part of the response to this solicitation. Your proposal must include a listing of Government property you desire to use in the performance of the proposed contract, including the following information for each item: nomenclature, date of purchase, acquisition value, number of months of contemplated use (identify first, last, and all intervening months), rental fee, if applicable, and the copy of the Contracting Officer's written concurrence for such use.

(c) In the event that permission for such use of Government property is not authorized and the Contractor must furnish the property to perform the contract, identify the total cost impact, if any, to the proposed price.

(d) An evaluation factor as set forth in FAR 45.202, Evaluation procedures, will be used to eliminate any competitive advantage from the use of such property unless the Contracting Officer determines that the use of an evaluation factor would not affect the choice of Contractor.

D. ADMINISTRATIVE AND ONE-TIME-USE PROVISIONS IN FULL TEXT

1. SMALL BUSINESS AND SMALL DISADVANTAGED BUSINESS (FEB 1997).

FAR 52.219-8, 52.219-9, DFARS 252.219-7003 and 252.219-7004, and AFMCFARS 5352.219-9002 are included in this solicitation and shall be incorporated into any resultant contract. A subcontracting plan is required from all Offerors other than small business concerns for proposals exceeding \$500,000 that contain subcontracting opportunities. The plan shall be submitted with the initial proposal and shall be concurrently negotiated. If a cost proposal is required by this solicitation, it must relate to, and substantiate, the submissions under FAR 52.219-9(d). Also substantiate the reasonableness of any additional costs to be expended in pursuit of the small disadvantaged business goal. The Offeror's submission must provide sufficient information to support the contracting officer's review of the subcontracting plan to determine: (a) if it is acceptable (otherwise an Offeror shall be ineligible to receive the contract award); and (b) if at the time of contract completion any small disadvantaged business

DRAFT

subcontracting incentive or award fee has been earned. Contractors who have been selected for participation in the DoD test program authorized by Section 834 of Public Law 101-189 and who have approved comprehensive subcontracting plans are not required to negotiate subcontracting plans on an individual contract basis. If the Offeror has an approved comprehensive subcontracting plan under the DoD test program, the Offeror shall provide a copy of its approved comprehensive subcontracting plan in lieu of the individual plan required herein. Any contract resulting from this solicitation which includes a comprehensive subcontracting plan shall include the clause at 252.219-7004, Small Business and Small Disadvantaged Business Subcontracting Plan (Test Program), in lieu of the clauses at FAR 52.219-9, and DFARS 252.219-7003 and 252.219-7005.

2. WAIVER OF COST ACCOUNTING STANDARDS (where Applicable)

In an effort to expand upon the number of firms willing to do business with the Department of Defense (DoD), the Cost Accounting Standards (CAS) Board has granted a limited-term CAS waiver to DoD for the period of 15 Jun 98 through 15 Jun 00. This CAS waiver is subject to the following limitations:

- a. Individual Firm-Fixed Price (FFP) contracts where the Government obtains cost data that is not "certified" by the contractor as to being accurate, complete, and current prior to contract award, and the FFP contract does not provide for progress payments based on contract costs incurred;
- b. Companies to whom this waiver is applied must have no previous CAS-covered contracts, and the subsequent award of a CAS-covered contract to the company will terminate the waiver with respect to that firm for all subsequent awarded negotiated FFP contract that meet the CAS dollar applicability threshold;
- c. The Under Secretary of Defense (A&T) will approve the decision to not include the use of CAS contract clause in an individual contract (this authority may be delegated to a level no lower than a Deputy Under Secretary, or the Director of Defense Procurement; and
- d. Use of this waiver on individual DoD contracts (with supporting documentation and/or rationale, including a copy of the price negotiation memorandum) will be expeditiously forwarded to the CAS Board, through the Executive Secretary, for dissemination to Board Members. The Board has agreed that in lieu of an annual report from your office [USD (A&T)], that submissions under this condition will be sufficient.

Requests for CAS waivers pursuant to this authority should be submitted no later than the date established by this solicitation for receipt of proposals. Submit justification supporting the according to the requirement b above.

SECTION L-III - INFORMATION TO OFFERORS (ITO)

1.0 Program Structure and Objectives

1.1 Program Background

The Discoverer II (DII) program is a Defense Advanced Research Projects Agency (DARPA), Air Force and National Reconnaissance Office (NRO) joint initiative. It will develop and demonstrate an affordable space-based radar (SBR) with High Range Resolution Ground Moving Target Indication (HRR-GMTI), Synthetic Aperture Radar (SAR) imaging capabilities and Digitized Terrain Mapping Elevation Data (DTED) that will revolutionize reconnaissance, surveillance and precision geolocation support to the tactical warfighter.

The Discoverer II leverages the key concepts of the DARPA STARLITE initiative. The STARLITE concept was advanced in early 1997 following the completion of a DARPA-sponsored study. This study reported the feasibility of developing, deploying and operating a constellation of relatively inexpensive radar satellites designed to affordably provide near-continuous, day/night, all-weather, SAR imaging support to the warfighter that could be directly tasked by the warfighter and directly downlinked to theater for processing and exploitation. Shortly thereafter, the concept was modified to incorporate a low cost approach to space-based HRR-GMTI collection as well as SAR imaging capabilities in response to Air Force interest in complementing the Unmanned Air Vehicle (UAV), U-2 and Joint Surveillance Targeting Attack Radar System (JSTARS) battlefield HRR-GMTI surveillance with near-continuous, deep-look HRR-GMTI coverage from space. In addition, to resolve both the technical and

DRAFT

operational uncertainties inherent in the concept's small, low-cost space-based radar, DARPA proposed a STARLITE on-orbit demonstration in FY2001.

At the time STARLITE was proposed, the NRO was in the midst of defining its Future Imagery Architecture (FIA) intended to serve as the basis for acquiring the next generation of imaging satellite systems. The Department of Defense, the Directors of DARPA and the NRO asked the Defense Science Board (DSB) to establish a Task Force on Satellite Reconnaissance (the so-called "Hermann Panel") to review the operational, technical, industrial and financial aspects of both the STARLITE and FIA initiatives. In late 1997 the Task Force convened and received a series of briefings from DARPA, the NRO, NIMA, the Air Force, and the Joint Staff.

In December 1997, a Senior Warfighter's Forum (SWARF), composed of senior representatives of the Unified CINC's, the Joint Chiefs of Staff, the Services, and the national intelligence agencies also considered the STARLITE concept in the course of reviewing FIA requirements. The SWARF acknowledged support and interest for space-based sensor attributes central to the STARLITE concept of: 1) dynamically and directly tasking space-based sensors, 2) receiving direct downlink of sensor data in theater and 3) obtaining rapid revisit rates over an area of interest. The satellite quantity restrictions imposed on FIA precluded the SWARF from incorporating these capabilities within the FIA program.

In January 1998, the DSB Task Force on Satellite Reconnaissance issued its report. The Task Force recommended that a modified STARLITE program be initiated, as a "Military Space Radar Surveillance Program," in an effort to achieve broad-area, all-weather, near-continuous radar access that could be integrated with military operations. Two central findings of the Task Force are: 1) an on-orbit demonstration would likely be needed, and 2) a technical risk reduction program should be undertaken in advance of the demonstration. The risk reduction program is to bring leading edge, higher risk technologies to meet warfighter needs at lower cost, and to enhance system maturity and thereby facilitate a more direct and rapid transition to a follow-on operational system.

Because the principal objective of an operational system would be to support military operations, the DSB Task Force emphasized the importance of designing the follow-on system for integration with existing and planned systems supporting combatant forces. The DSB recommended the Air Force assume the acquisition, organization and training role under its normal Title X service responsibilities. Similarly, the Task Force recommended DARPA play its normal role of developing innovative military system capabilities, and the NRO participate in the program, given its space reconnaissance systems competence and the expected operational interaction between NRO systems and the new follow-on military space-based radar system.

In late February 1998 DARPA, the Air Force and the NRO signed a Memorandum of Agreement (MOA) establishing a joint program to undertake a "Space-based Radar Risk Reduction and Demonstration Program" and a Joint Program Office (JPO) to execute the program. In April the joint SBR HRR-GMTI/SAR demonstration program was designated Discoverer II.

1.2 Mission Vision

The Discoverer II Objective System is envisioned to be a lightweight, affordable satellite constellation capable of providing responsive, assured and near real time (NRT) persistent surveillance of the earth. It combines ground HRR-GMTI for wide and small area ground surveillance and SAR imagery products to support surveillance; target situation development, acquisition and analysis and reconnaissance operations. This system can support the National, Strategic and Operational organizations, however, the Discoverer II's primary mission is dedicated support to the Joint Task Force (JTF) Commander as a theater asset in support of campaign objectives. The Discoverer II Objective System will complement future C4ISR capabilities available to the Commander to achieve the tenants of Joint Vision 2010.

The Discoverer II Objective System will work within the intelligence, surveillance and reconnaissance infrastructure, adding a near-continuous world-wide deep look dimension to the system of systems architecture used to detect and monitor threats and potential threats to U.S. national security interests. Examples may include the search for and tracking of weapons of mass destruction, monitoring of sea lines of communication and commerce, and assessment of military readiness and scientific and technical intelligence of the capabilities of potential "rogue" nations.

DRAFT

The Discoverer II Objective System will provide critical information in all phases of military conflict or military and security operations other than war, such as humanitarian assistance, peace enforcement and the like. During all phases of operation, the system will mutually support both the National and Tactical Intelligence and Operational community based on priorities of need. The primary use of the system will transition to the Joint Task Commander as conflicts arise. The National community's utility of Discoverer II data may focus on indications and warning, post intelligence processing and use of processed DTED product data generation. As tensions escalate the National Command Authority will use the system to monitor an adversary's military activities to obtain warning of hostile actions. As hostilities begin, the system will aid intelligence preparation of the battlespace through collection of digital terrain elevation data, identification of targets within the enemy order of battle, and track establishment for high value and high payoff targets. At the height of combat or contingency operations, the system will support direct targeting and action, discernment of hostile intent and continuous situational awareness.

Discoverer II will be capable of providing in-theater dynamic tasking, theater downlink and rapid revisit capability to the Services based on an apportionment of pass and operations during all phases of operation, from peace to conflict. This methodology tasking and dissemination methodology will be possible from any theater of operations.

CINC's and Service use of Discoverer II during all operations include surveillance of their respective areas of operation; tracking and classification of ground moving targets, the collection of high level DTED for map product collection, geolocation target generation of known entities in preparation of their respective areas of operation, support of precise planning, peacekeeping and training exercises on how to task, conduct collection management planning and allocation of pass familiarization. This will contribute to a Commander's continual effort to conduct Theater Battle Management and visualization of their respective area of operations, even during peacetime operations, as well as establishing baseline levels of activity or norms.

The maximum utility of the Discoverer II Objective System will result from commander's use of this asset in coordination with other available intelligence, surveillance and reconnaissance assets. The multiple "look angles", different sensor types, volume of revisits and resolution and accuracy of collection systems such as national capabilities, airborne reconnaissance assets, unattended ground sensors, human intelligence sources and Discoverer II will provide commanders with dominant battlespace awareness and knowledge.

1.3 Program Plan

Discoverer II is an R&D prototype demonstration program to identify and validate the technology growth path required to a launch a capability by 2008. It develops an "Objective System" design that exploits leading edge technology in an affordable system. It will demonstrate this growth path and warfighter utility in a one-year on-orbit demonstration, with a potential of extending to a second year. If the program successfully meets its objectives, the Government anticipates continuing development and fielding the technology after a low cost mini-EM&D program. To do this the Government will empower, enable, and challenge industry to "think out of the box", exploring multiple alternatives in an innovative Government and industry partnership. The Discoverer II Program consists of a Core Program and five risk reduction programs. This solicitation is for the Core Program. The Core Program consists of two phases. Phase I includes conducting cost/performance trades and preliminary design for the Objective System. Additionally, the preliminary design for the R&D prototype is also developed and linked to the Objective System design, illustrating the technology growth is achievable, the design viable, and the cost credible on a unit by unit level. Risk mitigation and management is also addressed and is a key to transition into Phase II. Phase II is focused on the R&D prototype; further risk reduction activities, completing the design, fabrication, integration, launch and the on-orbit demonstration. The offeror should establish program scope and milestones to meet the Statement of Objectives in the model contract, Attachment 1. Figure 1.1 describes a notional schedule. This solicitation is for Phase I only, however, offerors must be able to execute the Phase II to be considered a viable offeror for Phase I.

1.3.1 Phase I

Phase I begins with the award of approximately four System Integration (SI) contracts, and continues through the last of three Interim Evaluations Reviews (IER). The contracts will consist of a basic contract and an option to continue. The basic contract period of performance will extend from contract award to the completion of the second IER (IER2) including the closure of all action items. The option will continue Phase I to the third IER (IER3). The SI contractors will select and schedule milestones, including the three IERs, in their Integrated Master Plan/Integrated Master Schedule. Fixed payments

for work completed will be tied to successfully completing these milestones, as agreed to by the Government/Contractor team. Input regarding mission and capability priorities is planned for shortly after the first IER (IER1) for feed back into the design trades.

