

Broad Agency Announcement

ArcLight Phase I

DARPA TTO

DARPA-BAA-10-63

July 07, 2010

Table of Contents:

Part One: Overview Information	3
Part Two: Full Text of Announcement	
Sec. I: Funding Opportunity Description	4
A. Program Goals	7
B. Phase I Objectives	7
C. Phase I Key Milestones Schedule and Deliverables	11
D. Phase II Objectives	18
E. Phase III Objectives	18
Sec. II: Award Information	18
Sec. III: Eligibility Information	19
A. Eligible Applicants	
B. Other Eligibility Criteria	
Sec. IV. Application and Submission Information	21
A. Address to Request Application Package	
B. Content and Form of Application Submission	
C. Submission Dates and Times	
D. Funding Restrictions	
E. Other Submission Requirements	
Sec. V. Application Review Information	33
A. Criteria	
B. Review and Selection Process	
Sec. VI. Award Administration Information	36
A. Award Notices	
B. Administrative and National Policy Requirements	
C. Reporting Requirements	
D. Program Office Support for DARPA Team Member	
E. Electronic Systems	
Sec. VII. Agency Contacts	42
Sec. VIII. Other Information	42
A. Intellectual Property	
B. Non-Procurement Contract Proposers – Noncommercial and Commercial Items (Technical Data and Computer Software)	
C. All Proposers – Patents	

Part One: Overview Information

- **Federal Agency Name** – Defense Advanced Research Projects Agency (DARPA), Tactical Technology Office (TTO)
- **Funding Opportunity Title** – ArcLight Phase I
- **Announcement Type** –Initial Announcement Broad Agency Announcement (BAA)
- **Funding Opportunity Number** – DARPA-BAA-10-63
- **Catalog of Federal Domestic Assistance Numbers (CFDA)** – Not Applicable
- **Dates**
 - Posting Date: See announcement at www.fbo.gov
 - Proposal Initial Closing Date: 12:00 noon (ET), August 23, 2010.
 - Proposal Final Closing Date: 12:00 noon (ET), January, 3, 2011.
 - Notification to DARPA Security if Proposal will contain materials marked at higher classification than Collateral Secret: 12:00 noon (ET), August 19, 2010, contact: DARPA-BAA-10-63@darpa.mil
- **Description of the funding opportunity:** DARPA\TTO announces Phase I of the ArcLight program to significantly advance enabling technologies for high speed, long range strike weapons. ArcLight is a demonstration program to design, build and flight test a boost/glide vehicle capable of carrying a 100-200 pound payload over a 2,000 nautical miles range in approximately 30 minutes. The operational version of the boost/glide vehicle will be launched from a Mk 41 Vertical Launch System (VLS) compatible booster stack. Demonstration of this vehicle will make it possible for the US Navy capability to engage tactical, long range, time critical, threats to the US with conventional weapons and provide the Air Force with a long range, time critical strike capability.
- **Total amount of money to be awarded:** The total planned budget for award is \$17 Million (M) (includes any Government furnished equipment, materials and/or facilities costs), with \$15M for Technical Area 1: ArcLight Vehicle Development, and \$2M for Technical Area 2: Wing Material Development.
- **Anticipated individual awards:** Multiple awards are anticipated for each Technical Area.
- **Types of instruments that may be awarded:** Procurement contract or Other Transactions for Prototype agreement.
- **Cost Sharing:** Cost sharing will be considered for Procurement contracts, but is not required; however, a one third (1/3) cost share is required as one of the conditions for use of an Other Transactions for Prototype agreement if no non-traditional defense contractor is participating to a significant extent in the proposed prototype project. See the OSD guide entitled “Other Transactions (OT) Guide for Prototype Projects” dated January 2001 (as amended) for additional information. The guide can be accessed at <http://www.acq.osd.mil/dpap/Docs/otguide.doc>.
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Part Two: Full Text of Announcement

I. FUNDING OPPORTUNITY DESCRIPTION

The Defense Advanced Research Projects Agency (DARPA) often selects its research efforts through the Broad Agency Announcement process. The BAA will first appear on the FedBizOpps website: <http://www.fedbizopps.gov>. The following information is for those wishing to respond to the BAA.

DARPA is soliciting innovative research proposals in the area of high speed, long range, time critical strike technology compatible with the Mk 41 Vertical Launch System (VLS) system. Vehicles using this technology would be capable of engaging time-critical targets. Proposed research should investigate innovative approaches that enable revolutionary advances in science, devices, or systems. Specifically excluded is research that primarily results in evolutionary improvements to the existing state of practice. DARPA is specifically seeking new and innovative ideas that start from a clean sheet of paper to enable systems with the most capability at significantly reduced cost, including new approaches to how the demonstration and operational systems are conceived, designed, built, tested and fielded.

Background

There are currently 8,500 VLS tubes in the US Navy including those based on cruisers (CG-47), destroyers (DDG-51) and submarines (SSN, SSGN). Deploying operational systems with an ArcLight Vehicle as the payload on Navy platforms will offer a game changing warfare capability. The ability for worldwide coverage from several ships reduces the need for having less capable strike assets forward deployed and enables tactical and political flexibility. The cost of launching a comparable strike from CONUS is significant, likely to limit use of such a system and provides an opportunity for adversaries to observe launches from fixed sites. Based on compelling results from feasibility studies and a Phase III Small Business Innovation Research (SBIR), DARPA believes this program will be a ground breaking way for the Navy and Air Force to engage deployed, time-critical targets.

Program Description

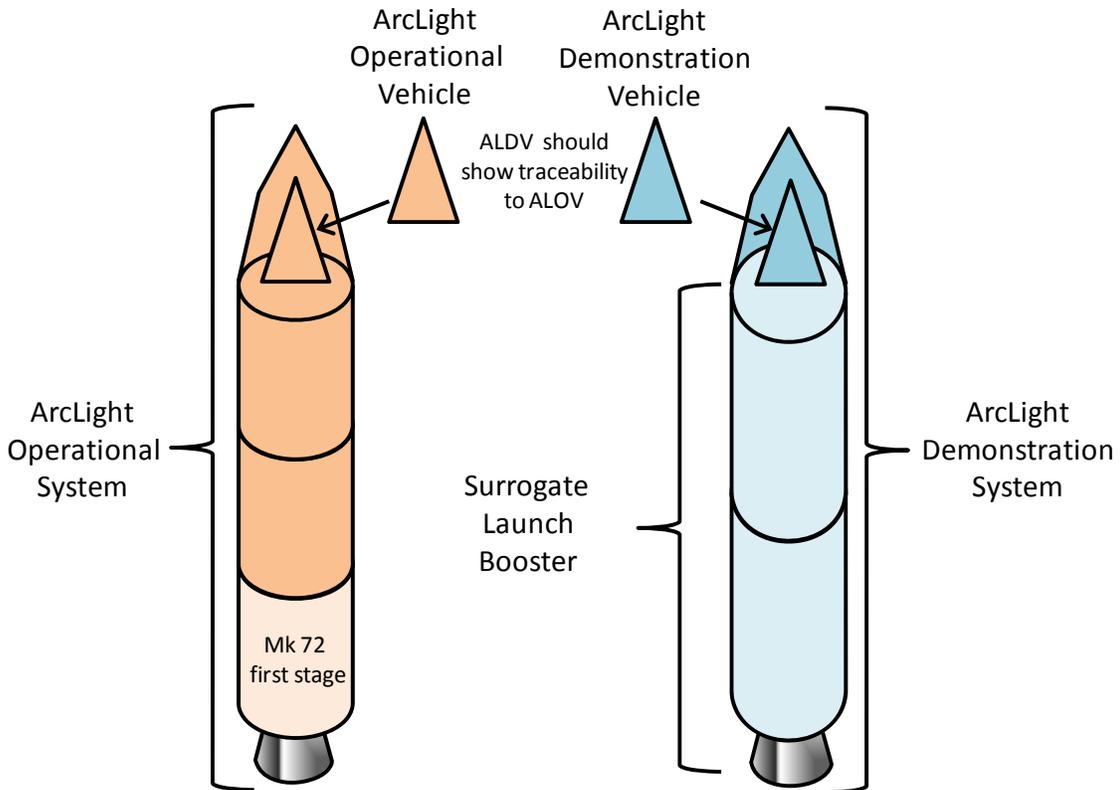
DARPA seeks innovative proposals in the following **Technical Areas of Interest**:

1. Technical Area One: ArcLight Vehicle

ArcLight, Technical Area One, will be conducted in three phases. Responses to this BAA are for Phase I only.

