STATEMENT OF WORK FOR THE

SDA TRACKING LAYER TRANCHE 0 (T0)

WIDE FIELD OF VIEW (WFOV) PROGRAM

Dated June 15, 2020

1.0 INTRODUCTION

The National Defense Strategy acknowledges that space is vital to the U.S. way of life, its national security and modern warfare. In an era of renewed great power competition, maintaining U.S. advantage in space is critical to winning these long-term strategic competitions. Potential adversaries seek to undermine this goal by employing strategies that exploit real or perceived vulnerabilities in our current and planned National Security Space systems. In addition, these potential adversaries are developing and demonstrating multi-domain threats to national security much faster than the U.S. can deploy responsive space-based capabilities. The Department of Defense (DoD) established the Space Development Agency (SDA) on 12 March 2019 as a response to this problem.

SDA is responsible for defining and monitoring the Department's future threat-driven space architecture and accelerating the development and fielding of new military space capabilities necessary to ensure our technological and military advantage in space for national defense. To achieve this mission, SDA will unify and integrate next-generation space capabilities to deliver the National Defense Space Architecture (NDSA), a resilient military sensor and data transport capability via a proliferated space architecture primarily in Low Earth Orbit (LEO). SDA will not necessarily develop and field all capabilities of the NDSA but rather orchestrate those efforts across DoD and fill in gaps in capabilities while providing the integrated architecture.

SDA's mission begins and ends with the warfighter. SDA recognizes that sufficient or "good enough" capabilities in the hands of the warfighter sooner is better than delivering the perfect solution too late. SDA will deliver capabilities to joint warfighting forces in 2-year tranches, starting with Tranche 0 in Fiscal Year 2022 (FY22). The layers of the SDA architecture are as follows:

- Transport Layer, the backbone of the architecture, to provide assured, resilient, low-latency military data and connectivity worldwide to a full range of warfighter applications;
- Tracking Layer, to provide global indications, warning, tracking and targeting of advanced missile threats, including hypersonic missile systems;
- Battle Management Layer, to provide architecture tasking, mission Command and Control (C2) and data dissemination to support time-sensitive kill chain closure at campaign scales;
- Custody Layer, to provide 24x7, all-weather custody of time-sensitive, left-of-launch surface mobile targets (e.g., to support targeting for advanced missiles);

- Navigation Layer, to provide Alternate Position, Navigation, and Timing (A-PNT) for GPS-denied environments;
- Deterrence Layer, to deter hostile action in deep space (beyond Geosynchronous Earth Orbit and up to lunar distances);
- Support Layer, to enable the ground and launch segments to support a responsive space architecture.

1.1 TRACKING LAYER WFOV PROGRAM OBJECTIVE AND GOALS

The SDA Tracking Layer will provide global indications, warning and tracking of advanced missile threats, including hypersonic missile systems. In T0, two programs will collaborate in the tracking layer: a WFOV program focusing on technologies necessary to populate a proliferated LEO constellation and a Medium Field of View (MFOV) program focusing on technologies necessary for additional performance. The WFOV space vehicles (SVs) are planned to be launched in late FY22 and the MFOV SVs are planned to be launched in mid-FY23; both sets of SVs will provide complementary mission data to C2 and operational interfaces. T0 is known as the warfighter immersion tranche, a step that builds a path towards warfighter techniques, tactics, procedures and Concepts Of Operations (CONOPS) for future tranches in a proliferated LEO constellation. This Statement of Work (SOW) will focus on the T0 WFOV program and will reference the MFOV program for background or context. Given no unforeseen challenges SDA anticipates up to two (2) awards for the WFOV program, however SDA reserves the right to make no more than one (1) award.

The priorities of the T0 WFOV program are:

- Schedule (#1): to demonstrate that SDA and industry can launch T0 WFOV SVs by the end of FY22;
- Cost (#2): to demonstrate that a hypersonic missile warning capability can be achieved at an affordable cost to populate a proliferated LEO architecture;
- Performance (#3): to achieve minimally essential, threat-driven, warfighter-relevant technical and operational capabilities.