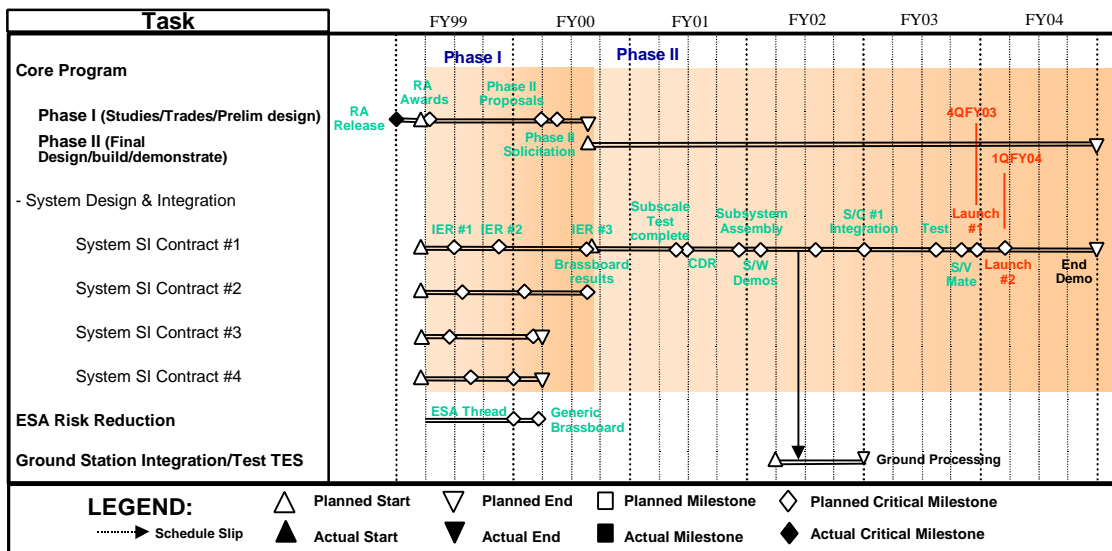
The Government anticipates down selecting to two SI contractor teams in January 2000, based on performance during the basic contract award and the second IER deliverables. Offerors should plan to accomplish the second IER with sufficient time to resolve open items and provide deliverables to support the down select. Additionally, the Government anticipates offering a Call For Improvements to the option prior to its award to allow contractors to refine their risk mitigation activities. The Government anticipates exercising the option to continue beyond the second IER for the selected contractors in January 2000. The Government intends to issue the Phase II solicitation to all qualified suppliers.

The Government is pursuing a moderate risk R&D prototype program meeting the launch date and on-orbit demonstration objectives. The Government will evaluate proposals for long-lead enabling Phase II risk reduction activities during the option Call For Improvements.

Progress will be assessed at each IER as described in the offeror's Statement Of Work (SOW) and Integrated Master Plan/Integrated Master Schedule (IMP/IMS). Proposed Technical Performance Measurements (TPM) and performance metrics evaluated in the standard scenarios provided in the System Capabilities Document, Appendix 3, will provide a nominal measure of performance. SI(s) may offer additional criteria/scenarios for evaluation. Phase I may be extended beyond IER3 for SI(s) with Objective System designs which merit continued development. The focus for each IER follows:

1.3.2 Phase II

The Government anticipates awarding Phase II in May 00. The Government may elect to award one or two Phase II contracts based on either technical merit and/or budgetary constraints. Risk reduction activities and Critical Design Review (CDR) for the R&D prototype are in this phase. Launches using GFE EELV or Delta II class launch vehicles are programmed for 4th quarter FY 2003 and 1st quarter FY 2004. The Government may elect to fund the SI directly for commercial launch services as a Phase II task if proposed. An on-orbit system demonstration will consist of contractor run check-out, system characterization, experiments, and system optimization, to evaluate system performance, and a series of operational demonstrations to evaluate operational utility.



AN02

Figure 1-1 Notional Schedule

1.4 Core Program Scope

A key objective for the program is Total System Responsibility (TSR), for both Phases I and II. The selected SI contractor(s) will construct and manage a program with a seamless, comprehensive management and systems engineering approach. For the Objective System, the SI team must consider the entire Space Based Radar architecture including Tasking, Processing, Exploitation, and Dissemination (TPED) in developing missions, Objective System Concept, CONOPS and when designing the satellite, radar, communications and ground segment processing requirements and connectivity into the C4ISR infrastructure. The Government desires to leverage the migration path of the CIG/SS infrastructure, and ultimately the Distributed Ground Station (DGS), and expects the SI teams to establish requirements for the ground segment interface consistent with a projected growth path.

Current CIG/SS architecture employs the Common Imagery Processor (CIP) and Modular Interoperable Surface Terminal (MIST). During Phase I, the Interface Control Documents (ICD) will be provided. The SI's TSR includes the satellite, radar, communications, and the ground segment including tasking, control, and data processing and display, but excluding target tracking and exploitation. The Government will provide GFI target tracker software for integration by the SI. The SI is responsible for providing a tasking and mission planning capability to control the satellite and constellation. It is anticipated in Phase II that the SI(s) will establish a capability/facility for tasking, Tracking, Telemetry & Control (TT&C) and ground processing and display to enable testing and evaluation.

The ground interface for the Phase II operational demonstrations will use CIG/SS compliant infrastructure resident in the Tactical Exploitation System (TES), and disseminated using existing infrastructure. It is anticipated the Phase II SI(s) will establish a relationship with the CIP prime contractor, Northrop-Grumman, and ICD(s) will be established to integrate DII processing requirements into the CIP. The actual coding and integration into the TES will be accomplished outside the scope of the core contract, on the current CIP contract with participation from the SI on the Core Program contract. A similar arrangement is expected with the MIST prime contractor, L3COM, for any modifications to that equipment. TT&C and tasking management will be accomplished using the contractor's facility during testing and may be used in conjunction with the Services assets during operational demonstrations.

The Army and DARPA have several development programs ongoing in data exploitation and will lead the effort to integrate advanced exploitation capability, including target tracking, into the TES. The Core Program scope does not include design of exploitation algorithms. However, the offeror's system must have characteristics sufficient to enable tracking, DTED processing and target classification when exploitation is employed, to have the desired utility. The SI will interface with the Government to ensure their design enables the benefits of the exploitation processing. A relationship linking the offeror's system HRR-GMTI performance to tracking is in System Capability Document, appendix 3 at attachment 2. The Offeror may propose a different relationship for Government approval. During Phase I, the Government will provide the tracker for inclusion in the SI's modeling and simulation. This tracker is the anticipated tracker for Phase II operational demonstrations. The Government will accomplish the DTED processing. The Government will provide an initial requirements document for interface with the Government algorithms as described in section H. Target classification, specifically, is not included in the scope of the core program. However the tracking Probability of Correct Associations (PCA) can be improved with target characterization. A FOM to credit tracking performance as a result of target characterization is planned to be available as listed in section H. The SI will participate with the Government to establish Discoverer II ICDs during Phase II, and support testing for the exploitation and processing algorithms. Table 1.1 Summarizes the SI TSR for the Core Program, Phases I and II.

DRAFT

	Objective System	R&D Prototype
TT&C (SOH)	<ul style="list-style-type: none"> • System Concept • Design Requirements 	<ul style="list-style-type: none"> • Demonstration Concept • Design Requirements • SI Facility in Phase II
Tasking	<ul style="list-style-type: none"> • System Concept <ul style="list-style-type: none"> • Including Multi-platform • Design Requirements <ul style="list-style-type: none"> • Satellite • Constellation 	<ul style="list-style-type: none"> • Demonstration Concept • Design Requirements • Implement Capability in Phase II <ul style="list-style-type: none"> • Satellite • Constellation • SI Facility Phase II • Dynamic Tactical User
Ground Processing	<ul style="list-style-type: none"> • System Concept • Design Requirements <ul style="list-style-type: none"> • Software Description Document (SDD) 	<ul style="list-style-type: none"> • Design DII Processing • CIG/SS Compliant • SDD Phase I • CIP/DII Processing ICD in Phase II • SI Facility in Phase II • Tactical User
Target Classification	<ul style="list-style-type: none"> • Enable ATR 	<ul style="list-style-type: none"> • Target Characterization
Target Tracking	<ul style="list-style-type: none"> • Integrate Gov't provided tracker • Closed Loop 	<ul style="list-style-type: none"> • Integrate Gov't provided tracker • Minimum: open loop
DTED Collection of Processing	<ul style="list-style-type: none"> • System Concept • Enable Level 5 	<ul style="list-style-type: none"> • Enable Level 5 processing offsite
Dissemination	<ul style="list-style-type: none"> • System Concept 	NONE
Communications	<ul style="list-style-type: none"> • System Concept • Design Requirements 	<ul style="list-style-type: none"> • Demonstration Concept • Design Requirements • MIST/DII mod ICD in Phase II • SI Facility in Phase II • Tactical User

Table 1.1

1.5 Other Discoverer II Risk Reduction Programs

Discoverer II includes five risk reduction programs designed to identify/demonstrate the capabilities that could be exploited directly by the tactical warfighter. Additionally, the programs mature these enabling technologies, reducing the risk to the Core Program and ultimately, E&MD. These programs are separate contract activities. Data available from these programs are described in section H. The risk reduction programs are:

- Electronically Scanned Array (ESA) Radar. This program focuses on the ESA as a solution to the trade studies. The program will design and test a space qualified Transmit/Receive (TR) module and architecture at a brass-board level. The intent is to prove that a low cost, space qualified ESA is feasible. Predicted performance and test results are deliverables to the Core Program.
- Signal Processing. This program reduces risk by developing and validating algorithms for four applications: 1) On-board/off-board processing for MTI/SAR/ECCM, including Space-Time Adaptive Processing (STAP). 2) On-board processing using systolic multi-chip technology to enable the beam-forming processing. This effort is planned to make available chip modules masks, complete with license for use by the Core Program if desired. 3) Target tracking software will be delivered as GFE. The Core program will leverage on-going activities in this area by integrating this software. 4) Tasking/Mission Planning software will be provided for both satellite and constellation management. This program provides tools for use by the Core Program, if desired. It reduces risk by demonstrating and enabling the benefits currently realized in optimized tasking by on-going Governments efforts.

DRAFT

- Small Agile Bus. This program studies the demands on a small, light-weight satellite bus for Space Based Radar (SBR) application. Using simulation and analysis this effort identifies key risks requiring management during the Core Program.
- High Data Rate Communications. This program addresses the high communication requirements for SBR application with direct access to the theater commander. The program's goal is to increase the Common Data Link (CDL) data rate for space and ground equipment, including space qualifying a vendor for potential use by the Core Program. This program will modify ground equipment to support the Discoverer II operational demonstration.
- High Resolution Terrain Mapping. The Core Program does not include processing for DTED, significantly reducing the cost and technical risk. This effort will provide system requirements to the Core Program for design considerations.

1.6 Integrated Product Development

The Government is implementing a streamlined approach based on Integrated Product Development (IPD) for this Discoverer II effort. This approach provides flexibility to the contractor in conducting an effective effort while giving the Government greater visibility into this effort. Two of the major features of this approach are reviewed in this introduction.

The first major feature addresses planning the contract work effort and preparing the contract documentation, see Figure 1.2. The Government's RFP provides the Offeror with the elements shown in the left column of the figure; i.e., Model Contract (Sections A - K), Section L, Section M, System Capability Document (SCD), Statement of Objectives (SOO), Preliminary Work Breakdown Structure (PWBS), Applicable Documents, Contract Data Requirements List (CDRL), and Contract Line Item Numbers (CLINs). Based on the RFP requirements, the Offeror shall submit a proposal containing the items listed in the center column of the figure; i.e., a completed Model contract, Contract WBS (CWBS), Statement of Work (SOW), Applicable Documents, an Integrated Master Plan (IMP) and Schedule (IMS), CDRL, and CLINS in accordance with the detailed proposal preparation instructions found in this RFP. The definitive contract contains the elements shown in the right hand column of the figure.

The IMP expands on the CWBS, its dictionary, and the CSOW tasks, and establishes, by key events and selective narratives, the significant accomplishments and corresponding accomplishment criteria for both the products and processes necessary to accomplish the effort. Selected narratives will be included to explain where in the process the criteria apply. The IMP will be placed on contract. The IMS supports the IMP and shows the schedule of tasks necessary to achieve each significant accomplishment. The IMP and IMS will be used to track the progress of the effort, based heavily on the accomplishment criteria that serve as measures of the progress. A briefing describing the IMP/IMS and common numbering system is located in the Discoverer II reference library (see section 2.1.5).

The second major feature of the IPD approach is the use of Integrated Product Teams (IPTs) in implementing the event-driven plan described above. This approach involves a teaming of Government and contractor functional disciplines to integrate and concurrently apply all necessary processes to produce effective and efficient products that satisfy mission requirements. The Discoverer II System Program Director (SPD) is a senior Air Force officer (Col Hughes). He implements and executes an integrated, streamlined program consisting of the Core Program and risk reduction programs. The SPD has assigned a Core Program Manager (Lt Col Netzer). He and his technical team will interface with the SI(s) for day to day operation in an IPT structure.