The primary intent of the ArcLight program is to design a boost/glide vehicle, the ArcLight Demonstration Vehicle (ALDV), which is to be built and integrated with an off-the-shelf surrogate booster in Phase III, and launch it as the ArcLight Demonstration System (ALDS). Multiple teams will launch an ALDS in Phase III of

the program to demonstrate the capability. In parallel, the program will track an ArcLight Operation System (ALOS) with an ArcLight Operational Vehicle (ALOV) as a payload for an Mk 41 VLS compatible system to ensure the ALDV has traceability to a system to be fielded. DARPA expects that prime proposers will have in-house expertise in the area of hypersonic flight, including associated vehicle design, trajectory analysis with guidance navigation and control, high temperature materials and ability for assembly, integration and test of their ALDV.



ArcLight Phase I will first focus on the design of an ALOS with primary emphasis on the conceptual design of the ALOV. This activity should include trade studies on technologies that might increase the range of the ALOS. At the completion of the trade studies the ALOS and ALOV should undergo a Conceptual Design Review (CoDR).

Following the CoDR for the operational systems, the work should focus on the design of the ALDV, maintaining traceability to the operational system. In addition, the ArcLight program will not support the development of new technology for the booster stack, but, rather is focused upon the enabling technologies and development of the ALDV as its payload. Effort to characterize the booster stack will only be permitted to a level that is sufficient for design and definition of the ALOS and ALOV. Likewise, the only propulsion efforts that will be considered part of the program are those that apply to the ALOV or ALDV's portion of the trajectory. ArcLight will also not fund the development of Guidance, Navigation and Control

(GNC), sensors\seekers, Automatic Target Recognition (ATR) or the ALOV payload, however, technologies that would offer tremendous improvement in capability, with potential for development in future programs, should be identified.

DARPA desires that performers use their ALOS conceptual designs to develop a Concept of Operations (CONOPs) and a Military Utility Analysis (MUA). DARPA expects this effort not to exceed 10% of the total effort in Phase I. The MUA should be developed to the point that the performers demonstrate the capability and survivability of their ALOV when faced with defended airspace in a relevant threat environment. Definition of this airspace is available to qualified proposers in an addendum. Contact DARPA-BAA-10-63@darpa.mil for information on qualifying.

The Technical Area One performers shall engage with the performers selected for Technical Area Two on the subject of wing material requirements for the ALDVs. DARPA intends to develop wing materials, a potentially critically enabling technology, under a separate effort, and make the material data available to all Technical Area One performers. All parties shall be required to sign Associate Contractor Agreements (ACAs) on the use and dissemination of proprietary and intellectual data within the first two months after Authorization to Proceed (ATP), or risk having the Government terminate their contract for this effort. DARPA recognizes that Technical Area One performers may not require the wing materials developed in Technical Area Two, and Technical Area One proposers are encouraged to identify the key unique technologies for their concepts and propose to develop them under their own contract. DARPA is not requiring performers in the same Technical Area to exchange information with each other.

In Phase II, Technical Area One performers will concentrate on further refining their ALDV designs and performing the necessary testing in arcjet and aero thermal wind tunnels to substantiate a Preliminary Design Review (PDR) at the end of the phase. Full scale testing of the actuation systems and validation of the program performance goals is expected. Performers will also further develop the design maturity of their ALDS and work with the Government team to identify surrogate launch boosters, test ranges and other requirements for a successful test in Phase III.

In Phase III, Technical Area One performers will progressively mature ALDV design and technology to a Critical Design Level, manufacture a boost/glide vehicle, participate in integration of the boost/glide vehicle with a surrogate launch vehicle, and flight test at relevant conditions. The Program Office intends to manage procurement of the launch vehicles, launch range access and support, data collection assets, and integration of the ALDVs with the launch vehicles for the flight testing in Phase III.

2. Technical Area Two: Wing Materials Development

ArcLight, Technical Area Two, will be conducted in two phases. Responses to this BAA are for Phase I only.

DARPA has identified a class of materials with the potential to enable an ALOV to meet the ArcLight program goals. DARPA will not require that Technical Area One performers use these materials, and further encourages them to start with a clean sheet of paper when identifying their designs for this proposal.

DARPA has chosen to further develop this class of material to provide a possible resource for one class of vehicle solutions to the packaging constraints for the ArcLight Vehicle. This material would allow for the ALDV to provide high lift/drag bodies and control authority sufficient to enable the flight goals. Technical Area Two performers will demonstrate proof of capability of their materials in Phase I to meet the possible needs of an ALDV designs, based on Technical Area One performers' ALOV requirements. The effort for this technical area is not expected to go beyond Phase II.

The Technical Area Two performers shall engage with the performers selected for Technical Area One on the subject of wing materials capabilities for the ALDVs. The reasons for this approach have previously been stated. Likewise, all Technical Area Two performers will receive access to the relevant material requirements from Technical Area One performers. All parties shall be required to sign ACAs on the use and dissemination of proprietary and intellectual data within the first two months after Authorization to Proceed (ATP), or risk having the Government terminate their contract for this effort. DARPA will not require contractors in the same Technical Area to exchange information with each other.

In Phase I, Technical Area Two performers will develop and test materials to provide capability information to the ALDV developers. They will also conduct trade studies to outline a path to operational and demonstration vehicle-size structures, and engage with Technical Area One performers on vehicle requirements and materials capabilities.

In Phase II, Technical Area Two performers will work to develop manufacturing techniques and processes that will allow for fabrication of panels over one square meter in size. This effort will be integrated with those of the Technical Area One performers, as appropriate.

The Government will conduct multiple efforts in parallel with Technical Areas One and Two. The first effort will develop Leading Edge Material Systems to minimize recession and increase the range of the vehicles. This endeavor will mature technologies that are currently too risky to put on the critical path in any one vehicle design, but, if successful, will have great value to the program. Information from this effort will be provided to the Phase I performers at regular intervals.

The second effort aims to develop innovative approaches to reduce the ArcLight program cost. Aspects of this study will include innovative manufacturing, Government data rights to enable sharing of test and evaluation data, as well as other methods for minimization to include performer co-investment. DARPA encourages

proposers to include innovative strategies in their proposal for reducing program development costs. Information from both of these Government efforts will be provided to the Phase I performers at regular intervals.

A. Program Goals

The primary intent of the ArcLight Program is to design, build and flight test boost/glide vehicles that have the following goals:

- Range 2000 nautical miles
- Flight time of up to 30 minutes
- Carry 100 lb minimum payload
- Compatible for launch from a standard Mk 41 VLS, when integrated with the system
- Survivable in defended airspace. Definition of this airspace is available to qualified proposers in an addendum. Contact DARPA-BAA-10-63@darpa.mil for information on qualifying.

In Phase I, the above goals will apply to the Technical Area One performers.

The Phase I goals of the Wing Materials Development (Technical Area Two) are to develop the necessary materials that can enable high L/D vehicles and withstand the flight environment. An essential aspect of the program for Technical Area performers will be to determine metrics for minimum yield strength, tensile strength, roughness, porosity, manufacturability, and other parameters important to an ALDV.

Note – any award(s) made as a result of this BAA will be for Phase I of the ArcLight Program only. Phase II and III program goals and objectives are provided to assist proposers in developing their Phase I proposals.