The performance goals of the T0 WFOV program are:

- Develop and deliver space vehicles integrated with infrared sensors with sufficient sensitivity and processing to detect and track hypersonic vehicles from low Earth orbit;
- Characterize performance of SV-to-SV and SV-to-ground communications paths;
- Integrate with a proliferated Transport Layer to provide tracking information directly over tactical data links;
- Demonstrate interoperability between SVs provided by different vendors;

- Assess how on-board processing, communications infrastructure and advanced algorithms can enable more efficient use of communications bandwidth;
- Develop a CONOPS for a global tracking capability;
- Verify functional and performance requirements to inform future trade studies on communications; space and ground processing; and, the numbers, types and capabilities of space-based sensors needed for a full global capability.

Task statements, for example "shall" statements, can be found in this SOW and are numbered for clarity.

2.0 SCOPE AND DESCRIPTION OF WORK

The Contractor shall:

1. Design, fabricate, assemble and test up to eight (8) SVs, each with a commoditized bus[1], an infrared, wide field of view sensor, intersatellite optical communications package (option for other bands), ground communications package and a Battle Management, Command, Control, and Communications (BMC3) module;
2. Support the mating of the SVs to the launch vehicle via a launch dispenser of the Contractor's design or purchase. The dispenser shall be stackable (e.g., the Evolved Expendable Launch Vehicle Secondary Payload Adapter family of adaptors) to facilitate launch of SVs from multiple SDA layers simultaneously;
3. Develop Mission Data Processing (MDP) software and Contractor-specific Telemetry, Tracking and Commanding (TT&C) software components to be integrated into the Naval Research Laboratory's Neptune® constellation operations software core. These systems shall integrate with the Government-provided subsystems of the C2 system, for example the Ground Entry Points, communications network, operations facility and other functions[2];
4. Support development of open standards at the physical, data and network layers of the Open Systems Interconnection (OSI) model in concert with SDA and the other Associate Contractors. Additionally, determine required modifications or extensions to capabilities for interoperability with networks using dissimilar service and network management approaches;
5. Design and assemble a satellite test bed with sufficient fidelity for testing of the space and ground segment software (this test bed may remain at the Contractor's facility);

[1] A commoditized bus has been designed for manufacture and is suitable for, or currently being produced by, an assembly line like process at economies of scale.
[2] For clarity this SOW does not use the overarching term *ground system* and instead specifies its subsystems like the Ground Entry Points, the communications network, TT&C and MDP software, operations center facility and information technology infrastructure like servers, routers, firewalls, etc.

6. Provide a Battle Management Command, Control, & Communications (BMC3) module on the SVs that demonstrates fundamental capability and supports experimentation in preparation for future tranches;
7. Deliver engineering model intersatellite link and router hardware to support interoperability verification at SDA's Hardware In The Loop Laboratory located at the Naval Research Laboratory Washington DC location. The hardware provided should be sufficient to verify performance at the physical, data, and network layers of the standard OSI model;
8. Deliver SVs to the launch facility not later than thirty (30) days before launch and assist with satellite dispenser and launch vehicle integration as necessary;
9. Perform launch and early orbit satellite checkout;
10. Transition operations to the Government after satellite checkout;
11. Support Government missile flight tests[3] in which the T0 WFOV SVs would participate (nominally two per year);
12. Provide a program management and systems engineering framework that monitors the development of the space and ground segments and addresses challenges as they arise;
13. Provide sustainment engineering, e.g., software changes, for the on-orbit life of the SVs;
14. Support decommissioning of the SVs when instructed by the Government[4].