DRAFT

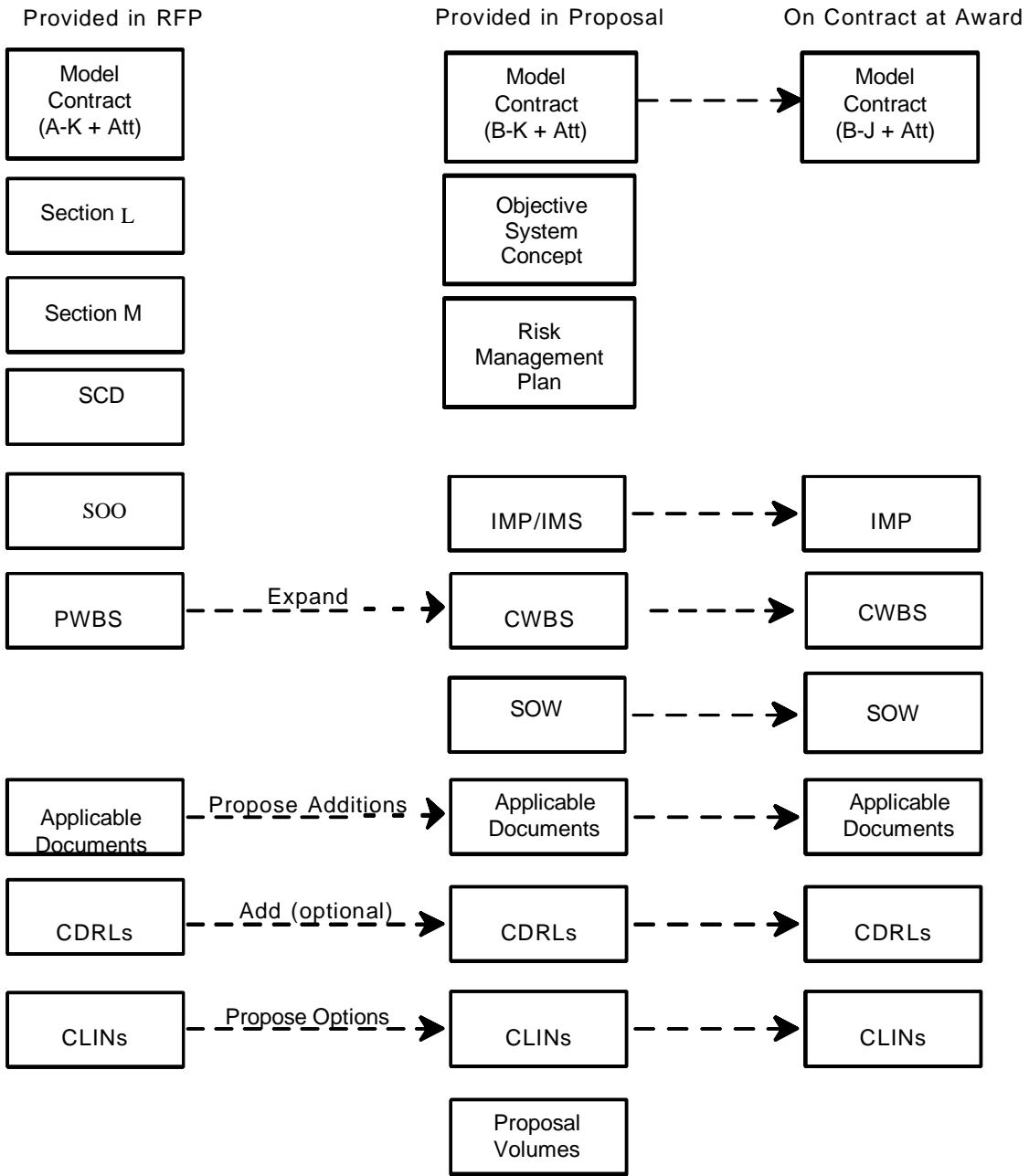


Figure 1.2. Procurement Approach

1.7 Contracting Objectives

The fixed price nature of the Phase I solicitation accompanied by a full and open competition and a competitive down-select strategy goes a long way toward assuring the Government that fair and reasonable prices can be obtained without imposing cost data requirements. We are requesting industry assistance in structuring the solicitation to obtain only that information necessary to conduct price analysis for both the basic contract and any subsequent modifications. We do not anticipate requiring cost data for Phase I and have structured the draft solicitation to require the minimum data necessary.

Offerors may decide to invest corporate funds toward efforts that may advance related technologies or reduce risk on this or related programs. Government accounting requirements prohibit the use of Independent Research and Development (IR&D) funds for effort required under a Government contract. If you choose to conduct related research and development activities, the effort must be segregated from the effort you propose in your statement of work for Discoverer II. Further, we are considering including corporate experience in related research and development activities in our evaluation of offeror technical capabilities for Phase I and welcome your comments on this issue.

In addition, the JPO intends to pursue non-statutory waivers and deviations to FAR requirements when it can be demonstrated that waiving or revising a clause is in the mutual interest of both the Government and the offeror based on a business case proposed by the offeror. For example, the Government intends to obtain Government Purpose License Rights for data pursuant to the standard DFARS provisions. However, we recognize that there may be cases where the offeror may propose an alternative licensing arrangement which may further restrict the Government's rights. Current DFARS provisions allow some flexibility to negotiate rights. We will consider doing so only where it can be demonstrated by the offeror that trading rights will result in some quantifiable value or benefit to the Government.

As part of this effort to streamline the DII solicitation, we request each offeror and potential subcontractors and team members actively review the standard FAR, DFARS, AFFARS, and AFMC provisions contained in the model contract and provide us with an assessment of those clauses that, if waived or altered in some way, would provide benefit to the offeror, which in turn would be passed to the Government. Such benefits should be quantified in terms of cost, schedule and/or performance impacts, ie. greater efficiencies, cost savings, administrative savings, better technical solutions, etc. To the maximum extent practicable offerors should accompany any suggested waivers and/or deviations with the anticipated impacts to the program if the waiver was granted. We will pursue as many waivers and deviations as appropriate prior to issuing a formal solicitation. After the solicitation is issued we urge potential offerors to include additional waivers/deviations as part of your proposal accompanied by appropriate justification and quantifiable impacts to the program. We assure you that we will pursue proposed waivers and deviations expeditiously, but cannot guarantee their approval. Therefore, a compliant proposal must be submitted to ensure you are responsive to the RFP requirements.

On a final note, we want to encourage innovative approaches to establishing the best teams to accomplish the objectives of this solicitation. To that end, we will support your efforts to seek commercial solutions wherever possible. In order to maximize commercial firm participation, we solicit your input regarding requirements to flow-down clauses to subcontractors and other team members. It is imperative that prime offerors encourage participation at the subcontractor level and seek relief to FAR requirements at the subcontractor level when appropriate. For example, when dealing with strictly commercial firms, the Department of Defense has been delegated authority to waive Cost Accounting Standards. The text of the delegation is included in the solicitation. We strongly endorse any efforts to seek such waivers where appropriate.

We will continue to refine this solicitation during the draft comment process. Your input is critical to ensuring the successful execution of this program. Direct your comments concerning the contract aspects of this solicitation to Mr. Ron Poussard, Chief of Contracts, Discoverer II.

2.0 General Instructions

2.1 General Information

2.1.1 Point of Contact

The PCO is the sole point of contact for this acquisition. Address any questions or concerns you may have to the PCO. Written requests for clarification may be sent to the PCO at the address located in Section A of the model contract/RFP.

2.1.2 Pre-proposal Conference

A pre-proposal conference has been scheduled for . Please bring appropriate personnel to discuss any area of concern or questions you may have. The names of all attendees must be submitted in writing to the PCO, at to arrive no later than . To receive classified documents, recipient must have a security clearance of SECRET and authorization to act as courier.

2.1.3 Debriefings

All offerors may request debriefings by providing a written request to the PCO. The PCO will notify offerors within 3 calendar days after award. Offerors desiring debriefing must request in writing within 3 calendar days after the PCO notification. To the maximum extent practicable, debriefings will be conducted within 5 days after the offeror's request.

2.1.4 Discrepancies

If an offeror believes that the requirements in these instructions contain an error, omission, or are otherwise unsound, the offeror shall immediately notify the PCO in writing with supporting rationale. The offeror is reminded that the Government reserves the right to award this effort based on the initial proposal, as received, without discussion.

2.1.5 Reference Library

A reference library has been established on the Discoverer II homepage located at www.laafb.af.mil/special_interest/disc2/d2.html. The point of contact for the library is Lt Col Netzer (anetzer@jpo.org). The program office will use the homepage to the maximum practical extent to ensure widest dissemination of program related documents and information.

2.2 Organization/Distribution/Number of Copies/Page Limits

The offeror shall prepare the proposal as set forth in Table 1 below. The offeror's proposal should be submitted on a Compact Disc (CD) ROM, in Microsoft Word 97 SR-1. The CD ROM shall be unclassified. The Offeror should include one paper copy in a three ring loose leaf binder. The following is a suggested page limit:

a. The initial Objective System Concept and the Initial Risk Management Plan page count are included in the technical/management proposal.

DRAFT

VOLUME	ITO Paragraph Number	TITLE	PAPER COPIES	PAGE LIMIT/ GOAL
I	3.0	Executive Summary	1	5
II	4.0	Technical/Management Proposal	1	30
III	5.0	Cost/Price Proposal	1	5
IV	6.0	Contract Documentation	1	
V	7.0	Relevant Past and Present Performance	1	
Classified Annex	2.3	Classified Annex (Volume II)	1	5
		Classified Annex (Volume V)	1	

Table 2.1. Proposal Organization

b. All proposals shall be identified and addressed to the Procuring Contracting Officer.

2.3 Proposal Format

a. This section of the ITO provides general guidance for preparing proposals as well as specific instructions on the format and content of the proposal. The offeror's proposal must include all data and information requested by the ITO and must be submitted in accordance with these instructions. The offeror shall be compliant with the requirements as stated in the solicitation and accompanying attachments including the Statement of Objectives (SOO), Section L of the solicitation, Contract Data Requirements List (CDRL), and the Model Contract. **Non-conformance with the ITO may result in an unfavorable proposal evaluation.**

b. The proposal shall be clear, concise, and shall include sufficient detail for effective evaluation and for substantiating the validity of stated claims. The proposal should not simply rephrase or restate the Government's requirements, but rather shall provide convincing rationale to address how the offeror intends to meet these requirements. Offerors shall assume that the Government has no prior knowledge of their facilities and experience, and will base its evaluation on the information presented in the offeror's proposal.

c. The proposal acceptance period is specified in Section A of the model contract/RFP. The offeror shall make a clear statement that the proposal is valid until this date in the proposal documentation volume. In compliance with FAR Subpart 4.8 (Contract Files), the Government will retain one copy of all unsuccessful proposals.

d. Elaborate brochures or documentation, binding, detailed art work, or other embellishments are unnecessary and are not desired.

e. Classified information. Where classified information is required in your response, it shall be provided as a classified supplement and bound in a single classified addendum to Volumes II and /or V. Each entry in the classified addendum shall be referenced to the proposal volume, page number, and paragraph number to which it applies. Similarly, a reference shall be placed in the unclassified volume where the classified insert applies, giving the page and paragraph numbers within the addendum where it can be found. Binding and labeling of the addendum as well as submission shall conform to the same directions as those given in this ITO for unclassified portions. The classified addendum shall be separately bound with an applicable security designation color cover, conforming to , the DD Form 254 and the Security Classification Guide provided in this RFP. **(For purposes of the Draft RFP, a Security Classification Guide is not available. Please see the RFP cover memo by the Discoverer II Security Manager)**

2.3.2 Page Format Restrictions and Limitations

a. Page size shall be 8.5 x 11 inches, not including foldouts. Use 12 point, Times or Times New Roman font. Pages shall be typed with 1.5 line spacing.. Use at least 1 inch margins on the top and bottom and 3/4 inch side

DRAFT

margins. Pages shall be numbered sequentially by volume. These page format restrictions shall apply to responses to clarification requests (CRs) and deficiency reports (DRs).

b. Page limitations shall be treated as maximums. If exceeded, the excess pages will not be read or considered in the evaluation of the proposal and will be returned to the offeror as soon as practicable. Page limitations shall be placed on responses to CRs and DRs. The specified page limits for CR and DR responses will be identified in the letters forwarding the CRs and DRs to the offerors. When both sides of a sheet display printed material, it shall be counted as 2 pages. See 2.3.4 below for foldouts.

c. Each page shall be counted except the cover pages, tables of contents, tabs, glossaries, resumes etc.

2.3.3 Indexing

Each volume shall contain a more detailed table of contents to delineate the subparagraphs within that volume. Tab indexing shall be used to identify sections.

2.3.4 Foldouts

Legible tables, charts, graphs and figures shall be used wherever practical to depict organizations, systems and layout, implementation schedules, plans, etc. These displays shall be uncomplicated, legible and shall not exceed 11 by 17 inches in size. Foldout pages shall fold entirely within the volume and count as a single page. Foldout pages may only be used for large tables, charts, graphs, diagrams and schematics; not for pages of text. For tables, charts, graphs and figures, the font shall be no smaller than 10 point.