B. Phase I Objectives

Technical Area One: ArcLight Vehicle

Phase I objectives are to develop conceptual designs for both operational and demonstration ArcLight Vehicles through the following steps:

- 1) Develop a conceptual design for the ALOS, including the ALOV, that exceeds the ArcLight program goals
- 2) Develop system requirements for an ALOS including the ALOV, booster, and other relevant systems
- 3) Develop a conceptual design and system requirements for an ALDV with significant traceability to the operational design. The boost/glide vehicle, high temperature materials, actuation systems, etc. should also be traceable to the ALOV.
- 4) Develop a Critical Technology Development Plan (CTDP) for all technical risk reduction required for the ALDV
- 5) Generate a CONOPS and MUA based on the ALOS capability and identifying survivability characteristics

- 6) Determine wing material requirements with the performers in Technical Area Two.

More detail on each of these objectives is provided in the following paragraphs. A detailed description of notional Phase I milestones and deliverables appears in Section D.

- 1) Develop a conceptual design for the ALOS, including the ALOV, that exceeds the ArcLight program goals

During Phase I, proposers will conduct rigorous technology and feasibility trades to produce optimized ALOS and ALOV conceptual designs. To ensure robust system level designs, proposers shall thoroughly document trade study results, tracking requirements and design decisions as the system matures.

The following list is an example of the metrics proposers may track. Proposers are encouraged to modify or expand the list. Where reasonable, Proposers shall analyze the sensitivity of their metrics with respect to the developed system requirements, the implications of exceeding or falling short with respect to the overall mission and the effect of each on the others.

Possible Key ALOS/ALOV Metrics:

- Performance capabilities
- Volumetric constraints
- Mass constraints
- Guidance
- Control Authority
- Vehicle thermal management
- Payload (in the ALOV) packaging
- Component packaging
- Storage (in the VLS), launch and flight environments
- Separation of the vehicle from the booster (including nosecone separation, if used)
- Launch environments (G, shock, vibe, EMI)
- Survivability of the vehicle in flight over hostile territory
- Communications
- Power
- Trajectory
- Sensors
- Booster to ALOV interfaces
- ALOS configurations
- Time to target – from launch to strike, including payload deployment
- Payload delivery accuracy
- Launch authority chain and timeline

- Alternate launch vehicles and systems
 - Payload packages and capabilities
 - Affordability (e.g. cost per mission and operations and maintenance cost)
 - Software
 - ALOV propulsion system
 - Supportability
 - Level of autonomy/mission management approach
 - Mission success probability
 - System reliability
- 2) Develop system requirements for an ALOS including the ALOV, booster, and other relevant system components based on the Conceptual Design.

In Phase I, proposers will conduct rigorous trade studies to determine the ALOS (including ALOV) requirements that flow from the program goals. The process is expected to be iterative as the proposer determines interdependencies among the many variables in the conceptual design. Requirements to be determined must include performance capabilities, volumetric and mass constraints, vehicle thermal management, power, control authority and communications. If the ALOS or ALOV designs impose requirements upon the booster or VLS these should also be addressed.

The entire booster/ALOV combination shall be designed to be compatible with the standard Mk 41 VLS. For design purposes, the notional operational booster stack must use the Mk 72 booster as the first stage. Other sections of the operational system such as booster stages, interstages, avionics, payload interfaces, and nosecone concepts are left to the proposers to determine in trade studies, but are not considered the primary effort of the program.

NOTE: DARPA does not intend to fund proposer or sub-contractor effort on a booster stage, GNC, sensors/seekers, ATR or the warhead beyond that which provides engineering data sufficient to optimize the performance of the Phase I ALOV designs.

It is expected that proposers will hold a System Requirements Review (SRR) late in Phase I. This SRR will map the ALOS/ALOV performance capabilities to system level requirements, document the system level requirements, and provide draft segment level requirements and interface definitions. The SRR information will form the basis for deriving the technical objectives of the component level tests and demonstrations required to validate the design.

If selected to continue, the proposer will mature their design throughout Phase II, adding detail and incorporating the results of component and system level

risk reduction activities ultimately culminating in a Preliminary Design Review (PDR) late in Phase II.

- 3) Develop system requirements and a conceptual design of an ArcLight Demonstration Vehicle (ALDV) with significant traceability to the operational design
 - Determine Key Operational Metrics to be demonstrated, and the criteria for successful demonstration. These metrics must include representative operational flight conditions.
 - Develop a conceptual design of an ALDV that fulfills the Key Operational Metrics to be demonstrated.
- 4) Develop a Critical Technology Development Plan (CTDP) for all technical risk reduction required for the ALDV
See CTDP description below.
- 5) Generate a CONOPs and MUA based on the ALOS. See CONOPs and MUA descriptions below.
- 6) Provide wing material requirements based on trajectory analysis in conjunction with the performers in Technical Area Two even if material is not required for their design.

Technical Area Two: Wing Materials Development

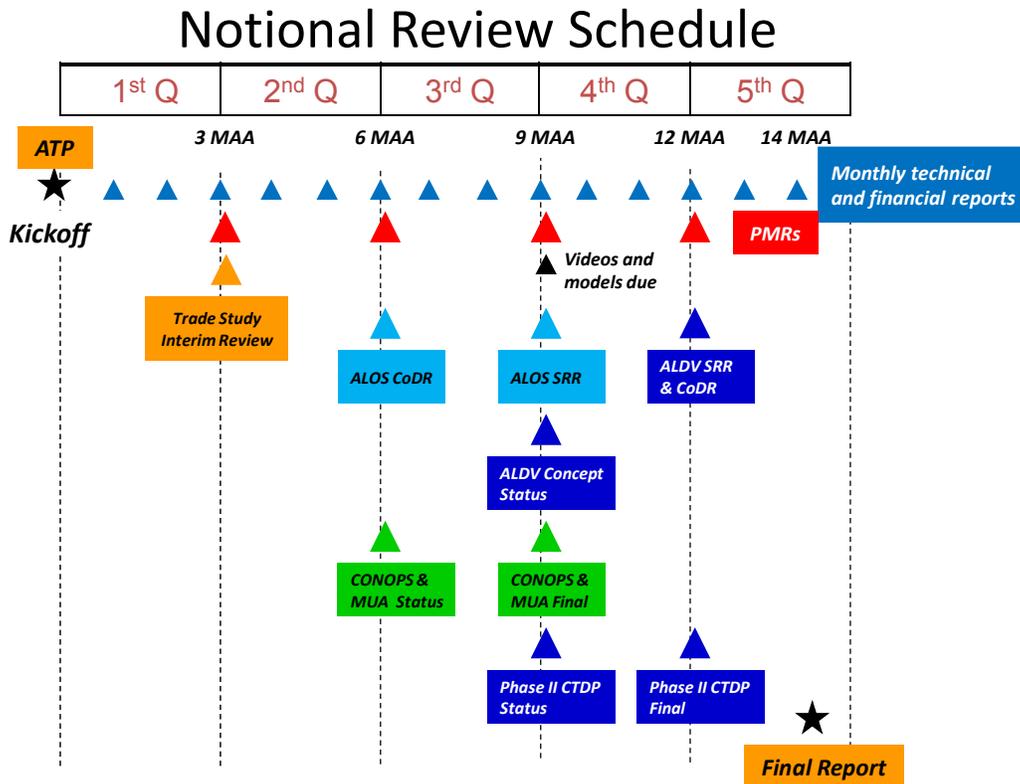
The objectives of Phase I for the Wing Materials Development are the following:

- Develop material(s) that can change shape or harden post launch and withstand the flight environment, making building and operating potential ArcLight Vehicles possible.
- Test the material properties to meet the strength, temperature and heat flux likely in an ArcLight Trajectory in facilities (such as arcjet tunnels, aero-thermal wind tunnels, or a Laser Hardened Materials Evaluation Laboratory (LHMEL)) that replicate the conditions of the trajectory.
- Engage with Technical Area One performers on wing materials requirements.
- Determine key metrics for minimum yield strength, tensile strength, roughness, porosity, manufacturability, etc. for ALDV wing materials.
- Provide wing material capabilities to the performers in Technical Area One.
- Conduct a study, and possibly a demonstration, that outlines a path to vehicle-size structures, including:
 - a. Manufacturability
 - b. Storability in VLS
 - c. Operational flight environments, including weather

C. Phase I Key Milestones Schedule and Deliverables

Technical Area One

A notional schedule based on the Phase I objectives has been provided as an example. Proposers should develop a more detailed schedule appropriate for their design concept. The Phase I effort should be no longer than 14 months. In general, DARPA desires monthly technical and financial reports and quarterly Program Management Reviews (PMRs).