The comprehensive nature of this SOW is intended to convey the scope of SDA's interest in the T0 WFOV program. In the fixed price spirit of this solicitation, SDA will rely upon Contractors' best practices to fulfill the tasks set forth in this SOW. If the Contractor uses its best practices, the Contractor shall:

15. Provide information to give the Government insight into the best practice used.

2.1 PROGRAM MANAGEMENT

The Contractor shall:

16. Conduct a kickoff meeting no later than 30 days after contract award;
17. Establish and conduct regular program management reviews and technical interchange meetings as needed;
18. Develop, deliver, monitor, and maintain an event-driven Integrated Master Schedule and report monthly progress against it;
19. Implement and maintain a risk management system to mitigate schedule, cost, and technical risks. This system shall describe risks, assess relative likelihood and consequence of occurrence, and develop a plan for burning down these risks;
20. Monitor the expenditure of funds in relation to anticipated schedule progress;

[3] Flight tests are necessary to assess the efficacy of the Tracking Layer inside the ecosystem that also includes the Transport Layer, a battle manager and an interceptor.
[4] This task is unscoped future work. Contactors are not to bid this effort at the current time.

21. Maintain cost, schedule, and performance baselines and inform the Government when controls indicate trades need to be initiated to maintain T0 WFOV priorities;
22. Monitor contract, subcontract, purchase order, etc. activity. Monitor the potential need for contract modifications and implement modifications as necessary;
23. Monitor the supply chain for materials, parts, and subsystem availability and production capacity;
24. Implement an environmental, safety, and occupational health program and report mishaps within 48 hours;
25. Include small business participation in contracts to the extent prescribed by this contract or greater;
26. Close out this contract in accordance with Government direction as appropriate.

2.2 SYSTEMS ENGINEERING

The Contractor shall:

27. Develop a Systems Requirement Document that implements functional and performance requirements found in the Technical Requirements Document (TRD) in the design of the system;
28. Conduct the following life cycle reviews:
    - Systems Requirements Review
    - Preliminary Design Review
    - Critical Design Review
    - Pre-Environmental Review
    - Pre-Ship Review
    - Flight Readiness Review

    If the Contractor determines that an alternate review structure (e.g., combining certain reviews or adding reviews of significant value) meets the needs of the Government for insight into the design and understanding of challenges and risks at appropriate stages of the development, the Contractor is encouraged to propose it.
29. Define functions and conduct incremental software reviews for the space and ground software;
30. Define functions and conduct progress reviews for the Contractor operations team who will perform launch and early orbit checkout activities;
31. Support design reviews for common elements of the SDA architecture that are Government-furnished, e.g., the Hardware In The Loop lab, the ground segment, mission operations, etc.;

32. Be compatible with Neptune® constellation operations software (information initially provided in the *Bidders Library*);
33. Use an open systems architecture to facilitate forward compatibility with future tracking SV tranches;
34. Develop a Requirements Verification Matrix which shows how each requirement in the Systems Requirement Document will be verified;
35. Develop test plans for each verification test to be performed;
36. Develop interface control documents to adjacent programs or capabilities, e.g., other SV vendors (intersatellite links and networking), the SDA satellite operations center, the SDA T0 transport SVs and other DoD programs and capabilities as specified by the Government (information initially provided in the *Bidders Library*);
37. Monitor the supply chain for materials, parts, subsystems, and software; and report on issues as they arise. The Contractor shall maintain awareness of hardware and software vulnerability alerts and take action as appropriate;
38. Maintain awareness of other SDA-funded tracking experiments for applicability and/or utility to the T0 WFOV design;
39. Store and transport equipment in a way that satisfies the security, cleanliness, fragility, environmental, static discharge, safety, etc. needs of the equipment to be stored and transported;
40. Consider providing priced option(s) to include sensor and satellite resiliency capabilities, e.g. for optics, radio frequency (RF) systems, focal plane arrays, or other SV materials (see classified TRD);
41. Perform special studies upon request[5].

2.3 ASSEMBLY, INTEGRATION AND TEST

The Contractor shall:

42. Support Government integration of the TT&C software at the Naval Research Laboratory Blossom Point Tracking Facility;
43. Maintain a database of observed problems, deficiencies, failures, etc. and track them to resolution or closure;
44. Identify test opportunities for functional and performance requirements, workmanship checks, deficiency resolution, etc.;
45. Develop and fabricate special test equipment as needed to integrate and test the spacecraft;
46. Implement a test strategy that balances cost efficient test execution with required mission assurance as it pertains to numbers of samples tested for a given test;

[5] This task is unscoped future work. Contactors are not to bid this effort at the current time.