2.3.5 Cost or Pricing Information

All cost or pricing information shall be addressed ONLY in the Cost/Price Proposal and Contract Documentation Volumes. Cost trade-off information, work-hour estimates and material kinds and quantities may be used in other volumes only as appropriate for presenting rationale for alternatives or design and trade-off decisions. All dollar amounts provided in response to these instructions shall be rounded to the nearest whole dollar.

2.3.6 Cross Referencing

Each volume shall be written to the greatest extent possible on a stand-alone basis so that its contents may be evaluated with a minimum of cross referencing to other volumes of the proposal. Cross referencing within a proposal volume is permitted where its use would conserve space without impairing clarity. Information required for proposal evaluation which is not found in its designated volume will be assumed to have been omitted from the proposal. The offeror shall fill out the cross reference matrix at Section L, appendix 6 of this ITO indicating the proposal reference information as it relates to the ITO, SOW, CLIN numbers, and CDRL references found therein.

2.3.7 Glossary of Abbreviations and Acronyms

Each volume shall contain a glossary of all abbreviations and acronyms used, with an explanation for each. Glossaries do not count against the page limitations for their respective volumes.

3.0 Volume I - Executive Summary

This section is an executive level description of key elements and unique features of each offeror's Phase I proposal. The salient features should tie in with Section M evaluation criteria. This section provides the offeror the opportunity to describe, explain and substantiate the significant features of their offered program. The offeror should describe the basic concepts to be analyzed, include key vendors that will participate and or team in Phase I, and existing technologies to be leveraged. Describe the offeror's key milestones. Explain how the offeror could progress from Phase I into Phase II and fabricate, manufacture and integrate the R&D prototype. Any summary material presented here shall not be considered as meeting the requirements for any portions of other volumes of the proposal. It should address in summary form:

- Program Objectives and approach

DRAFT

- Acquisition approach including schedule, technical performance risk areas, risk mitigation or reduction activities, and leveraging from commercial, IR&D, or other Government activities.
- Top level program schedule
- Proposed Phase I price
- A master table of contents of the entire proposal

4.0 Volume II Technical/Management Proposal

4.1 General:

The Technical/Management Volume should be specific and complete. Legibility, clarity and coherence are very important. Your responses to the Factors and Sub Factors will be evaluated against the Standards defined in Section M, Basis for Award. Using the instructions provided below and in consideration of the Evaluation Criteria, provide as specifically as possible the actual methodology you would use for accomplishing these factors. All the requirements specified in the RFP are mandatory. By your proposal submission you are representing that your firm will perform all the requirements specified in the RFP. It is not necessary or desirable for you to tell us so in the proposal. Do not merely reiterate the objectives or reformulate the requirements specified in the RFP.

4.2 Format and Specific Content:

The technical/management volume shall contain as a minimum, the information below in accordance with the following general outline:

- (1) Table of contents
- (2) List of tables and drawings
- (3) Glossary
- (4) Cross Reference Matrix
- (5) System Concept and Technical Approach
- (6) Program Management and Systems Engineering

4.3 System Concept and Technical Approach

This section should describe the contractor's objective system concept, approach to conducting trade studies and analysis and preliminary designs and how the proposed program will meet the Statement of Objectives within the context of the Systems Capability Document at Appendix 3. The Discoverer II program is a technology demonstration effort exploring Space Based Radar capabilities available directly to the warfighter. Results from the program will assist in generating requirements for any follow-on into EMD. The System Capabilities Document (SCD) at Appendix 3 describes thresholds and goals for the Objective System. The thresholds define the minimum edge of the trade-space. Goals are the Government's assessment of the performance necessary for the desired military utility, not constrained by other parameters such as affordability. In some cases an objective is provided to better define the trade space. The Government is not setting requirements; the offeror is not limited by goals or objectives in any way during the trade studies. The Government may update the System Capabilities Document in the Phase II solicitation based on the results of Phase I. Any Objective System EMD and production programs will base an acquisition on validated requirements from the warfighting and intelligence communities.

4.3.1 Objective System Concept (OSC)

The initial delivery of the Objective System Concept is made with the offeror's Phase I proposal, and will be updated through IER2. The offeror should propose an initial concept that is an acceptable point of departure for trade studies to meet the objectives in the SOO, the goals and thresholds of the SCD, and the Mission Vision in section L, section 1.2. It should propose candidate missions and CONOPS, and establish the concept for the Objective System with in the post 2010 force structure, including all TPED aspects.

4.3.2 Trade Study and Analysis

This section describes the systematic approach, as contained in the SOW/IMP the offeror will perform to progressively refine the Objective Systems Concept and system capabilities. The study and trades establish the optimum mix of system capabilities, CONOPS, and technical design to meet the existing and future missions at an affordable cost. This section describes the parameters to be traded based on the initial Objective System Concept, and the logical approaches to accomplish them commensurate with the guideline threshold and goals contained in the System Capability Document (SCD) at Appendix 3. The offeror should identify radar concepts with multiple sources. Include modeling and simulation planned, additional scenarios, analysis and evaluation tools. Include any validation or accreditation the tools have received. As a minimum, the offeror should address trades in the following system areas:

- Cost
 - Demo cost
 - Objective System Life cycle cost
 - Satellite cost
- Satellite Constellation
 - Number of satellites in the constellation
 - Orbit parameters
 - Number of planes, inclination, altitude, phasing, etc.
 - Station keeping and maneuverability
 - Replenishment strategies
- Satellite Bus
 - Bus agility
 - Antenna size, aspect ratio, electronic and mechanical agility
 - Communications connectivity
 - Theater tasking and collection
 - Reach-back approach
 - e.g. relay capabilities, store and dump
 - Tracking, telemetry and commanding for SOH
- Mission Payload
 - MTI and SAR capabilities
 - DTED generation
 - IFSAR, stereo, multi-pass, orbit requirements
 - Payload onboard and ground processing
 - Polarization diversity and range resolution
- Ground Components
 - Receive hardware
 - Data storage
 - Ground processing
 - SAR, MTI, DTED generation
 - Mission planning/Tasking

4.3.3 Preliminary Designs

4.3.3.1 Objective System Design.

This section describes the offeror's approach to designing the Objective System through IER3 as contained in the IMP/SOW and IMS. Significant accomplishments, significant events, and the criteria should be cross referenced in the IMP/IMS. The design should also consider reliability/supportability and manufacturing/producibility attributes.

4.3.3.2 R&D Prototype Design. This section describes the tasks to design the R&D prototype through IER3 as contained in the IMP/SOW and IMS. The approach to design trades, including multiple radar vendors, should be included. Significant accomplishments, Significant events, and the criteria should be cross-referenced in the IMP/IMS. The R&D prototype should cross reference to the Objective System. The offeror should include reliability/supportability as it demonstrates the Objective System's performance and the on orbit design requirements.

Risk mitigation activities supporting design trades and demonstrations of critical high risk components should be included as they relate to design considerations, and cross referenced in the SOW/IMP.

4.4 Program Management and Systems Engineering

This sections describes the program management and systems engineering and approach and processes to execute the program and accomplish the Phase I and Phase II objectives. The offeror should describe the organizational responsibilities and authority. A program management process based on Integrated Product Development (IPD) should be established. Similarly, the Systems Engineering structure should be identified. This description must describe how the offeror will execute the systems engineering functions of requirements analysis, functional analysis and allocation synthesis, and systems analysis and control and internal configuration management and control of the system baseline commensurate with the statement of objectives. The Technical Performance Measurements (TPM) for Phase I and II should be defined.

4.4.1 Organization Structure and Teams

4.4.1.1 Staffing Requirements. Staffing requirements in numbers and critical skills, whether those resources are already on hand and, if not, the plans for ensuring their availability. Include a description of teaming relationships.

4.4.1.2 Organizational Structure. A description of how the program would fit into the organizational structure of the offeror's profit center. Discuss the reporting chain of the program manager within the structure (e.g., to whom the program manager reports and the level of that official within the structure). A description of the relationship between the profit center and the total corporation shall be included, showing to whom the general manager of the profit center reports, and the placement of the general manager's reporting official within the total corporation. Explain the functional relationships among internal engineering, development and production/manufacturing entities as well as associated elements needed to successfully accomplish the program. If you are submitting your proposal as a team of companies, explain the intercompany relationships as well as program placement and reporting relationships in each company involved.

4.4.1.3 Key Personnel Qualifications Summary. Include resumes or "Key Personnel Qualifications Summary" forms (use format similar to Attachment) for key technical and management personnel assigned or intended to be assigned to this contract.

4.4.2 Planning and Processes

The offeror should integrate their planning, systems engineering and program management processes to ensure the program progresses successfully through the Phase I milestones. This process should establish a series of tools, updated monthly. Include as a minimum the following in the offeror's proposal:

4.4.2.1 Integrated Master Plan (IMP). The offeror will develop a comprehensive IMP that describes Phase I of the Discoverer II program. The IMP should cover both product and processes. It should tie the program scope and schedule together in a common numbering system. The offeror should integrate the programs objectives into a comprehensive program described in milestones including Key Events, and Significant Accomplishments with criteria to clearly articulate when the milestones are completed. The IMP is provided with the offeror's proposal and becomes part of the contract that can only be changed by mutual agreement between the Government and the System Integrator. An instruction briefing on IMP/IMS and a common numbering system is located in the Discoverer II Technical Library.

The IMP should also describe management, systems engineering, technical, and business processes the offeror plans to apply to the Discoverer II program. The offeror may reference their internal standard procedures and processes.

The IMP and SOW are intended to complement each other. The offeror may elect to include all the SOW elements and details within the IMP and disregard the SOW.

DRAFT

4.4.2.2 Integrated Master Schedule (IMS). The IMS should outline the detailed tasks and the duration expressed in calendar schedules. It is a tiered scheduling system corresponding to the work outline and is correlated to the IMP and SOW in a common numbering system. The initial IMS Key Events and Significant Accomplishment dates can only be changed by mutual agreement between the Government and the System Integrator. The Government expects the contractor to plan and manage the program to a detailed schedule. The offeror may provide the schedule at higher WBS levels (more detail) to the Government for additional insight to the program.

4.4.2.3 Technical Performance Measurements (TPM): The offeror should propose TPMs that track the maturity of the technical parameters and provide management indicators that forecast achieving the program objectives. TPMs are used to describe system performance and monitor progress during the program. The Contractor should consider the provided TPMs in this section as a minimum, and identify additional TPMs as necessary to feature system performance and attributes.

- Global area accessible
- Area collection rates for various sensor modes
- Frequency and duration of coverage gaps
- Revisit statistics
- Tracking figure of merit
- SAR RNIIRS
- Projected DTED accuracy
- Life Cycle Cost
- Satellite Cost (Objective system and R&D prototype)
- Weight (vehicle and payload)
- Power (peak, orbital average, and radiated)
- TR module count
- Electronic field of regard
- Bandwidth (instantaneous and effective)
- ECCM performance

4.4.2.4 Earned Value Management System (EVMS). The offeror will propose a method to measure work progress. The offeror may propose an EVMS system that measures work progress in dollars against a baseline providing both accomplishments toward the program objectives and financial health of the program. An EVMS system will be a Phase II requirement. A simplified approach for measuring progress may be proposed for Phase I.

4.4.2.5 System Software Development Process: The offeror should establish, and execute, a rigorous, formal process that follows an established military, national or international standard.

4.4.2.6 The offeror should propose periodic Management/Technical Interchange Meetings (TIM) to exchange information and status program execution.

4.4.3 Risk Management.

The initial delivery of the Risk Management Plan is made with the offeror's Phase I proposal, and should be updated through IER3. This document describes the offeror's risk management program, specifically risk identification and assessment, and mitigation strategy and planned activities.

4.4.4 Contractor Capabilities.

The offeror should provide a listing of other projects, including independent research and development efforts, similar and/or related to the proposed effort in character and size (broken out between Government and commercial), either on-going at the profit center level or which will be initiated during the period of performance identified in the solicitation. Identify major end users as well as contracting agencies. Explain which other projects the program manager will be assigned to during the course of contract performance. Address modeling and simulation capabilities, which may include engineering, mission and operational utility, system design, CONOPS assessment, and life cycle cost. Identify capability to fabricate and test scaled models and other hardware

components to support risk reduction efforts. Identify the capability to fabricate, integrate, ground test and on-orbit test the satellite, payload, and ground infrastructure. Address your capability to meet program security requirements.

5.0 Volume V - Price Volume

5.7.1 Introduction

5.7.1.1 Pricing Information Requirements. In accordance with FAR 15.403-3 and 15.403-5, information other than cost or pricing data is required to support price reasonableness. Information should be provided in accordance with the tailored formats specified hereunder. Use of contractor formats is encouraged provided that all the required information is made available. This information is not considered cost or pricing data and thus certification is not required in accordance with FAR 15.406-2. Information submitted should be prepared following the instruction in FAR 15.403-5. If after receipt of proposals the contracting officer determines there is insufficient information available to determine price reasonableness and none of the exceptions at FAR 15.403-1 apply, the offeror should be required to submit cost or pricing.