DARPA will staff a team of Subject Matter Experts (SMEs) comprised of Government and support contractor personnel. This team will attend program reviews and provide feedback to the Program Manager. In addition to formal program reviews, regular telecons are encouraged to enhance communications with the Government team. Should important issues arise between program reviews, the Government team will be available to support interim technical interchange meetings (TIMs) as necessary.

Notional Phase I Schedule:

0 MAA (Months After Award)

ArcLight Phase I Kick Off Meeting

3 MAA

Program Management Reviews (PMR)

Interim Design Review (IDR) for discussing trade studies

6 MAA

Program Management Review (PMR)

ALOS Concept Design Review (CoDR)

Concept of Operations (CONOPs) Status Review

Military Utility Analysis (MUA) Status Review

9 MAA

Program Management Review (PMR)

ALOS Requirements Review (SRR)

Concept of Operations (CONOPs) Final Review

Military Utility Analysis (MUA) Final Review

ALDV Concept Design Status Review

Critical Technology Development Plan (CTDP) for Phase II Status Review

3 Unclassified ALOV OML SLA models, one stowed and two flight configuration (less than 1 foot in any dimension)

Classified and Unclassified CONOPs video

12 MAA

Program Management Review (PMR)

ALDV Concept Design Review (CoDR)

ALDV System Requirements Review (SRR)

Critical Technology Development Plan (CTDP) Final

Phase II and III Program Plans

14 MAA

Phase I Final Report

Description of Notional Schedule Items:

A description of notional schedule items is provided here as an example and proposers are left to develop the schedule, deliverables and other items that are required for development of their ArcLight System.

i. ArcLight Phase I Kick Off Meeting (0 MAA)

The Phase I Kick Off Meeting will mark the official beginning of the ArcLight Phase I effort. Opening remarks from both the Government and contractor performing teams will be delivered and the major roles and responsibilities of each will be discussed, including specific responsibilities of key performer and sub-contractor team personnel. An overview of the ArcLight Phase I program plan and design details is desired. The Government will also provide feedback on the proposer's proposed program.

ii. Technical and Financial Reports (Monthly)

Reports shall contain enough technical and financial information for the Government team to be able to assess progress, provide feedback and stay abreast of any emerging technical, cost or schedule issues. The report should update the Government team with a list of important activities, significant progress or setbacks to the program and a general status update in the major technical areas based on the activity scheduled for the previous month. The report should include a list of major activities that will occur in the following month and a projection of funding for the program, including any anticipated

problems/issues. The required reporting format for the monthly technical and financial reports will be provided after notification of selection for award.

iii. Program Management Reviews (3, 6, 9, 12 MAA)

Throughout Phase I, the proposer would provide periodic management reviews. At each review the budget, schedule and any contractual issues would be discussed as well as accomplishments during the previous three months. Reviews would include updates on the proposer's ALOS if not otherwise planned within the same meeting cycle. These design updates should reflect an increasing level of design fidelity as the design progresses towards CoDR. These reviews would also provide an overview of major tasks, studies and analyses. Additional details and timing of deliverables to be included at each review are left to the proposer, however proposers should provide sufficient information to substantiate that adequate progress is being made toward achieving program goals and objectives.

Technical system performance updates to be made at every review:

This is an example of items that the program manager will be looking to be updated on at every review:

- Trajectory – all vs. time
 - Range
 - Time of flight
 - Heat Flux
 - Temp
 - Wing Loading
- Wing material requirements – Temp, strength, flexibility, heat flux
- Booster – specific impulse, velocity at separation
- Vehicle – Mass and volume status, with error estimates
- Others

iv. ALOS Concept Design Review (CoDR) (6 MAA)

The proposer would conduct a CoDR for the ALOS which will be used to determine the feasibility of the desired product. It is used to focus and tailor requirements to the achievable. It will look at as many approaches to the solution as possible, and, by its conclusion, will narrow the design down to one or two options (at the top level). The type of TPS, boosters and parameters, such as weight and size limits or ranges, will be defined. Key subsystems will be defined to the extent of determining availability of technology and impact on weight and power requirements. These results will be used to finalize the test requirements, and provide focus to the major elements to be studied and decided in the Preliminary Design phase. Depending on programmatic planning needs, a Rough Order of Magnitude (ROM) cost estimate and approximate program schedule may be developed here. These are usually done by parametric rules of thumb (e.g. \$ per pound), and the error may be as high as a factor of two. Major subsystems characteristics, such as payloads or propulsion, may have known weights, costs, and other variables that can be added explicitly.

List of notional CoDR Deliverables:

- Release the final conceptual design drawing package (3-view, inboard profiles)
- Design support analysis and data from all design disciplines, to support the selected final design. Trade study of material and process, weights, aerodynamics, structures, propulsions, sub systems, manufacturing, and initial payload interface.
- All trade study work including drawings and support analysis.
- The grading system used in selecting the final design from the trade study results.

v. *ALOS Requirements Review (SRR) (9 MAA)*

The proposer would conduct an SRR to describe the system level requirements and functions necessary to achieve their predicted ALOS performance. The system level requirements should include the top level program requirements and additional derived requirements as appropriate for their design. These system and functional requirements shall be decomposed and allocated as appropriate to the segments of the ALOS architecture to develop the design, performance and interface requirements for each segment. The SRR will be conducted to assess the maturity of the ALOS design and readiness to close on an ALOV design before the next review cycle, and concurrently begin the Concept Design of the ALDV. A Systems Requirements Document (SRD) would be delivered at this review that documents the SRR and all of the ALOS requirements.

This review should describe the process that produced the system requirements products and include the following specific review items:

- I. Functional Flow Analysis
- II. Requirements & Requirements Allocation
- III. Trade Study Results
- IV. ALOS Design Concept
 - A. Block diagram
 - B. Schematics
 - C. 3D CAD physical layout
 - D. Weight estimate/budgets
 - E. System specification
 - F. System integration approach
- V. Phase I Systems Engineering
 - A. Process
 - B. Organization
 - C. Configuration management

vii. *ALDV Systems Requirements Review (SRR) (9 MAA)*

The proposer would conduct an SRR to describe the system level requirements and functions necessary to achieve their predicted ALDV performance and meet program demonstration requirements. The vehicle system level requirements should flow down from the ALOV requirements as part of the ALOS and provide additional derived requirements as appropriate for their design. These system and functional requirements shall be decomposed and allocated as appropriate to the segments of the ALDV system architecture to develop the design, performance and interface requirements for each

segment. A Systems Requirements Document (SRD) shall be delivered at this review that documents the SRR and all of the ALDV system requirements.