47. Conduct Test Readiness Reviews for significant test events.

2.4 LAUNCH SUPPORT

The Contractor shall:

48. Comply with the Government-provided launch vehicle – space vehicle interface control document (information initially provided in the *Bidders Library*);
49. Ship the space vehicles and launch dispenser to the launch site and support their integration to the launch vehicle;
50. Perform required pre-launch tests and countdown rehearsals;
51. Support launch of T0 WFOV SVs;
52. Maneuver T0 WFOV SVs into their prescribed orbit.

2.5 ON-ORBIT CHECKOUT, CALIBRATION AND CHARACTERIZATION

The Contractor shall:

53. Perform initial turn on and on-orbit checkout of the T0 WFOV SVs from the Contractor's facility or from Blossom Point Tracking Facility;
54. Support SV state of health monitoring, calibration and data analysis;
55. Support constellation management activities and on-orbit tests to characterize the performance envelope of the SV subsystems and trend performance.

2.6 FLIGHT TEST PARTICIPATION

The Contactor shall:

56. Maintain awareness of other SDA-funded Tracking Layer experiments for applicability and/or utility to test planning;
57. Participate in the Government test planning and design process; participate in test readiness reviews;
58. Use T0 WFOV SVs to participate in cooperative flight tests, targets of opportunity and non-cooperative flight tests.

2.7 OPERATIONS TRANSITION, SUSTAINING ENGINEERING AND LOGISTICS

The Contractor shall:

59. When on-orbit checkout is complete, transition SV operations to the Government, including training new operators, technicians, administrators and support personnel[6];
60. After operations transition to the Government, support operations as requested by the Government (also known as *factory support*)[7];
61. Implement changes to flight and ground software;
62. Provide logistics support, including inventory control, for hardware and software items;
63. Conduct or support on-orbit failure or anomaly diagnosis, analysis and remediation as necessary[8].

2.8 DISPOSAL

The Contractor shall:

64. Support disposal, deorbiting, or decommissioning of the SVs as and when instructed by the Government in a fashion consistent with "U.S. Government Orbital Debris Mitigation Standard Practices, November 2019 Update" and other relevant U.S. policies.

3.0 GOVERNMENT FURNISHED EQUIPMENT

The Government shall provide selected equipment and/or information required for the performance of the T0 WFOV program. This equipment can be found in the Government Furnished Equipment (GFE) List, an attachment to this SOW. As equipment items are removed and/or added, the listed will be updated.

The Contractor shall:

65. Maintain custody of GFE at all times and notify and coordinate with the Government for the repair and test of GFE;
66. Report and update the Item Unique Identification Registry for parts provided as GFE per Defense Federal Acquisition Regulation Supplement (DFARS) 252.211-7007.

If the Contractor determines that an item not on the GFE List would benefit contract performance if it were made available to the Contractor, the Contractor is encouraged to propose that it be added to the list.

[6] This task is unscoped future work and will include SV documentation, procedures and training for nominal and anomaly resolution operations. Contactors are not to bid this effort at the current time.
[7] This task is unscoped future work. Contactors are not to bid this effort at the current time.
[8] This task is unscoped future work. Contactors are not to bid this effort at the current time.

4.0 HARDWARE IN THE LOOP / SOFTWARE IN THE LOOP TESTBED

The Hardware In The Loop / Software In The Loop (HITL/SITL) testbed will be Government-owned and operated. It will be located at the Naval Research Laboratory in Washington, DC. It will be used to verify spacecraft-to-spacecraft and payload-to-payload interoperability, network and routing behavior, and space-to-space link optical compatibility. The Contractor is required to provide the necessary hardware, documentation and support to allow for the Government verification of standards and interoperability.