5.7.1.2 Price Credibility. These instructions are to assist you in submitting information other than cost or pricing data which is required to evaluate the reasonableness and completeness of your proposed price. Compliance with these instructions is mandatory and failure to comply may result in rejection of your proposal. Note that unrealistically low or high proposed prices, initially or subsequently, may be grounds for eliminating a proposal from competition either on the basis that the offeror does not understand the requirement or has made an unrealistic proposal. Offers should be sufficiently detailed to demonstrate their cost credibility. The burden of proof for cost credibility rests with the offeror.

5.7.1.3 Non-Required Data. Data beyond that required by this instruction should not be submitted, unless you consider it essential to document or support your price position. All information relating to the proposed price including all required supporting documentation must be included in the section of the proposal designated as the Price volume. Under no circumstances should this information and documentation be included elsewhere in the proposal.

5.7.2 General Instructions

5.7.2.1 Table of Contents. The price volume should be prefaced by a Table of Contents and should specify, by page number, where each price format and each piece of narrative data is located.

5.7.2.2 Volume Organization. The price volume should consist of the following sections:

SECTION 1 - Introduction, Table of Contents, overview, index, summary changes to estimating, accounting practices or CAS Disclosure Statement and anything else which is general to the price proposal.

SECTION 2 - Price Formats. (Refer to paragraph 5.5.3 below)

SECTION 3 - Other information considered necessary to support your price proposal.

5.7.2.3 Rounding. All dollar amounts provided shall be rounded to the nearest dollar.

5.7.3 Price Volume Overview: The price volume overview shall provide comprehensive narrative support for the price volume as required IAW paragraph 5.4.3 below.

5.7.3.1 Estimating Methodology:

5.7.3.1.1 Summary of Estimating System. Provide a summary description of your standard estimating system or methods. The summary description should cover separately each major cost element (e.g., Direct Material, Engineering Labor, Manufacturing Labor, Indirect Costs, Other Direct Costs, Overhead, G&A, etc.). Also, identify any deviations from your standard estimating procedures in preparing this proposal volume. Indicate whether you have Government approval of your system and if so, provide evidence of such approval.

DRAFT

5.7.3.1.2 Purchasing System. Provide a summary description of your purchasing system or methods (e.g., how material requirements are determined, how sources are selected, when firm quotes are obtained, what provision is made to ensure quantity and other discounts). Also, identify any deviations from your standard procedures in preparing this proposal. Indicate whether you have Government approval of your system and if so, provide evidence of such approval.

5.7.3.1.3 Management Reduction If estimated costs required to perform the proposed effort have been decreased due to a management decision, provide a summary of the reduction by major cost element. Also provide complete rationale for the reduction.

5.7.3.1.4 Price Reasonableness and Completeness Rationale. Provide your rationale supporting the determination that the price proposal is reasonable and complete as defined in Section M of this RFP.

5.7.4 Information Other Than Cost or Pricing Data to be provided:

5.7.4.1 Commonality with Other Programs Any cost reductions made in your proposal that are attributed to commonality with other programs, company-funded efforts, or capitalization of equipment must be supported with the following:

- (1) Commonality
 - Identify the specific program(s) and why it is applicable.
 - Address the cost allowability and allocability of this action per FAR and your CAS disclosure statement.
 - Make available for review by the contracting officer, any commercial or Government contract pricing information and documents for similar efforts that can be used for price comparison with the effort being acquired.

- (2) Company Funded Efforts
 - Identify the specific efforts, the planned start and end dates, the applicability to the current solicitation, the source of company funding and how you plan to account for or allocate these costs in accordance with generally accepted accounting principles, and your CAS Disclosure Statement, if applicable.

- (3) Capital Equipment
 - Identify the specific item(s) capitalized and what other applications exist for the equipment, provide corporate approvals for each action, address the cost allowability and allocability of the action per the FAR and your CAS disclosure statement.

5.7.4.2 (Reserved)

5.7.4.3 Price Summary by Cost Elements

Provide a cost summary by major cost elements by CLIN using the format shown below

COST ELEMENT	0001	0002	etc	TOTAL
Prime Hours (by labor category)				
Inter-Divisional hours				
Subcontractor hours				
Total Hours				
Materials				
ODC categories				
Total Firm Fixed Price				

DRAFT

3.7.4.4 Probable Subcontractors

Submit a listing of the proposed probable subcontractors and inter-divisional transfers showing (a) the supplier, (b) description of effort, (c) type of contract, (d) price and hours proposed by each, and (e) price and hours included in prime's proposal to the government. (See below for format).

SUPPLIER	DESCRIPTION OF EFFORT	TYPE CONTRACT	SUBS HRS	SUBS PRICE	PROP HRS	PROP PRICE
TOTALS						

6.0 Volume IV - Contract Documentation

6.1 Model Contract/Representations and Certifications.

The purpose of this volume is to provide information to the Government for preparing the contract document and supporting file. The offeror's proposal shall include a signed copy of the Model Contract, and Sections A through K. This includes:

a. Completion of blocks 15-16 and signature and date for blocks 17 and 18 and 8-10 of the DD Form 1707. Signature by the offeror on the Standard Form 33 constitutes an offer which the Government may accept. The "original" copy should be clearly marked under separate cover and should be provided without any punched holes.

b. Completed pricing information in Section B of the model contract. Modify Section B by adding separate pages to reflect any additional CLINs or SubCLINs, if applicable.

c. Section I - Request each offeror and potential subcontractors actively review the standard FAR, DFARS, AFFARS, and AFMC provisions contained in the model contract and provide us with an assessment of those clauses that, if waived or altered in some way, would provide benefit to the offeror, which in turn would be passed to the Government.

d. Section K - Representations and Certifications. Completed representations, certifications, acknowledgments and statements.

e. Proposed Delivery Schedule. The offeror shall propose its own delivery schedule by completing the blanks in Section F of the model contract. The proposed schedule is subject to the following guidance:

6.2 Exceptions to terms and conditions.

Exceptions taken to terms and conditions of the model contract, to any of its formal attachments, or to other parts of the RFP shall be identified. Each exception shall be specifically related to each paragraph and/or specific part of the RFP to which the exception is taken. Provide rationale in support of the exception and fully explain its impact, if any, on the performance, schedule and cost and specific requirements of the RFP. This information shall be provided in the format and content of Table 6.2. Failure to comply with the terms and conditions of the RFP may result in the offeror being removed from consideration for award.

Table 6.2 - RFP EXCEPTIONS

RFP Document	Paragraph/Page	Requirement/Portion	Rationale
SOW, Model Contract, ITO, etc.	Applicable Page and Paragraph Numbers	Identify the requirement or portion to which exception is taken	Justify why the requirement will not be met

6.3 Other Information Required.

6.3.1 Authorized Offeror Personnel

Provide the name, title and telephone number of the company/division point of contact regarding source selection decisions made with respect to your proposal and who can obligate your company contractually. Also, identify those individuals authorized to negotiate with the Government.

6.3.2 Non-Government Advisors

Offerors are advised that the following contractors will participate as non-Government advisors in the evaluation of proposals: These advisors will be authorized access to only those portions of the proposal data and discussions that are necessary to enable them to provide specific advice on specialized matters or on particular problems. The non-Government advisors will not be allowed to determine strengths and weaknesses, establish initial or final assessments of risks, or actually rate or rank offeror's proposals. Nor will they have access to . They will also have access to . Any objection to disclose information to these non-Government advisors should be provided in writing before the date set for receipt of proposals and shall include a detailed statement for the basis of the objection. Include in your proposal specific authorizations for release of information to the ?

6.3.3 Government Offices

Provide the mailing address, telephone and fax numbers and facility codes for the cognizant Contract Administration Office, DCAA, and Government Paying Office. Also, provide the name and telephone and fax number for the Administrative Contracting Officer (ACO).

6.3.4 Company/Division Street Address

Provide company/division's street address, county and facility code; size of business (large or small); and labor surplus area designation. This same information must be provided if the work for this contract will be performed at any other location(s). List all locations where work is to be performed and indicate whether such facility is a division, affiliate, or subcontractor, and the percentage of work to be performed at each location.

6.3.5 Attachments to the Model Contract.

The offeror shall provide the following as attachments to the model contract.

Exhibit A - Contract Data Requirements List (CDRLs): The intent of this RFP is to encourage electronic access by the Government to offeror's data products rather than requiring formal delivery. Additional CDRLs should only be proposed if they enhance Government insight to cost, schedule, and technical status. The offeror may propose contractor format or Data Item Descriptions (DIDs) listed in the current Acquisition Management Systems and Data Requirements Control List (AMS DL) (DoD 5010.12-L). Unless specifically called out in an existing CDRL, the information required by these DIDs may be tailored for the purposes of the offeror's proposal. Data that is transferred between the contractor and the government must be formatted in accordance with the American National Standards Institute (ANSI) Accredited Standards Committee (ASC) X.12 transaction sets, where approved convention guides exist.

Attachment 1 - Statement of Objectives (SOO): This is provided by the Government and incorporated into the contract upon contract award.

Attachment 1A - Contractor Work Breakdown Structure (CWBS) and CWBS Dictionary: The offeror shall submit a CWBS and CWBS Dictionary for this annex. The CWBS shall be developed to a depth and breadth sufficient to accurately describe the proposed effort. It shall be based upon the Preliminary Contract Work Breakdown Structure (PCWBS) shown at appendix 2, and extended by the offeror to level 3 and beyond as appropriate. It shall be product oriented using Mil-Hdbk-881 (dated 2 Jan 98) as guidance. The CWBS shall provide a framework for contract documentation, including the IMP, IMS, and related CDRLs.

DRAFT

Attachment 2 - Integrated Master Plan (IMP): The Offeror shall submit an IMP to demonstrate that the program is structured to accomplish technical requirements while minimizing and controlling program risks. The IMP shall capture the core activities and processes necessary to accomplish the SOO. The offeror should establish and maintain an integrated master schedule system (IMS) that complements the IMP and provides visibility into accomplishments over time. Changes to the IMS key events or significant accomplishments schedule require approval from the Government.

Attachment 2a – Contract Statement of Work: The CSOW elements contained in Attachment 2A are those elements supporting the IMP authorized for accomplishment and included in the contract value.

Attachment 3 – Rights in Technical Data and Computer Software: This attachment refers to mandatory DFARS clauses 252.227-7013, Rights in Technical Data - Noncommercial Items, and 252.227-7014, Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation, the purpose of which is to indicate the Government's specific rights to all data delivered under this contract. All data that the Offeror proposes to deliver with other than unlimited rights, and the rights with which it proposes to tender the data (e.g., Government purpose rights, limited rights, special license rights, and/or notice of copyrights), must be listed in this attachment. The attachment shall include the following information: 1) Technical data to be furnished with restrictions, 2) Basis for assertion, 3) Asserted rights category, and 4) Name of person asserting restrictions. Separate the submitted information into table 4a for the technical data, and a table 4b for software items or documentation.

Attachment 4 - Contract Security Classification Specification: The Offeror shall implement and comply with the Contract Security Classification Specification. Incorporate this specification, in its entirety, as Attachment 4 to the Model Contract.

Attachment 5 - Subcontracting Plan: Submit a Subcontracting Plan that meets the requirements of Contract Clauses FAR 52.219-8 and 52.219-9, DFARS 252.219-7003 and 252.219-7004, and AFMCFARS 52.219-9002. If the Offeror is already operating under an approved company-wide plan as part of the DOD Test Program for Negotiation of Comprehensive Small Business Subcontracting Plans, then no plan is required by the contractor to be attached. Instead, state "Reserved" on the Attachment 5 cover sheet and submit a copy of the approved plan.

Attachment 6 - Past Performance Forms: Submit present and past performance information for the Offeror and for each proposed critical subcontractor, teaming contractor, and/or joint venture partner, in accordance with the format contained herewith.

7.0 Volume V Relevant Present and Past Performance

7.1 General.

Each offeror shall submit a present and past performance volume with its proposal in accordance with the format contained in Attachment. Offerors are cautioned that the Government will use data provided by each offeror in this volume and data obtained from other sources in the development of performance risk assessments. Valuable information can be obtained from seemingly unrelated prior contracts regarding technical capability, management responsiveness, proactive process improvements, ability to handle complex technical or management requirements, etc.

7.2 Early Proposal Information.

Each offeror is requested to submit the information shown in Attachment for each relevant government contract 15 days prior to proposal submittal. Failure to submit Early Proposal Information will not result in offeror disqualification.

7.3 Relevant Contracts.

Submit information on contracts that you consider relevant in demonstrating your ability to perform the proposed effort. Such aspects of relevance include the type of effort (development, production, repair, etc.) and the type of requirement (weapon system, information system, engineering services, programmed depot maintenance). This

DRAFT

information may include data on efforts performed by other divisions, critical subcontractors, or teaming contractors, if such resources will be brought to bear or significantly influence the performance of the proposed effort.

The offeror shall submit documentation identifying all active and completed prime contracts or subcontracts (Government or Commercial) performed by the offeror (within the same division or cost center) with a gross value of \$100,000 or more and which were awarded up to years before this solicitation date.

7.3.1 Specific Content.

Offerors are required to explain what aspects of the contracts are deemed relevant to the proposed effort. This may include a discussion of efforts accomplished by the offeror to resolve problems encountered on prior contracts as well as past efforts to identify and manage program risk. Merely having problems does not automatically equate to a moderate or high risk rating, since the problems encountered may have been on a more complex program, or an offeror may have subsequently demonstrated the ability to overcome the problems encountered. The offeror is required to clearly demonstrate management actions employed in overcoming problems. This may allow the offeror to be considered a low risk candidate. For example, submittal of quality performance indicators or other management indicators that clearly support that an offeror has overcome past problems is required. Categorize the relevance information into the specific evaluation areas/factors used to evaluate the proposal.