This review would describe the process that produced the system requirements products and include the following specific review items:

- I. Functional Flow Analysis
- II. Requirements & Requirements Allocation
- III. Trade Study Results
- IV. Integrated Test/Lab Demonstration Plan including identification of appropriate test facilities for all demonstrations
- V. ALDV Design Concept
 - A. Block diagram
 - B. Schematics
 - C. 3D CAD physical layout
 - D. Weight estimate/budgets
 - E. System specification
 - F. System integration approach
- VI. Phase I Systems Engineering
 - A. Process
 - B. Organization
 - C. Configuration management

viii. ALDV Concept Design Review (CoDR)(12 MAA)

Similar to the ALOS CoDR (see section C.v.), but for the ALDV.

ix. Critical Technology Development Plan (CTDP)(12 MAA)

This section will provide the overall ArcLight Phase II and III program approach and detailed discussion of the technology maturation plan. This section should cover all tasks required to achieve the goals of the ArcLight Phase II program and completely retire all technical risk associated with the proposed ALDV concept. This section should also describe how the proposer is capable of performing the proposed plan. The feasibility and likelihood of the proposed approach for satisfying the program objectives will be explicitly described and clearly substantiated. At this review the Government will evaluate the technical adequacy and risk of the demonstration performance requirements and the demonstration objectives of the CTDP.

The Government is interested in development approaches where the completion of key high-risk subsystem areas occurs as early as possible in incremental progressive steps towards achieving the performance objectives. The proposer would address their approach to conducting reliability and development success analysis and validation throughout the program, as well as provide a preliminary analysis of the conceptual design that identifies proposed goals for their concept. The proposer would include their approach to testing logistics, assembly required for demonstration and test duration/data reduction approach towards the final flight demonstration. The CTDP would describe the

development and validation plans necessary to achieve an acceptable level of risk prior to and after test demonstrations. The CTDTP would also provide an understanding of reliability challenges, vulnerabilities, specific technical issues and approaches necessary to demonstrate progress toward assured flight test performance.

x. Concept of Operations (CONOPs) (9 MAA)

The proposers will create a CONOPS, consistent with their ALOS, which includes:

- Identification of missions or targets the ALOS as a fielded system would be addressing for the first time, or missions or targets where the ALOS would provide a 10x improvement to the existing capability
- Specific plan for fielding the system
- Processes for initiating, developing, operating, maintaining and retiring the system
- The process to be followed in implementing the system (e.g. launch timelines and procedures)

xi. Military Utility Analysis (MUA) (9 MAA)

The proposers will create a Military Utility Analysis, consistent with their ALOS, which includes:

- Scenarios for use
- Likelihood and impact of use
- Strategies, tactics, policies, and constraints affecting the system
- Definition, analysis and implications of the launch timeline, ship locations, world coverage, survivability, time to target, signature, etc.

xii. Graphic(in Video Form) of the ArcLight Operational System (ALOS)

The proposers will create a video that shows their ALOS in operation.

xiii. Phase II and III Program Plan (12 MAA)

The Phase II and III program plans shall each consist of an updated Statement of Work (SOW), Integrated Master Schedule (IMS), Rough Order of Magnitude (ROM) costs, and Work Breakdown Structure (WBS) to level 3. Proposers should use the same WBS established with the Phase I proposal and this WBS should be used to link the costs. This will not be considered as a Phase II or III proposal and will only be used by the program office for informational purposes.

xiv. Phase I Final Report (14 MAA)

At the conclusion of Phase I, the proposer would document the tasks performed under the program in a final written report. The PMR and TIM charts, notes or other material should be included as separate appendices to the Final Report. The required reporting format for the Final Report will be provided after notification of selection for award.

Technical Area Two

Technical Area Two proposers should develop a Phase I Milestone schedule and deliverables with a Period of Performance no longer than 14 months. The schedule and deliverables should cover the Phase I Objectives, include monthly technical and financial reporting and a final report. TIMs will occur as needed with the Government SMEs and formal reviews should occur roughly every four to 6 months.

D. Phase II Objectives

Technical Area One

Phase II is notionally an 18 month effort with multiple performers. Phase II will focus on refining the designs and performing the necessary testing to substantiate a Preliminary Design Review at the end of the phase. The top-level objectives are to:

- 1) Mature the ALDV to a preliminary design level;
- 2) Conduct experimental risk reduction including arcjet, aero thermal wind tunnel, or LHMEEL facility testing of the vehicle shape, materials and other critical systems, and
- 3) Develop key actuation systems and test at full scale to make sure they are ready for flight test.

Technical Area Two

In parallel the wing material program will work to develop manufacturing techniques and process that will allow for fabrication of panels over one square meter in size.

E. Phase III Objectives

Phase III is notionally a two year effort with multiple performers. Phase III of the program will focus on maturing ALDV concepts to a critical design review, manufacturing the vehicles and completing a competitive flight test demonstration of the systems on surrogate boosters. The top level elements of Phase III, at a minimum, will be to complete the ALDV detailed design and fabrication. The Flight Demonstration of ALDVs in Phase III of the program will provide verification of the technologies necessary to make long-range, time-critical strike possible.

II. AWARD INFORMATION

Multiple awards are anticipated. The total amount of resources made available for award under this BAA is \$15M for Technical Area One and \$2M for Technical Area Two to cover all costs associated with the award including all Government Furnished Equipment (GFE) and/or Facilities (GFF) costs, if any. The Phase I effort should be no longer than 14 months for Technical Area One.

Proposals received as a result of this BAA shall be evaluated in accordance with the evaluation criteria specified herein through a scientific review process. Proposal(s) selected for negotiation may result in a procurement contract or other transaction agreement depending upon the nature of the work proposed, the required degree of interaction between parties, and other factors. Awards under this BAA will be made on the basis of the evaluation criteria listed in Section V, "Application Review Information,"

and program balance to provide overall value to the Government, all factors considered, including the availability of funding.

In addition, the Government reserves its rights to the following:

- To select for negotiation all, some, one, or none of the proposals received in response to this BAA
- To make award with or without discussions with proposers
- To segregate portions of any resulting awards into pre-priced options
- To fund proposals in phases with options for continued work
- To accept proposals in their entirety or to select only portions of proposals for award. In the event that DARPA desires to award only portions of a proposal, negotiations will be opened with that Proposer.
- To request any additional, necessary documentation once it makes the award instrument determination. Such additional information may include but is not limited to Representations and Certifications.
- To remove proposers from award consideration should the parties fail to reach agreement on award terms, conditions and cost/price within a reasonable time, or if the Proposer fails to provide requested additional information in a timely manner.

As of the date of publication of this BAA, DARPA expects that program goals for this BAA cannot be met by proposers intending to perform 'fundamental research,' i.e., basic and applied research in science and engineering, the results of which ordinarily are published and shared broadly within the scientific community, as distinguished from proprietary research and from industrial development, design, production, and product utilization the results of which ordinarily are restricted for proprietary or national security reasons. Notwithstanding this statement of expectation, DARPA is not prohibited from considering and selecting research proposals that, regardless of the category of research proposed, still meet the BAA criteria for submissions. In all cases, the contracting officer shall have sole discretion to select award instrument type and to negotiate all instrument provisions with selectees.

III. ELIGIBILITY INFORMATION

A. Eligible Applicants

All responsible sources capable of satisfying the Government's needs may submit a proposal that shall be considered by DARPA. Historically Black Colleges and Universities (HBCUs), Small Businesses, Small Disadvantaged Businesses and Minority Institutions (MIs) are encouraged to submit proposals and join others in submitting proposals; however, no portion of this announcement will be set aside for these organizations' participation due to the impracticality of reserving discrete or severable areas of this research for exclusive competition among these entities.