T0 WFOV systems must demonstrate interoperability with all required systems prior to launch. Simulations using the HITL/SITL testbed will be performed to verify compatibility and interoperability.

The Contractor shall:

67. Develop and deliver Engineering Model (EM) hardware and software units for integration into the HITL/SITL testbed. These items include: one (1) Optical Intersatellite Link (OISL), one (1) modem, one (1) router; and any supporting software, equipment and procedures needed to operate the systems;
68. If required, develop and deliver applicable support equipment or test equipment to operate the EM hardware and software;
69. Provide support to integrate EM hardware and software into the HITL/SITL testbed;
70. Provide a test plan to participate in OISL interoperability verification testing using a flight-representative model of their design prior to CDR.

5.0 BMC3 MODULE

The BMC3 Layer is responsible for several functions key to the eventual SDA constellation's success, including but not limited to management, coordination, and allocation of resources. BMC3 modules are envisioned to reside on Transport, Tracking, and mission partner nodes to provide not only constellation management, mission management and C2 functions, but also as an open hardware and software platform for mission data processing and exploitation needs.

For T0, BMC3 envisions a CONOPS that demonstrates fundamental connectivity, rudimentary BMC3 functionality, and supports application layer experimentation. For later tranches, BMC3 is expected to add benefits for onboard processing, networking and autonomy.

No core spacecraft functionality shall reside on the BMC3 module and the spacecraft shall be capable of operating with the BMC3 module disabled or turned off; however all TT&C, positioning, timing, SV crosslink and other payload data shall be made available to the BMC3 module.

The Contractor shall:

71. Provide a BMC3 hardware module that maximizes onboard processing performance;
72. Provide a BMC3 Software Development Kit that describes the open, modular software architecture to allow third parties to develop space vehicle applications for the BMC3 module without support from the T0 WFOV Contractor.

6.0 DELIVERABLES

6.1 REPORTS AND DATA ITEMS

The T0 WFOV program shall require a variety of reports and data items. These items can be found in the list of DD Forms 1423, Contract Data Requirements List, a list of data items attached to this SOW. Each DD Form 1423 lists a SOW reference paragraph in block 5 to connect each data item to the SOW. As data items are removed and/or added, the listed will be updated.

If the Contractor determines that a report or data item, its preparations instructions or Government review requirements can be met in a more economical form, the Contractor is encouraged to propose it.

6.2 HARDWARE AND SOFTWARE

The T0 WFOV program shall require several hardware and software items. These items can be found in the Deliverables List, an attachment to this SOW. As hardware and/or software items are removed and/or added, the listed will be updated.

The Contractor shall:

73. Mark the components, parts, and end items with Item Unique Identification (IUID) per DFARS 252.211-7003;
74. Ensure the IUID markings are machine-readable;
75. Develop the IUID marking/tags and enter the IUID and required data elements into the IUID Registry.

7.0 CRYPTOGRAPHIC EQUIPMENT

The Contractor shall:

76. Encrypt and decrypt SV-to-SV links, and encrypt SV-to-ground communications links;
77. Provide equipment that is approved for use by the National Security Agency;

78. Develop and use a key management plan appropriate for the classification level of the keys;
79. Provide unclassified test keys;
80. Comply with the Federal Information processing Standard 140-3 – Security Requirements for Cryptographic Modules unless NSA Information Assurance Security Requirements Document and Technical Security Requirements Document requirements are levied due to the NSA crypto certification process;
81. Consider utilizing the National Security Agency's Commercial Solutions for Classified Program where practical to demonstrate new and unique approaches to encryption.

8.0 SPECTRUM MANAGEMENT

The Contractor shall:

82. Deliver information to support a frequency use plan that is compliant with all applicable National Telecommunications and Information Administration and International Telecommunications Union (ITU) regulations;
83. Deliver information to support Standard Frequency Action Format applications for frequency assignment to enable SDA to obtain frequency assignments for terrestrial and satellite systems;
84. Deliver Advanced Publication Information to enable SDA to file and coordinate satellite spectrum use with the ITU and other nations.