7.3.2 Page Limits.

Responses are limited to two pages per contract.

DRAFT

Section L
Instructions to Offerors
Appendices

Appendix	Title	Pages
1	Statement of Work Instructions	
2	Preliminary Work Breakdown Structure	
3	System Capability Document	
4	Key Personnel Qualifications Summary	
5	Performance Information	
6	Cross Reference Matrix	

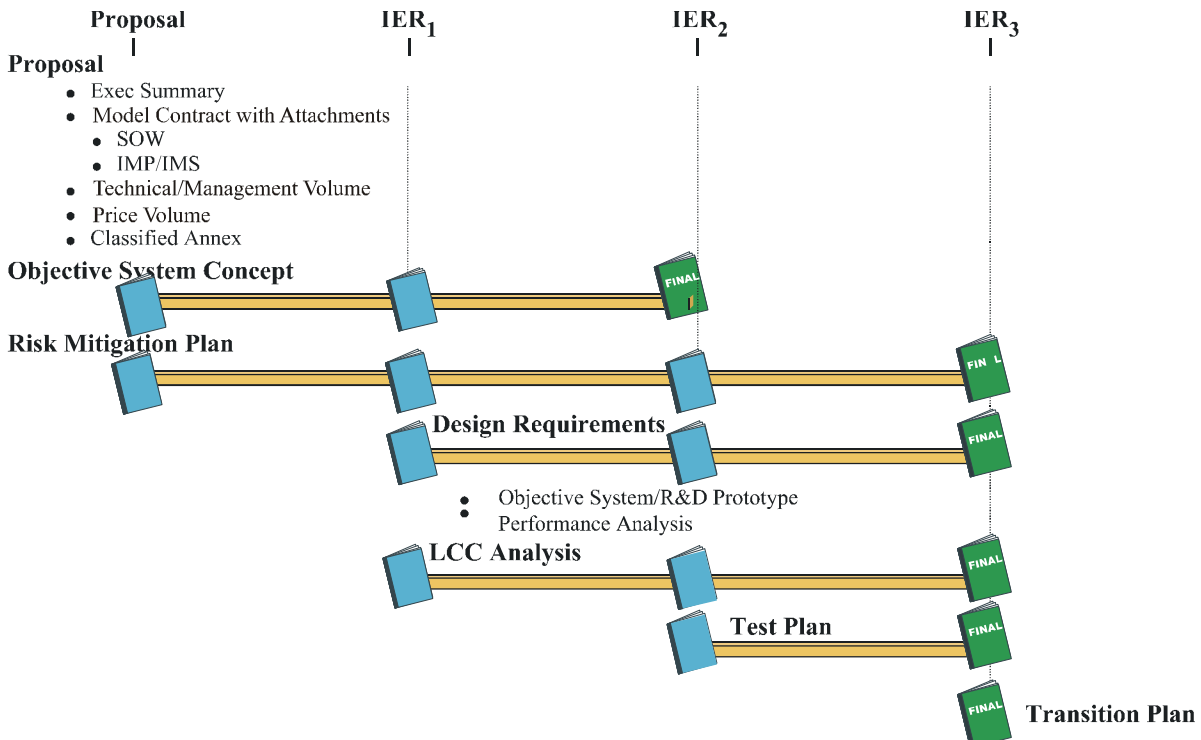
APPENDIX 1: STATEMENT OF WORK (SOW) INSTRUCTIONS

1.0 SOW

A Statement of Objectives (SOO) is provided as an attachment to the RFP. This SOO represents the Government's minimum objectives for the Discoverer II Program. The Offeror shall use the SOO to propose a WBS-structured SOW that expands upon these minimum objectives to the extent necessary to conduct this acquisition. The proposed SOW shall define the tasks required for the Discoverer II Phase I program ensuring all Objectives of the Government provided SOO and CWBS have been addressed. The proposed SOW shall consist of tasking statements. Each tasking statement shall reference the data that will be delivered by that task. The tasking statements in the SOW, elements of the CWBS, and the IMP and IMS sections shall use a common numbering system, an example of which is shown in the Discoverer II Technical library. The proposed SOW and IMP when accepted by the Government, will be put on contract at award. The SOW and the IMP are intended to complement each other. The offeror may elect to include all SOW elements in the IMP and disregard the SOW.

1.1 Deliverables.

The Government expects program data to be consolidated into a series of deliverable documents that should be clearly described in the SOW. Additionally, briefings and associated products describing specific agenda items, issues and status of the program including EVMS data and TPM performance should be provided at the appropriate reviews. Below are specific deliverable documents and descriptions that organize the data into a logical structure.



1.1.1 Objective System Concept (OSC)

The initial delivery of the Objective System Concept is made with the offeror's Phase I proposal, and should be updated through IER2. This document describes the missions addressed and system concept including constellation, TPED, TT&C, mission planning/tasking, and CONOPS for the Objective System. It should identify any projected impacts and shortfalls to the existing and projected C4ISR infrastructure. Concepts for sustainment and replenishment strategies should be included. An appendix to the OSC describing the demonstration concept for the R&D prototype should be attached for IER1 and IER2.

1.1.2 Design Requirements Document

The design requirements for the Objective System and R&D Prototype are documented/updated at each IER as appropriate. Narrative descriptions, block diagrams, schematics and illustrations with functional descriptions, attributes and interrelationships should be included for both hardware and software. Alternative designs considered but not selected should also be included. Relationships between the Objective System and R&D prototype designs are described and the necessary growth path should be defended as achievable. Identify issues to manufacturing and producibility and cross-reference in the Life Cycle Cost Analysis. The document is under the configuration control of the SI until the final submission at IER3. The structure should reflect the IMP and SOW common numbering system. The current TPM status should be captured for the design.

1.1.3 System Test Plan (STP)

The initial STP should include Phase I risk reduction demonstrations or testing if appropriate. At IER3 the STP should include Phase II risk reduction testing, informal and formal software testing, component and subsystem tests, and end-to-end testing prior to integration, and testing with the TES in Phase II. After launch, the system will undergo on-orbit testing to evaluate performance and operational demonstrations to evaluate warfighter utility. The STP should include sufficient detailed testing to verify the R&D prototype performance parameters. The Government and SI will develop Operational Demonstration objectives, and will co-write the demonstration plan portion of the STP.

1.1.4 Life Cycle Cost Analysis

The Life Cycle Cost Analysis describes the Objective System starting with at the conclusion of the Discoverer II program. LCC includes flyaway costs (all development cost and initial spares, procurement costs), plus operating and support costs for the system. Where existing infrastructure is modified, include the modification cost (non-recurring and recurring), but not the infrastructure cost. If new infrastructure is required, identify the infrastructure requirements. Included in the LCC analysis is the satellite Average Unit Procurement Cost (AUPC) estimate for the objective system at IER1 and IER2. Also included is a ROM for the Phase II Demonstration System at IER2. The initial delivery of the Life Cycle Cost Analysis is made at IER1, and will be updated at each subsequent IER. At each IER, the flyaway cost should be detailed to the appropriate WBS level (e.g., IER2: WBS level 2). The Objective System includes all WBS elements in section 3.1. The LCC should be updated after the Phase II demonstration to reflect the lessons learned from the prototype.

1.1.5 Risk Management Plan

The Risk Management Plan describes the offeror's risk management program. It identifies and assesses the risks and mitigation activities. The initial delivery of the Risk Mitigation Plan is made with the offeror's Phase I proposal, and should be updated at each IER. The plan should include a process to identify, quantify and track the system risks and maturity, as it applies to cost, schedule and performance, for each subsystem and/or unit as applicable. The risks and mitigation activities should be cross-referenced to the R&D prototype system design requirements documents, and to the IMP/IMS as appropriate.

1.1.6 Transition Plan

This plan describes the scope, technical and cost information necessary to construct an acquisition strategy for transition into EMD phase followed by production. The plan should describe the additional risk reduction, maturation, manufacturing, and sustainability activities necessary. The initial Transition Plan should be provided in Phase I and updated in Phase II, considering the R&D prototype results. Objective System technologies not included in the R&D prototype should be included in the Transition Plan as a minimum.

1.2 Interim Evaluation Reviews (IER)

The contractor will plan milestones, including three IERs to review progress on the program. The contractor will present material at the reviews in a briefing format, along with the deliverables as described above. Action items from the reviews will be closed and the deliverables updated as appropriate prior to completion of the review

DRAFT

milestone. Below are the minimum requirements for the IERs. The contractor should plan work and include material necessary to complete Phase I and transition to Phase II as described in this RFP.

1.2.1 Interim Evaluation Review # 1 (IER1)

The focus of IER1 is the results from trade studies examining candidate missions, Objective System concepts, CONOPS, and system capabilities in a CAIV approach leading to draft system level performance requirements (WBS level 1, appendix 2) for the Objective System. The deliverables should cover as a minimum the following topics for IER1:

Objective System Concept (OSC)

- Updated Objective System Concept (OSC) including, constellation deployment and replenishment, orbitology, coverage, and military utility including TPED aspects. Include concept alternatives if appropriate.
- Preliminary R&D prototype demonstration concept

Design Requirements Document (DRD)

- Objective System draft system-level design requirements. Include design alternatives as appropriate.
- Review of simulation and modeling
- Results of trades with description of assumptions and sensitivities
- Status Technical Performance Measures (TPM)

Life Cycle Cost Analysis

- Initial Life Cycle Cost estimate (WBS level 1)
- Initial satellite Average Unit Procurement Cost (AUPC)

Risk Management Plan

- Updated Risk Mitigation Plan

1.2.2 Interim Evaluation Review # 2 (IER2)

The focus of IER2 is the initial objective system design. Trades of mission, CONOPS, and system capability are completed. Performance requirements are allocated to the subsystem level. (WBS level 2 described in section appendix 2). Each SI will present alternative designs, including radar designs from multiple vendors. Each SI will select a design(s) at their discretion to continue into IER3. The initial design for the R&D prototype is also provided. The deliverables should cover as a minimum the following topics for IER2:

Objective System Concept (OSC)

- Mature Objective System Concept
- R&D prototype demonstration concept

Design Requirements Document (DRD)

- Objective System system-level design requirements
- Objective System initial design with performance requirements allocated to the subsystem level for alternative designs
 - Initial software design and allocations
 - Hardware requirement allocations, including power, weight, volume, thermal and environmental
 - Stowage in launch vehicle and deployment methodology
- R&D prototype initial design
 - Initial software design and allocations
 - Hardware requirement allocations, including power, weight, volume, thermal and environmental
 - Stowage in launch vehicle and deployment methodology
- Updated Technical Performance Measurements (TPM)s
- Results from simulation/modeling describing performance including against provided scenarios

DRAFT

Life Cycle Cost Analysis

- Life Cycle Cost analysis for Objective System design alternatives WBS 2
 - Satellite Average Unit Procurement Cost (AUPC)
- R&D Demonstration System ROM

Risk Management Plan

- Updated Risk Mitigation Plan, for both Objective and R&D prototype system
- Critical and/or subscale tests for Phase I and/or Phase II risk reduction
- Long lead units for Phase II risk reduction efforts

Test Plan

- Initial test planning for Phase I and Phase II risk reduction activities

1.4.3 Interim Evaluation Review # 3 (IER3)

The focus of IER3 is the preliminary design of both the Objective System and the R&D prototype. Performance requirements are allocated to the unit level (WBS level 3 as described in section 3.1). Each unit's cost, risk and the technology growth path required is assessed from the R&D prototype to the Objective System. The R&D prototype's capabilities validate the technology growth path and include key operational capabilities necessary for the Phase II operational demonstration. The offeror will use a CAIV approach to establish capabilities for the R&D prototype in this phase and in the Phase II proposal, trading R&D prototype capabilities with cost. During IER3, the SI(s) will show data from risk reduction efforts particularly, critical, high risk components of the radar subsystem. The deliverables should cover as a minimum the following topics for IER3:

Objective System Concept (OSC)

- Final Objective System Concept, with appendix for R&D prototype

Design Requirement Document (DRD)

- Preliminary design for the Objective and R&D prototype, with performance requirements allocated to the unit level.
 - Complete Software Description Document (SDD)
 - Complete Hardware Requirements Document
- Status Technical Performance Measurements (TPM)s for Objective System and R&D Prototype.
- Final results from simulation/modeling describing performance including against provided scenarios

Risk Management Plan

- Updated Risk Management Plan with Risk assessment for Objective System and R&D Prototype
- Performance data on critical, high risk component from risk reduction activities
- Areas where additional commercial, IR&D or Government risk reduction R&D is recommended
- Anticipated Phase II Risk Mitigation activities

Life Cycle Cost Analysis

- Detailed Objective System LCC (WBS level 3)
- Objective System Satellite AUPC

System Test Plan

- Phase II Risk Reduction test planning
- System Test Plan for R&D Prototype

Transition Plan

DRAFT

APPENDIX 2: PRELIMINARY WORK BREAKDOWN STRUCTURE (PWBS)

Outline Code	0	1	Level	2	3
10(a,b)		Spacecraft		Structures Electrical Power Sub-System Attitude Control Sub-System Communications On-Board Computer Vehicle Flight Software Propulsion Sub-System Software	
20(a,b)		Radar Payload		Antenna RF Subsystem Control Subsystem Power Distribution Software	
30(a,b)		Ground Infrastructure		Tracking, Telemetry & Control Tasking & Mission Planning, User interface Communications Software/Processor Exploitation (not included in Phase II TSR)	
40		Program Management/System Engineering		Modeling and Simulation Life Cycle Cost Analysis Risk Mitigation Plan Transition Plan Data SV Weight Management Reliability/Supportability Manufacturing/Producibility	
50(a,b)		Operational Systems Concept		Tasking Processing Exploitation Dissemination	
60		Test		Planning and Reporting Test Equipment Test Software	
70(a,b)		Integration/Launch Transportation EAGE MAGE Shipping Containers Booster Flight Equipment/Adaptors			
80(b)		Operational Demonstration			

DRAFT

APPENDIX 3: SYSTEM CAPABILITY DOCUMENT

[Provided under separate cover. To obtain this document, contact Lt Col Allan Netzer at (703) 526-1724 or anetzer@jpo.org.]