Federally Funded Research and Development Centers (FFRDCs) and Government entities (Government/National laboratories, military educational institutions, etc.) are subject to applicable direct competition limitations and cannot propose to this BAA in any capacity unless they meet the following conditions. FFRDCs must clearly demonstrate that the work is not otherwise available from the private sector AND they must also provide a letter on letterhead from their sponsoring organization citing the specific authority establishing their eligibility to propose to Government solicitations and compete with industry, and compliance with the associated FFRDC sponsor agreement and terms and conditions. This information is required for FFRDCs proposing to be prime or subcontractors. Government entities must clearly demonstrate that the work is not otherwise available from the private sector and provide written documentation citing the specific statutory authority (as well as, where relevant, contractual authority) establishing their ability to propose to Government solicitations. At the present time, DARPA does not consider 15 U.S.C. 3710a to be sufficient legal authority to show eligibility. While 10 U.S.C. 2539b may be the appropriate statutory starting point for some entities, specific supporting regulatory guidance, together with evidence of agency approval, will still be required to fully establish eligibility. DARPA will consider eligibility submissions on a case-by-case basis; however, the burden to prove eligibility for all team members rests solely with the Proposer.

Participation is limited to U.S. firms as Prime integrator, but proposers may include foreign partners or personnel as Subcontractors as part of their proposed resources as long as these entities comply with any necessary Non-Disclosure Agreements, Security Regulations, Export Control Laws, and other governing statutes applicable under the circumstances.

Applicants considering classified submissions (or requiring access to classified information during the life-cycle of the program) shall ensure all industrial, personnel, and information system processing security requirements are in place and at the appropriate level (e.g., Facility Clearance (FCL), Personnel Security Clearance (PCL), certification and accreditation (C&A)) and any Foreign Ownership Control and Influence (FOCI) issues are mitigated prior to such submission or access. Additional information on these subjects can be found at: www.dss.mil.

1. Procurement Integrity, Standards of Conduct, Ethical Considerations, and Organizational Conflicts of Interest

Current federal employees are prohibited from participating in particular matters involving conflicting financial, employment, and representational interests (18 USC 203, 205, and 208.). The DARPA Program Manager for this BAA is Dr. Thomas Bussing, an Inter-Governmental Personnel assignee from Draper Laboratories. Once the proposals have been received, and prior to the start of proposal evaluations, the Government will assess potential conflicts of interest and will promptly notify the proposer if any appear to exist. (Please note the Government assessment does NOT affect, offset, or mitigate the

proposer's own duty to give full notice and planned mitigation for all potential organizational conflicts, as discussed below.)

All Proposers and proposed subcontractors must affirm whether they are providing scientific, engineering, and technical assistance (SETA) or similar support to any DARPA technical office(s) through an active contract or subcontract. All affirmations must state which office(s) the Proposer supports and identify the prime contract numbers. Affirmations shall be furnished at the time of proposal submission. All facts relevant to the existence or potential existence of organizational conflicts of interest (FAR 9.5) must be disclosed. The disclosure shall include a description of the action the Proposer has taken or proposes to take to avoid, neutralize, or mitigate such conflict. In accordance with FAR 9.503 and without prior approval or a waiver from the DARPA Director, a Contractor cannot simultaneously be a SETA and performer. Proposals that fail to fully disclose potential conflicts of interests and/or do not have plans to mitigate this conflict will be rejected without technical evaluation and withdrawn from further consideration for award.

If a prospective Proposer believes that any conflict of interest exists or may exist (whether organizational or otherwise), the Proposer should promptly raise the issue with DARPA by sending Proposer's contact information and a summary of the potential conflict by email to the mailbox address for this BAA at DARPA-BAA-10-63@darpa.mil, before time and effort are expended in preparing a proposal and mitigation plan. If, in the sole opinion of the Government after full consideration of the circumstances, any conflict situation cannot be effectively mitigated, the proposal may be rejected without technical evaluation and withdrawn from further consideration for award under this BAA.

B. Other Eligibility Criteria (optional)

1. Collaborative Efforts

Collaborative efforts/teaming are encouraged.

IV. APPLICATION AND SUBMISSION INFORMATION

A. Address to Request Application Package

This solicitation contains all information required to submit a proposal. No additional forms, kits, or other materials are needed. This notice constitutes the total BAA. No additional information is available, nor will a formal Request for Proposal (RFP) or additional solicitation regarding this announcement be issued. Requests for same will be disregarded.

Proposers are required to review the ArcLight Program Security Classification Guide. They may also request a classified addendum of ArcLight Goals that includes information for proposers.

To obtain a copy of the Security Classification Guide or other information, proposers must send a request to the BAA mailbox, DARPA-BAA-10-63@darpa.mil, with the following information in the body of the email:

Company Name
Mailing address
Cage Code
Facility Security Officer (FSO) name and phone number
Technical POC name and phone number

B. Content and Form of Application Submission

1. Security and Proprietary Issues

NOTE: The proposal must indicate the classification level of not only the proposal itself, but also of any attachments and the anticipated award document classification level.

The Government anticipates proposals submitted under this BAA will be classified at least Collateral SECRET. Proposals should be submitted as “Classified National Security Information” as defined by Executive Order 13526 as amended. The information must be marked and protected as though classified at the appropriate classification level and then submitted to DARPA for a final classification determination.

Proposers choosing to submit a classified proposal containing information from other classified sources must first receive permission from the respective Original Classification Authority in order to use their information in replying to this BAA. Applicable classification guide(s) should also be submitted to ensure the proposal is protected at the appropriate classification level. DARPA requests that an email be sent to DARPA-BAA-10-63@darpa.mil as soon as possible, and no more than 2 weeks after publication of the BAA to coordinate with the DARPA program security representative about the level of classification planned so that DARPA can make the appropriate arrangements for scientific review.

Classified submissions shall be appropriately and conspicuously marked with the proposed classification level and declassification date. Submissions requiring DARPA to make a final classification determination shall be marked as follows:

CLASSIFICATION DETERMINATION PENDING. Protect as though classified (insert the recommended classification level: (e.g., Top Secret, Secret or Confidential)).

Classified submissions shall be in accordance with the following guidance:

Confidential and Secret Collateral Information: Use classification and marking guidance provided by previously issued security classification guides, the Information Security Regulation (DoD 5200.1-R), and the National Industrial Security Program

Operating Manual (DoD 5220.22-M) when marking and transmitting information previously classified by another Original Classification Authority. Classified information at the Confidential and Secret level may be mailed via appropriate U.S. Postal Service methods (e.g., (USPS) Registered Mail or USPS Express Mail). All classified information will be enclosed in opaque inner and outer covers and double wrapped. The inner envelope shall be sealed and plainly marked with the assigned classification and addresses of both sender and addressee. The inner envelope shall be address to:

Defense Advanced Research Projects Agency
ATTN: Tactical Technology Office
Reference: DARPA-BAA-10-63
3701 North Fairfax Drive
Arlington, VA 22203-1714

The outer envelope shall be sealed with no identification as to the classification of its contents and addressed to:

Defense Advanced Research Projects Agency
Security & Intelligence Directorate, Attn: CDR
3701 North Fairfax Drive
Arlington, VA 22203-1714

All Top Secret materials: Top Secret information should be hand carried by an appropriately cleared and authorized courier to the DARPA CDR. Prior to traveling, the courier shall contact the DARPA CDR at 571-218-4842 to coordinate arrival and delivery.

Special Access Program (SAP) Information: SAP information must be transmitted via approved methods. Prior to transmitting SAP information, contact the DARPA SAPCO at 703-526-4052 for instructions.

Sensitive Compartmented Information (SCI): SCI must be transmitted via approved methods. Prior to transmitting SCI, contact the DARPA Special Security Office (SSO) at 703-248-7213 for instructions.

Proprietary Data: All proposals containing proprietary data should have the cover page and each page containing proprietary data clearly marked as containing proprietary data. It is the Proposer's responsibility to clearly define to the Government what is considered proprietary data.

A DD Form 254 can be provided to qualified proposers for the purpose of working on proposals to this BAA. Please contact the BAA email address to request the form, DARPA-BAA-10-63@darpa.mil.

Proposers must have existing and in-place prior to execution of an award, approved capabilities (personnel and facilities) to perform research and development at the classification level they propose. It is the policy of DARPA to treat all proposals as competitive information, and to disclose their contents only for the purpose of evaluation. Proposals will not be returned. The original of each proposal received will be retained at DARPA and all other non-required copies destroyed. A certification of destruction may be requested, provided the formal request is received at this office within 5 days after unsuccessful notification.