9.0 SECURITY OPERATIONS

The Contractor shall:

85. Protect facility resources and maintain control of personnel access to restricted access locations;
86. Maintain the resources to receive, access, process and store classified items in accordance with approved policies;
87. Maintain accredited facilities and approved Automated Information Systems (AIS) necessary to perform work at the correct classification;
88. Assign personnel with the appropriate clearance or eligibility necessary to perform work at the correct classification;
89. Allocate security provisions to Subcontractors in a manner that sufficiently protects T0 WFOV program information;
90. Implement operations security and program protection measures throughout all life cycle phases and activities of the T0 WFOV program;
91. Implement disaster recovery measures as necessary.

Additional information can be found in the DD Form 254, Contract Security Classification Specification, an attachment to this SOW.

10.0 CYBERSECURITY

In T0 the Government Ground Entry Points, the communications network, operations center facility and its information technology infrastructure is one system which the Government will accredit. The WFOV Contractor's TT&C and MDP software will reside inside the operations center facility. The Contractor space segment is a separate system which the Government will accredit.

The Contractor shall:

92. Implement the *Risk Management Framework* per DoD Instruction 8510.01. Implementation details will be determined as part of the systems engineering process;
93. Allocate functional and performance requirements from the system level to the subsystem and component level in a manner that ensures cybersecurity is an inherent attribute of the design;
94. Design T0 WFOV interfaces with other programs such that there is alignment between adjacent programs' cybersecurity pedigrees and risk postures;
95. Maintain awareness of cybersecurity vulnerabilities in commercial or government software;
96. Allocate cybersecurity provisions, including reporting requirements, to Subcontractors in a manner that sufficiently protects T0 WFOV program information;
97. Meet cybersecurity related duties on classified Information Systems as outlined in DoD Manual 5200.01, Volume 3;
98. Develop and demonstrate a cybersecurity risk management plan adhering to National Institute of Standards and Technology Special Publication (NIST SP) 800-37, "Risk Management Framework for Information Systems and Organizations: A System Live Cycle Approach for Security and Privacy;"
99. Demonstrate cyberspace defenses on all development systems to include continuous monitoring capability, unauthorized penetration and exploitation testing; as well as lexicon and workflow as specified in NIST SP 800-137, "Information Security Continuous Monitoring;"
100. Provide a cybersecurity monitoring and testing capability in accordance with DoDI 8560.01, "Communications Security Monitoring and Information Assurance;"
101. Provide for vulnerability mitigation, incident response, and reporting capabilities to limit damage and restore effective service following an incident.

11.0 SOFTWARE PROTECTION

The Contractor shall:

102. Ensure that all media delivered to or for the Government under this contract in the form of AIS media (e.g., compact disks, etc.) shall be free of viruses, Trojan horses and worms which could cause damage, disruption or degradation of the AIS;

103. Test such media to ensure there are no infections prior to delivery;

104. Include this requirement in all subcontracts at any tier when the data is to be delivered in the form of AIS media.

12.0 SPECIALTY ENGINEEING

The Contractor shall:

105. Describe its approach to, and obtain Government concurrence on, mitigation of any potential Electromagnetic Interference and Compatibility concerns for bus and payload performance during launch and operations.

13.0 SMALL BUSINESS UTILIZATION

The Contractor shall:

106. Submit a Small Business Participation Commitment Document to develop capabilities for small businesses and provide maximum practicable opportunity for small businesses to participate in efficient contract performance.

Instructions for this document can be found in the small business attachment to this SOW.

14.0 ASSOCIATE CONTRACTOR AGREEMENT

The T0 WFOV program requires its Contactor to be an associate contractor with other Tranche 0 Contractors, Subcontractors and Suppliers. The T0 WFOV Contractor shall:

107. Maintain a close working relationship and open information network with other Associated Contactors;

108. Enter into a written agreement with the other Associate Contractors establishing the substance and procedures of the relationship;

109. Protect proprietary information received from other Associate Contractors.

Additional information can be found in a corresponding clause for this contract.