**System Capabilities Document
Attachment 1**

Standard Scenario Description

The scenarios are crafted around six regions of interest (ROIs), each ROI containing twelve areas of interest (AOIs) as described in Figures 1.1, 1.2 and Table 1.1. In addition to the latitude variations, ROI/AOI combinations A-C are larger than D-F. The variations are intended to provide insight into the revisit characteristics of alternative constellations. Furthermore, each scenario specifies operation in one or more modes as defined in the SCD (HRR-GMTI wide area search (WAS), acquisition, persistent tracking, and SAR spot, scan and strip). Six scenarios have been crafted for operating in a single mode over a single ROI, one for operating in a single mode over two ROIs simultaneously, and one for operating in a multi-mode over a single ROI. Two additional scenarios have been crafted to assess performance against worldwide "port watch" and to assess DTED collection.

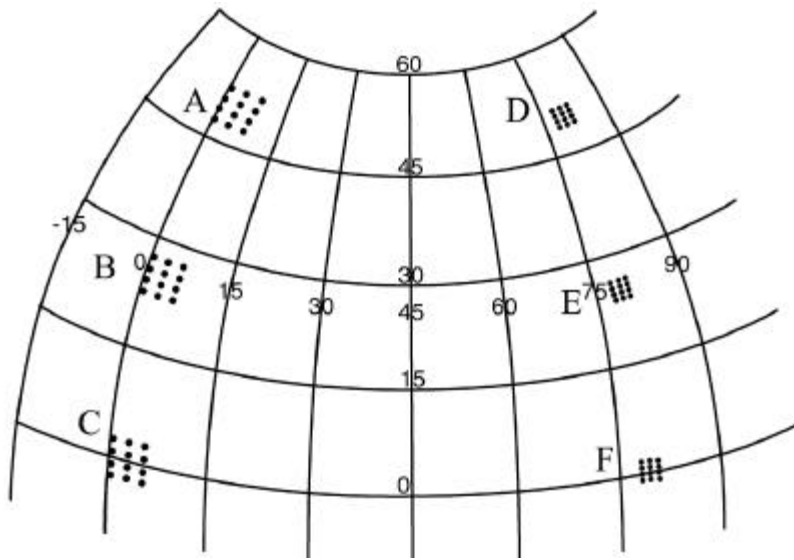


Figure 1.1 Standard Scenario of Region of Interest (ROI)

DRAFT

New Target Locations													
Large ROI, ~500,000 km ²													
												Target Number	
Region		1	2	3	4	5	6	7	8	9	10	11	12
A	North Lat	52.42	50.81	49.20	47.58	52.42	50.81	49.20	47.58	52.42	50.81	49.20	47.58
	North Lon	1.25	1.21	1.17	1.13	5.22	5.04	4.87	4.72	9.18	8.86	8.57	8.30
B	Mid Lat	27.42	25.81	24.20	22.58	27.42	25.81	24.20	22.58	27.42	25.81	24.20	22.58
	Mid Lon	0.86	0.85	0.84	0.83	3.59	3.54	3.49	3.45	6.31	6.22	6.14	6.07
C	Eq Lat	2.42	0.81	-0.81	-2.42	2.42	0.81	-0.81	-2.42	2.42	0.81	-0.81	-2.42
	Eq Lon	0.77	0.77	0.77	0.77	3.18	3.18	3.18	3.18	5.60	5.60	5.60	5.60
Small Region Target Locations													
												Target Number	
Region		1	2	3	4	5	6	7	8	9	10	11	12
D	North Lat	51.36	50.45	49.55	48.64	51.36	50.45	49.55	48.64	51.36	50.45	49.55	48.64
	North Lon	78.43	78.43	78.43	78.43	80.62	80.58	80.53	80.50	82.80	82.72	82.64	82.56
E	Mid Lat	26.36	25.45	24.55	23.64	26.36	25.45	24.55	23.64	26.36	25.45	24.55	23.64
	Mid Lon	78.43	78.43	78.43	78.43	79.95	79.94	79.93	79.92	81.48	81.45	81.43	81.41

Table 1.1 Target Locations

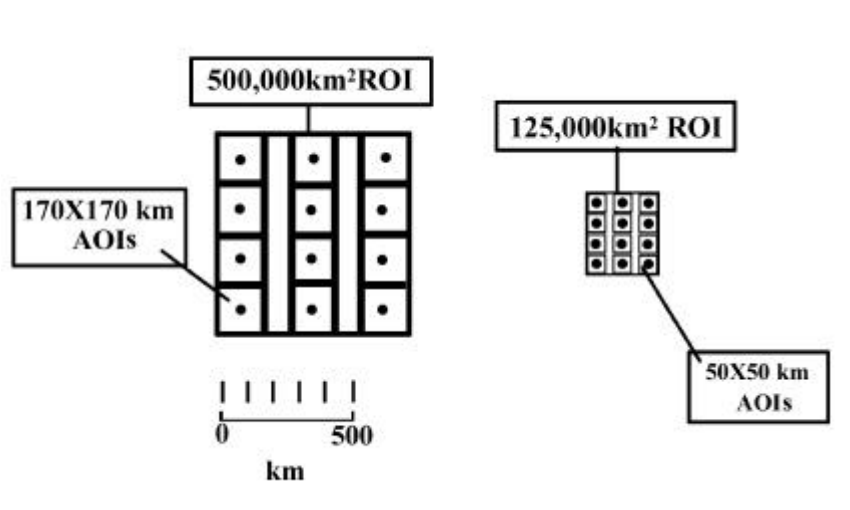


Figure 1.2 Large and Small Regions of Interest

Single Mode Scenarios: The scenarios require running the constellation in a single mode against each individual ROI, or in a single mode against two ROIs simultaneously. The combinations of modes and ROIs are described in Tables 1.2 and 1.3. These scenarios are designed to provide a parametric assessment of the system capabilities. The following provides a further description of the tasks to be accomplished in each of the scenarios in each of the modes. For all HRR-GMTI modes of operation, the target is 10dBsm, Swerling 1 radar cross section and the clutter is Gaussian at -15 dBsm sigma naught. TPMs for the HRR-GMTI modes should include: area collection rate, coverage times, revisit rates, statistics in terms of parameter histograms and cumulative distributions, probability of detection (P_D) and probability of false alarm (P_{FA}). For the HRR-GMTI acquisition and persistent tracking modes, TPMs should also include the probability of correct association figure of merit (PCAFOM) described in Attachment 2. The TPMs for SAR modes should include: coverage rate, collection time, revisit rate, RNIIRS, and revisit interval statistics in terms of histograms and cumulative distributions.

DRAFT

Single Mode Operation in Individual ROIs						
Scenario	Region of Interest					
	A	B	C	D	E	F
HRRGMTI Wide Area Search	X	X	X	X	X	X
HRRGMTI Acquisition	X	X	X	X	X	X
HRRGMTI Persistent Tracking	X	X	X	X	X	X
Spot SAR		X	X		X	X
Scan SAR		X			X	
Strip SAR		X			X	

Table 1.2

Single Mode Operation in Simultaneous Regions						
Scenario	Regions of Interest					
	A	B	C	D	E	F
HRRGMTI Wide Area Search						
HRRGMTI Acquisition		X		X		
HRRGMTI Persistent Tracking						
Spot SAR		X		X		
Scan SAR						
Strip SAR						

Table 1.3

For all single mode cases, TPMs should also include satellite operating time statistics. Single mode scenario tasks include:

- WAS mode: repeatedly cover the entire ROI. Report TPMs for randomly oriented targets traveling at both 4kph and 15kph.
- Acquisition mode: repeatedly cover all AOIs within the specified ROI (170X170 km AOIs for ROIs A-C and 50X50 km AOIs for ROIs D-F). Report TPMs for randomly oriented targets traveling at both 4kph and 15kph.
- Persistent tracking: repeatedly visit individual targets at the center of each AOI with a revisit rate adequate to maintain track. Report TPMs for randomly oriented targets traveling at both 4kph and 15kph.
- Spot SAR: repeatedly cover 4kmx4km areas, oriented North/South (N/S) at the center of each AOI.
- Scan SAR: repeatedly cover 15kmx15km areas, oriented N/S at the center of each AOI.
- Strip SAR: repeatedly cover 50kmx50km areas, oriented N/S at the center of each AOI.
- HRR-GMTI Acquisition in two ROIs Simultaneously: repeatedly cover all AOIs in ROIs B and D.

DRAFT

- Spot SAR in two ROIs Simultaneously: repeatedly cover 4kmx4km areas, oriented N/S at the center of each AOI for ROIs B and D.

MultiMode scenario: coverage against ROI B (enlarged view at Figure 1.3). TPMs for this multitarget, multimode assessment should also include percent of subtasks completed. This scenario should be conducted with and without a communication constraint of three degrees grazing angle to the direct downlink station shown in Figure 1.3. For the purposes of this scenario, all areas are defined as centered on the specific target point and oriented north and south. This scenario represents an operational strategy which concurrently pursues each of the following tasks:

- HRR-GMTI Wide Area Search coverage of 170X170 km about AOI numbers 1 and 9 (as indicated on Figure 1.3) every 40 minutes. The objective is to detect large scale operations.

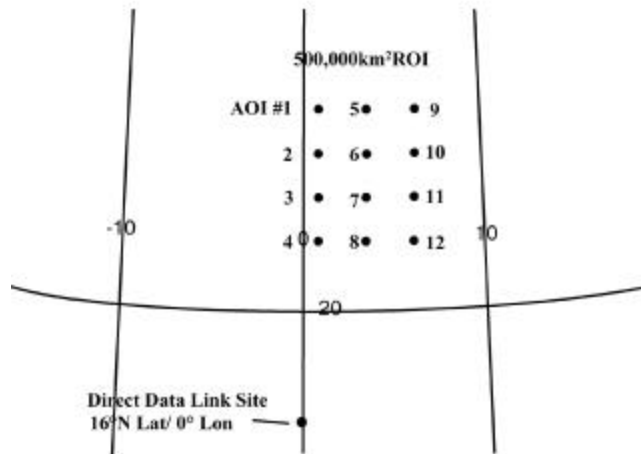


Figure 1.3 ROI "B", Multitarget, Multimode Scenario

- HRR-GMTI Target Acquisition coverage:
 - 170X170 km areas at AOI #'s 2, 4, 5, 7, 10 and 12. The objective is to detect, classify and nominate for tracking high value targets (HVTs) or potentially significant formations. Tracks of interest occur in random directions, at random speeds, from 5-100 km/hr, and at random times each two hours in each AOI for a random time of travel between 5 and 10 minutes.
 - 4X4 km areas centered on AOI locations 3, 6, 8 and 11. HVTs depart the center of each AOI randomly during each 8 hours, in random directions and at random speeds from 5-100 km/hr for random times of travel between 5 and 10 minutes. The objective of these operations is to repetitively monitor known locations for the departure of HVTs, with the subsequent nomination of these moving vehicles for persistent track operations
- Persistent HRR-GMTI track operations against moving vehicles that have been nominated for tracking. In addition to the track nominations associated with HRR-GMTI acquisition mode operations, additional random tracks occur throughout the ROI in random directions, at random speeds from 5-100 km/hr and at random times each hour. These ROI wide nominations can be considered the result of cross cueing from TBM launch detections, SIGINT systems or other theater assets. The objectives of these operations are to provide complete tracking of all nominated targets. Key TPMs include PCAFOM and PFa per unit time (pre-exploitation) for 10 dBsm targets traveling at speeds of 5-100 km/hr (off-road), and 25-100 km/hr (on-road), and revisit interval statistics for each AOI.
- Spot SAR coverage of 4X4 kms targets at the center of each AOI every two hours. Excess constellation time over ROI B is to be utilized for further spot SAR operations at the center of each AOI.