2. Proposal Information

Proposers are required to submit full proposals by the time and date specified in Part 1: “Overview Information” to be considered during the initial round of selections. DARPA may evaluate proposals received after this date for a period up to 180 days from date of posting on FedBizOpps. The ability to review proposals submissions after the initial round due date will be contingent on availability of resources.

Proposers should submit a proposal addressing only one Technical Area. Should an organization decide to bid on both Technical Areas, two separate proposals, one to each Technical Area, should be submitted. The typical proposal should express a consolidated effort in support of a Technical Area, which includes all of the concepts or ideas to make the design work. Disjointed efforts should not be included into a single proposal.

Restrictive notices notwithstanding, proposals may be handled, for administrative purposes only, by a support contractor. This support contractor is prohibited from competition in DARPA technical research and is bound by appropriate nondisclosure requirements.

DARPA intends to use electronic mail for correspondence regarding DARPA-BAA-10-63. Any correspondence sent by fax will be disregarded (with the exception of prearranged classified fax transmissions). Proposals may not be submitted by fax or e-mail; any so sent will be disregarded. All administrative correspondence and questions on this solicitation, including requests for information on how to submit a proposal to this BAA, should be directed to DARPA-BAA-10-63@darpa.mil .

DARPA encourages use of the Internet for retrieving the BAA and any other related unclassified information that may subsequently be provided. Questions, answers and other BAA related documents may be found on the BAA website: <http://www.darpa.mil/tto/solicitations.htm>.

3. Proposal Format

All proposals must be in the format given below. Nonconforming proposals may be rejected without review. Proposals should indicate to which Technical Area they are

responding. Proposers are required to submit separate proposals for each Technical Area if they wish to respond to more than one.

Proposals must be on double-sided pages, written in English, with 1-inch margins (left, right, top, and bottom) in each page. A page is defined as being no larger than 8.5” by 11.0”. (Accordion-style foldouts will be counted as multiple pages equivalent to the expanded size.) The body text of the Technical Proposal should contain no smaller than 12 point font type. Information presented in tables/graphs and accordion-style fold-outs may use a font type smaller than 12 point as necessary to display such information, however respondents are cautioned that excessive use of smaller fonts (especially below 10 point) may adversely affect the Government’s ability to evaluate such information in a timely fashion. Graphic material should be embedded in the Word document using low resolution JPEG or GIF format. The Cost Proposal should contain no smaller than 8 point font type and provide requested information in the format described in Appendix B. Larger font type for the Cost Proposal, up to 12 point font type, is desired, where possible. Paper copies of proposals should be stapled or submitted in loose-leaf binder, not bound. Electronic copies should be submitted on IBM PC-formatted CD-ROM in a format readable with Microsoft Office 2007 or earlier.

A complete proposal should consist of two volumes – a Technical and Management Proposal (Volume I) and a Cost Proposal (Volume II). Proposers should submit a total of seven (7) hardcopies of the full proposal, and two (2) copies of the full proposal in electronic format (preferred in Microsoft Office compatible formats) on CD-ROMs to DARPA. All graphics and tables, as well as the Proposer’s IMS in MS Project format, should be included in separate electronic files on the CDs. Respondents need only submit one (1) original signed proposal along with the copies. Each copy must be clearly labeled with DARPA-BAA-10-63, proposer organization, Technical Area proposed to, proposal title (short title recommended), and Copy _ of _.

The submission of other supporting materials along with the proposal is strongly discouraged and will not be considered for review. (See Volume I, Section V) The page limitation for proposal sections includes all figures, tables and charts and is indicated by brackets {} after the section or subsection title. All pages that exceed the maximum page limit specified will be removed and will not be reviewed or considered in the evaluation. The Cost Proposal Volume does not have a page limit.

4. Volume I, Technical and Management Proposal

Section I. Administrative

A. Cover sheet to include:

- (1) BAA number
- (2) Technical Area
- (3) Lead Organization submitting proposal
- (4) Type of business, selected among the following categories: “LARGE BUSINESS”, “SMALL DISADVANTAGED BUSINESS”, “OTHER SMALL BUSINESS”, “HBCU”, “MI”, “OTHER EDUCATIONAL”, or “OTHER NONPROFIT”

- (5) Contractor's reference number (if any)
- (6) Other team members (if applicable) and type of business for each
- (7) Proposal title
- (8) Technical point of contact to include: salutation, last name, first name, street address, city, state, zip code, telephone, fax (if available), electronic mail (if available)
- (9) Administrative point of contact to include: salutation, last name, first name, street address, city, state, zip code, telephone, fax (if available), electronic mail (if available),
- (10) Total funds requested from DARPA and the amount of cost share (if any)
- (11) Date proposal was submitted
- (12) Affirmation of existing scientific, engineering, and technical assistance (SETA) or similar support to any DARPA technical office(s) through an active contract or subcontract (see III.A.1). If none, state 'None.'

B. Official transmittal letter.

Section II. Concept Description {25 pages}

This section should provide an overview of the system concept, technology enablers, and an analytical explanation of the proposed revolution in system performance from the state of the art. This section should begin with a one page Executive Summary.

The following outlines the required subsections required to explain the proposer's concept in the remaining 24 pages of this section:

Technical Area One:

- A. Concept Description and Innovative Claims - This subsection should include descriptions and depictions of the proposer's Point of Departure (PoD) design (operational system and vehicle), including identification of unique benefits, and advantages relative to state of the art (SOA) technologies and other potential system approaches, including tradeoff matrices for design decisions. The proposer should include an explanation of the technology enablers required to make their concept work and the major risks that must be reduced in this program to provide proof of concept of their ArcLight Vehicle.
- B. Performance Calculations and Substantiation – Narrative and analytical explanations of system performance gains and how the systems close at a first order to achieve the desired capability against the program goals. Example: the proposer could derive the first order impacts to L/D and show how it will be achieved. Proposers are encouraged to show first order equations and calculations used to derive performance, including how they achieved delta gain versus SOA, as well as charts and graphs for all first order effects. Further discussion of sensitivities to loss terms should be shown via a waterfall chart to enable validation that all potential losses in the system have been taken into account.
- C. Critical Technology Development Plan – The proposal should include an initial list of technical risks identified while developing their PoD, ranked by importance.

- D. Cost, schedule and measurable milestones for the proposed research, including estimates of cost for each task in each year of the effort delineated by the prime and major subcontractors, total cost and company cost share, if applicable. (Note: Measurable milestones should capture key development points in tasks and should be clearly articulated and defined in time relative to start of effort.)

Technical Area Two:

- A. Concept Description and Innovative Claims - This subsection should include descriptions and depictions of the proposer's PoD concept for wing materials, including identification of unique benefits, and advantages relative to SOA technologies and other potential approaches. Proposers should include an explanation of the technology enablers required to make the concept successful, including major development risks, and relate these to the program goals and objectives for Phase I.
- B. Performance Calculations and Substantiation – Narrative and analytical explanations of material performance gains key to the proposer's concept.
- C. Critical Technology Development Plan – The proposal should include an initial list of technical risks identified while developing their PoD, ranked by importance.
- D. Cost, schedule and measurable milestones for the proposed research, including estimates of cost for each task in each year of the effort delineated by the prime and major subcontractors, total cost and company cost share, if applicable. (Note: Measurable milestones should capture key development points in tasks and should be clearly articulated and defined in time relative to start of effort.)

Section III. Management Plan {15 pages}

The management plan will detail corporate, team and personnel resources and expertise. This section should provide descriptions and depictions of the project team, including expertise, experience, facilities and other resources that will be leveraged to ensure project success.

This section should start with a commitment letter signed by a senior executive at the proposer's company detailing their support for the ArcLight program, an explanation of how the technology fits in the company portfolio or family of products and how that executive will be personally involved in the program.