15.0 LOCATION OF WORK

15.1 PRIMARY LOCATION OF WORK

The primary location of work for this contract is at facilities operated by the Contractor, Subcontractor, Suppliers, etc. During the satellite launch and checkout phase working from Naval Research Laboratory's Blossom Point Tracking Facility, Maryland, is anticipated.

15.2 ALTERNATE LOCATIONS OF WORK

Additional locations for work include, but are not limited to, locations associated with duties at:

- Headquarters Space Development Agency in Washington, DC
- Missile Defense Agency locations in Washington, DC, Schriever AFB, CO, Redstone Arsenal, AL
- Space and Missile Systems Center, Los Angeles AFB, CA
- Naval Research Laboratory locations in Washington, DC; Blossom Point, MD; Stafford, VA
- U.S. Space Force, Peterson AFB, CO
- Combatant Command Headquarters
- DoD, DOE and FFRDC and UARC Laboratories
- DoD Field Activities, Command and Intelligence Centers
- Eastern and Western Ranges at Cape Canaveral AFS, FL and Vandenberg AFB, CA
- Missile defense related technical symposia and conferences

16.0 TRAVEL

Travel shall be required for this contract. The Contractor, Subcontractor and Suppliers are permitted to travel to fulfill the requirements set forth in this contract.

17.0 SPECIAL NEEDS

In fulfillment of activities found in the *Operations Transition, Sustaining Engineering and Logistics* paragraph, the Contractor will require access to the Non-classified Internet Protocol

(IP) Router Network (NIPRNET), Secret Internet Protocol Router Network (SIPRNET), Joint Worldwide Intelligence Communications System (JWICS), and potentially other communications networks.

The Contractor shall:

110. Provide personnel who will fulfill the security and training requirements necessary for access to NIPRNET, SIPRNET, JWICS, etc.

18.0 PERIOD OF PERFORMANCE AND OPTIONS

The approximate period of performance for this contract is as follows:

- Base contract (development, launch, checkout, operations and test):
  - August 2020 to July 2025

The Contractor shall:

111. Enact future contract options, e.g., Contract Line Item Number activities originally unpriced, upon request.

19.0 APPLICABLE PUBLICATIONS, FORMS AND REFERENCES

All required DoD directives, policies and procedures will be made available for Contractor access upon award. Prior to award available information will be posted in the *Bidders Library*. Additional information can be made available as requested.

ACRONYM LIST

AFB	Air Force Base
AFS	Air Force Station
AIS	Automated Information System
A-PNT	Alternate Position, Navigation and Timing
BMC3	Battle Management Command, Control, & Communications
C2	Command and Control
CONOPS	Concept of Operations
DD	Department of Defense
DFARS	Defense Federal Acquisition Regulation Supplement
DoD	Department of Defense
DOE	Department of Energy
EM	Engineering Model
FFRDC	Federally Funded Research and Development Center
FY	Fiscal Year
GFE	Government Furnished Equipment
GPS	Global Positioning System
HITL	Hardware In The Loop
ITU	International Telecommunications Union
IUID	Item Unique Identification
JWICS	Joint Worldwide Intelligence Communications System
LEO	Low Earth Orbit
MDP	Mission Data Processing
MFOV	Medium Field Of View
NDSA	National Defense Space Architecture
NIPRNET	Non-classified Internet Protocol Router Network
NIST	National Institute of Standards and Technology
OISL	Optical Intersatellite Link
OSI	Open Systems Interconnection
RF	Radio Frequency
SDA	Space Development Agency
SIPRNET	Secret Internet Protocol Router Network
SITL	Software In The Loop
SOW	Statement of Work
SP	Special Publication
SV	Space Vehicle
T0	Tranche 0
TRD	Technical Requirements Document
TT&C	Telemetry, Tracking and Commanding
UARC	University Affiliated Research Center
WFOV	Wide Field Of View