DRAFT

Global Port Watch Scenario: This scenario is intended to be run in a stand alone mode, not connected to other cases/scenarios. The objective of this scenario is to perform port watch operations over 20X20 km areas at each port shown on the map at Figure 1.4 and in Table 1.4 (provided under separate cover). For purposes of this scenario assume the specified areas are all over water. Targets of interest include 25 dBsm ships moving at 10 knots and 10 dBsm boats moving at 30 knots. TPMs include P_{Fa} at a PD of .9 for each class of ships, revisit interval statistics for each port and satellite operating time statistics. Target density is assumed to be 1 per square km.

Single Area DTED Cases: Separate assessment of collection at each DTED level against single target areas, at 0 degrees longitude and 0, 20, 40 and 60 degrees north latitude. Detailed descriptions of the SIs concept for DTED collection operations is to be included. The TPMs for these cases is the time required to collect DTED level 3, over 300X300 km, DTED level 4 over 150X150 km and DTED level 5 over 90X90 km.

DRAFT

System Capabilities Document Attachment 2

The purpose of this attachment is to develop Figures of Merit (FOMs) that can be used to assess the ability of a High Range Resolution Ground Moving Target Indication (HRR-GMTI) radar to provide data for tracking ground vehicles. The figure of merit is based upon an analytical approximation to the Probability Of Correct Association (PCA) developed in [1] and a very simple 1-D tracking model.

As described in this attachment, the FOMs can be calculated by summing system performance over the range of environmental parameters associated with a satellite field of regard and therefore represent an estimate of the relative HRR-GMTI merit of a particular constellation. In addition, these same FOMs can be applied to particular scenarios and allow insight into the variations in HRR-GMTI performance for a specific set of target tracking operations. PCA performance from HRR-GMTI detection and tracking tests during Phase II on-orbit operations will provide specific examples related to these FOM calculations.

Input Parameters

The radar is judged on the basis of the following radar performance parameters:

$$\dot{a} = \text{area coverage rate, km}^2/\text{sec} \quad (1)$$

$$P_D = \text{Probability of Detection, for } 10 \text{ m}^2 \text{ target and false alarm rate of } .292/\text{km}^2 \quad (2)$$

$$\sigma_r = \text{1-sigma range accuracy, m}^1 \quad (3)$$

$$\sigma_{cr} = \text{1-sigma range cross-range accuracy, m} \quad (4)$$

The false alarm rate is to include noise and diffuse clutter. The false alarm rate is to be determined based upon a 10dBsm, Swerling 1 radar cross section target and Gaussian clutter of -15 dBsm S_0 .

The radar performance parameters must be specified as a function of the following environmental parameters:

$$\theta_a = \text{azimuth angle (between the horizontal projection of the range vector and satellite velocity vector), degrees} \quad (5)$$

$$\theta_g = \text{grazing angle, degrees} \quad (6)$$

$$\dot{r} = \text{target radial velocity, km/hr} \quad (7)$$

Values of the environmental parameters are specified in Table 1 below.

¹ The value of σ_r is to be the larger of the range accuracy as determined by the range resolution and SNR (for a 10 m^2 target) of the radar and the target size, which we will take as five meters.

Parameter	No. of Values	Values
θ_a	$N_a = 7$	90, 67.5, 45, 22.5, 15, 10, 5
θ_g	$N_g = 7$	6, 8, 12, 25, 40, 55, 70
i	$N_i = 4$	4, 8, 16, 32

Table 1. Environmental Parameter Values

Approximate Expression for PCA

We consider a 1-dimensional tracking problem in which vehicles move at a velocities with a stochastic component that changes randomly between radar position measurements. Following [1], we assume that vehicles are Poisson distributed with density ν vehicles per meter.

For this tracking problem, vehicle prediction error (σ_x) is computed in terms of the measurement error (σ_y), the standard deviation of the vehicle velocity (σ_v) (e.g., $\sigma_v = 2.5$ m/s), the revisit interval (Δt seconds), and the of misses (n):

$$\sigma_x(n) = \sigma_y + \sigma_v (n + 1) \Delta t \tag{8}$$

Note that the probability of n consecutive misses is

$$P_M(n) = P_D (1-P_D)^n \tag{9}$$

An analytical approximate to the Probability of Correct Association (PCA) for a given number n of misses can be computed as follows (see p. 215, Eq. 7.76 of [1])

$$PCA(n) = \exp \left[-\sqrt{\frac{2}{\pi}} \sigma_x(n) \nu \right] \tag{10}$$

The average PCA is then given by the expression

$$\overline{PCA} = \sum_{n=0}^N PCA(n) P_M(n) \tag{11}$$

for N equal to some suitable maximum number of misses, say, $N = 10$.

Tracking Figure of Merit

The above expression for \overline{PCA} can be used to derive probability of correct association figure of merit (PCAFOM). To accomplish this objective, it is necessary to relate the parameters in the tracking model to the radar and environmental parameters.

The measurement error (σ_y) is computed as the geometric mean of the range and cross-range errors,

$$\sigma_y = \sqrt{\sigma_r \sigma_{cr}} \quad (12)$$

From Appendix A, σ_y is the average 1- σ position error that results from a radar measurement with 1- σ range error σ_r and 1- σ cross-range error σ_{cr} , when the vehicle being tracked is known to lie with certainty on a straight line road segment of known position and orientation.

The revisit interval (Δt) is computed in terms of the area rate,

$$\Delta t = \frac{A}{\dot{a}} \quad (13)$$

where A is a reference area (e.g, $A = 10^4 \text{ km}^2$).

Note from equations (10), (8), (12), and (13), that $PCA(n)$ is a function of \dot{a} , σ_r , and σ_{cr} while these latter quantities are functions of θ_a , θ_g , and \dot{r} . Moreover, from (9) and (11), \overline{PCA} is a function of P_D , which is also a function of θ_a , θ_g , and \dot{r} . Thus to obtain a figure of merit for HRR-GMTI tracking, we need to average

$\overline{PCA} = \overline{PCA}(\mathbf{q}_a, \mathbf{q}_g, \dot{r})$ over the values of the environmental parameters θ_a , θ_g , and \dot{r} . Thus we are motivated to define the following PCAFOM

$$PCAFOM = \frac{1}{N_a} \frac{1}{N_g} \frac{1}{N_{\dot{r}}} \sum_{\mathbf{q}_a \in \Theta_a} \sum_{\mathbf{q}_g \in \Theta_g} \sum_{\dot{r} \in \dot{R}} \overline{PCA}(\mathbf{q}_a, \mathbf{q}_g, \dot{r}) \quad (14)$$

where

$$\Theta_a = \{90, 67.5, 45, 22.5, 15, 10, 5\} \quad (15)$$

$$\Theta_g = \{6, 8, 12, 25, 40, 55, 70\} \quad (16)$$

$$\dot{R} = \{4, 8, 16, 32\} \quad (17)$$

Alternative Tracking Figure of Merit

An alternative to using the probability of correct association is to use the average prediction error to calculate a prediction error figure of merit (PEFOM). From (7)

$$\bar{\sigma}_x = \sigma_y + \sigma_v (\bar{n} + 1) \Delta t \quad (18)$$

where

$$\bar{n} = \sum_{n=0}^{\infty} n P_D (1 - P_D)^n = \frac{1 - P_D}{P_D} \quad (19)$$

Combining the above two equations,

$$\bar{s}_x = \sqrt{s_y^2 + \frac{(2 - P_D) s_v^2 (\Delta t)^2}{P_D}} \quad (20)$$

An HRR-GMTI PEFOM can therefore be defined as

$$PEFOM = \frac{1}{N_a} \frac{1}{N_g} \frac{1}{N_r} \sum_{q_a \in \Theta_a} \sum_{q_g \in \Theta_g} \sum_{r \in \bar{R}} \bar{s}_x(q_a, q_g, r) \quad (21)$$

This PEFOM has dimensions of meters.

Application to the Objective System

The system will operate in the following HRR-GMTI modes:

- Search mode,
- Acquisition mode, and
- Persistent Tracking mode.

The purpose of the search mode is to detect and provide warning of above normal levels of vehicle motion in a given region. There is no attempt to perform tracking based upon the HRR-GMTI detections. The threshold for this mode is the area coverage rate (Eq. 1) obtained when

$$P_D = .85 \quad (22)$$

for 10 m² target with $\dot{r} = 4$ kph, and for a false alarm rate of .05/km² and for a 10dBsm, Swerling 1 radar cross section target and Gaussian clutter of -15 dBsm.

The purpose of the acquisition mode is to initiate tracks and determine velocity estimates in a region of interest, but not to attempt to sustain long term tracks. The acquisition mode may be cued by the HRR-GMTI search mode or externally.

The purpose of the tracking mode is to initiate and maintain tracks on a target or targets of interest. The tracking mode may be cued by the HRR-GMTI acquisition mode or externally.

The FOMs defined in this attachment are relevant to the HRR-GMTI acquisition and tracking modes. Analysis by the government has indicated that a radar design resulting in the following parameters should be achievable for the system: $P_D = .9$, for a 10 m² target with $\dot{r} = 4$ kph, and for a false alarm rate of .292/km², $\sigma_y = 100$ m, and

$\dot{a} = 500$ km²/sec. This corresponds to the following values for \overline{PCA} and $\overline{\sigma}_x$ (for $\sigma_v = 2.5$ m/s, $\nu = .0025$ m⁻¹ (i.e, for 400 meters between targets), and for $A = 10^4$ km² (i.e, for a 100 km x 100 km area)):

DRAFT

$$\overline{PCA} = .79 \quad (23)$$

$$\overline{\sigma}_x = 116 \text{ m} \quad (24)$$

The government encourages contractor development of innovative radar designs that improve upon these numbers.

DRAFT

APPENDIX 4: KEY PERSONNEL QUALIFICATIONS SUMMARY

1. Name:

2. Title:

3. Job Category/Level:

Current and Proposed Category/Level,

Identify the appropriate percentage of the individual's time that will be dedicated to proposed program.

4. Security Clearance:

5. Education:

College/University/Degree/Graduate Degree/Courses/Year

Professional Courses/Title/Year

6. Professional Experience Summary:

Number of years experience in a particular field or area, particularly DOD acquisition experience, together with years of experience with specific systems.

7. Specific Experience:

Job Assignment - Present

Job Assignment - Past

8. DOD Acquisition Experience:

Number of years -

Description of experience -

9. Professional Activities and Achievements:

Awards

Significant Publications

Professional Societies

Specific On-the-Job Meritorious Achievements

APPENDIX 5: PERFORMANCE INFORMATION

Provide the information requested in this form for each program being described. Provide frank, concise comments regarding your performance on the contracts you identify. If more space is required, continue on the back of form.

A. Offeror Name (Company/Division)

B. Program Title:

C. Contract Specifics:

- 1. Contract Number _____
- 2. Contract Type _____
- 3. Period of Performance _____
- 4. Original Contract \$ Value _____
- 5. Current Contract \$ Value _____
- 6. If Amounts for 4 and 5 above are different, provide a brief description of the reason

D. Brief Description of Effort as __Prime or __Subcontractor
(Please indicate whether it was development and/or production, or other acquisition phase and highlight portions considered most relevant to current acquisition)

E. Completion Date:

- 1. Original date: _____
- 2. Current Schedule: _____
- 3. Estimate at Completion: _____
- 4. How Many Times Changed: _____
- 5. Primary Causes of Change: _____

F. Primary Government Points of Contact:
(Please provide current information on all three individuals)

1. Program Manager: Name: _____
 Office _____
 Address _____

 Phone _____

2. PCO: Name: _____
 Office _____
 Address _____

 Phone _____

3. ACO: Name: _____
 Office _____
 Address _____

 Phone _____

G. Address any technical (or other) area about this program considered unique.

DRAFT

H. For each of the applicable factors under the evaluation areas in Section M, illustrate how your experience on this program applies to that factor.

I. Specify by name any key individual(s) who participated in this program and are proposed to support the instant acquisition. Also, indicate their contractual roles for both acquisitions.

J. Identify if a small business or disadvantaged business plan or goal was required. If so, identify in terms of a percentage the planned versus achieved goal during the contract. If goals were not met, please explain.

DRAFT

APPENDIX 6: CROSS REFERENCE MATRIX

For Prospective Offerors: See paragraph 2.3.6 regarding instructions for completion of the RFP Cross Reference Matrix. If this matrix conflicts with any other requirement, direction or provision of this solicitation, the other reference shall take precedence over this matrix. Additionally, to the extent this matrix discloses details as to the extent or manner by which the Government intends to evaluate offeror's proposals for award, Section M references in the matrix are for information purposes only and the Government shall be obligated to evaluate proposals solely in conformance with the provisions of the Section M of the solicitation.

An example of the format is shown below:

RFP CROSS REFERENCE MATRIX								
REQ.	WORK	WBS	CLIN	Section	Section	Proposal	CSOW	CDRL
DOC.	REQ	LEVEL		L	M			
3.2.2	Design B	2	0001					N/A
3.3.3	Build A	2	0002	3.B.2				A001

REFERENCE

1. Mori, S., K-C Chang, and C-Y Chong, "Performance Analysis of Optimal Data Association with Application to Multiple Target Tracking," in Y. Bar-Shalom, Ed., Multitarget, Multisensor Tracking: Applications and Advances, Vol. II, Artech, Boston, 1992.