The management plan must include a clearly defined organization chart for the program team which includes, as applicable: (1) the programmatic relationship of team members; (2) the unique capabilities of team members; (3) the task of responsibilities of team members; (4) the teaming strategy among the team members; and (5) the key personnel along with the amount of effort to be expended by each person during each year. The list

of key personnel should be developed by the proposer to include the key Integrated Product Team (IPT) leads. Formal teaming agreements should be included in Volume II if applicable.

Tools planned for use in Phase I for modeling, design, simulation and other analysis should be detailed in this section and include information regarding the substantiation and validation of the tools, including applicable test data used.

Required documentation excluded from the section page count:

- Resumes of key personnel, up to four
- Descriptions of past performance, limited to three pages

Section IV. Detailed Proposal Information {No Limit}

This section provides the detailed discussion of the proposed work necessary to enable an in depth review of the specific technical, managerial, and resourcing issues.

- A. Work Breakdown Structure (WBS). This section should include a logical and complete WBS tailored to the proposed deliverables. WBS detail to level 4 or greater should be included.
- B. Integrated Statement of Work (SOW), technical support, and Basis of Estimate (BOE). This section is the heart of the proposal and should provide all necessary detail to define the proposed effort and deliverables, support the proposed effort with relevant technical details, and list planned resource allocation based on BOE build-ups. The following sections should be repeated for each WBS element (to level 4 or greater), and should encompass the full proposed scope of work and proposed cost.
 - i. SOW Element. The specific SOW element should be fully defined, describing the scope to be performed under the proposed effort to include objectives, task descriptions, and completion criteria.
 - ii. Deliverables. All deliverables associated with the specific SOW element should be defined, including descriptions of contents, anticipated formats, and delivery dates (notated as days after contract award).
 - iii. Technical Rationale. Detailed technical rationale and supporting information that directly underpin the approach and execution for the specific SOW element should be provided. Only details that support activity that is explicitly included within the proposed scope and BOE shall be included. Information regarding subjects that are not explicitly included in the proposed scope and BOE should be limited to Section II only. Government furnished information, equipment, or facilities required for completion of the SOW element should also be included here.
 - iv. BOE. Cost summary and BOE calculations associated with the specific SOW element should be detailed using a consistent cost basis methodology. Costs should represent total cost to the Government for the specific SOW element, showing detailed build up from lowest level labor hour and material estimates, including cost of labor, materials, overhead and other direct charges. Subcontractor costs should be annotated and added to prime contractor costs to show a comprehensive and integrated BOE for the specific SOW element. Any cost share should be noted.

C. Integrated Master Schedule. This section should include a depiction of the time phased relationships and dependencies between all activities associated with the execution of the WBS elements (to level 4 or greater). Deliverables should be clearly indicated, as well as the dates any external information or resources will be required.

Section V. Additional Information {No page limit}

A brief bibliography of relevant technical papers and research notes (published and unpublished) which document the technical ideas or approaches upon which the proposal is based. Copies of not more than three (3) relevant papers can be included in the submission.

This section should include all proprietary claims to the results, prototypes, intellectual property, or systems supporting and/or necessary for the use of the research, results, and/or prototype. If there are not proprietary claims, this should be stated. For forms to be completed regarding intellectual property, see Section 8.1, “Intellectual Property.” There will be no page limit for the required forms.

5. Volume II, Cost Proposal – {No Page Limit}

Cover sheet to include:

- (1) BAA number;
- (2) Technical Area;
- (3) Lead Organization submitting proposal;
- (4) Type of business, selected among the following categories: “LARGE BUSINESS”, “SMALL DISADVANTAGED BUSINESS”, “OTHER SMALL BUSINESS”, “HBCU”, “MI”, “OTHER EDUCATIONAL”, or “OTHER NONPROFIT”;
- (5) Contractor’s reference number (if any);
- (6) Other team members (if applicable) and type of business for each;
- (7) Proposal title;
- (8) Technical point of contact to include: salutation, last name, first name, street address, city, state, zip code, telephone, fax (if available), electronic mail (if available);
- (9) Administrative point of contact to include: salutation, last name, first name, street address, city, state, zip code, telephone, fax (if available), and electronic mail (if available);
- (10) Award instrument requested: cost-plus-fixed-fee (CPFF), cost-contract—no fee, cost sharing contract – no fee, or other type of procurement contract (*specify*), or other transaction;
- (11) Place(s) and period(s) of performance;
- (12) Total proposed cost separated by basic award and option(s) (if any);
- (13) Name, address, and telephone number of the proposer’s cognizant Defense Contract Management Agency (DCMA) administration office (*if known*);
- (14) Name, address, and telephone number of the proposer’s cognizant Defense Contract Audit Agency (DCAA) audit office (*if known*);

- (15) Date proposal was prepared;
- (16) DUNS number;
- (17) TIN number; and
- (18) Cage Code;
- (19) Subcontractor Information; and
- (20) Proposal validity period.

The cost volume has no page limit and should include the following information:

- A WBS identical to the WBS provided in Volume I.
- A consolidated SOW that is identical to the SOW definition in Volume 1, Section III.B.i and III.B.ii, but without supporting technical and cost information. This consolidated SOW should not include proprietary information.
- Any subcontractor proposal as well as any proposal received from an internal organization supporting the effort should be included as attachments to the Cost Volume or sent straight to DARPA if they contain proprietary rates even though their costs are to be consolidated in the main cost proposal.

The Government requests and recommends that tables included in the cost proposal also be provided in MS Excel™ format with calculations formulae intact to allow traceability of the cost proposal numbers across the prime and subcontractors. If the PDF submission differs from the Excel submission, the PDF will take precedence. Each copy must be clearly labeled with the DARPA BAA number, proposer organization, and proposal title (short title recommended).

The Government also requests and recommends that the Cost Proposal include MS Excel file(s) that provide traceability between the BOEs and the proposed costs across all elements and phases. This includes the calculations and adjustments that are utilized to generate the Summary Costs from the source labor hours, labor costs, material costs and other input data. It is requested that the costs and Subcontractor proposals be readily traceable to the Prime Cost Proposal in the provided MS Excel file(s). The Government prefers receiving cost data as Excel files, however, this is not a requirement.

Detailed cost breakdown to include: (1) total program cost broken down by major cost items (direct labor, including labor categories and rates; subcontracts; materials; other direct costs, overhead charges and associated indirect rates, etc.) and further broken down by task and phase; (2) major program tasks by fiscal year; (3) an itemization of major subcontracts and material/equipment purchases (basis of estimate for proposed material/equipment costs shall be furnished); (4) an itemization of any information technology (IT) purchase¹; (5) a summary of projected funding requirements by month;

• ¹ IT is defined as “any equipment, or interconnected system(s) or subsystem(s) of equipment that is used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of data or information by the agency. (a) For purposes of this definition, equipment is used by an agency if the equipment is used by the agency

and (6) the source, nature, and amount of any industry cost-sharing; and (7) identification of pricing assumptions of which may require incorporation into the resulting award instrument (e.g., use of Government Furnished Property/Facilities/Information, access to Government Subject Matter Expert/s, etc.). The prime contractor is responsible for compiling and providing all subcontractor proposals for the Procuring Contracting Officer (PCO). Subcontractor proposals should include Interdivisional Work Transfer Agreements (ITWA) or similar arrangements. Where the effort consists of multiple portions which could reasonably be partitioned for purposes of funding, these should be identified as options with separate cost estimates for each. NOTE: for IT and equipment purchases, include a letter stating why the proposer cannot provide the requested resources from its own funding.

Supporting cost and pricing information shall be in sufficient detail to substantiate the summary cost estimates in B. above. Include a description of the method used to estimate costs and supporting documentation. Note: “cost or pricing data” as defined in FAR Subpart 15.4 shall be required if the proposer is seeking a procurement contract award of \$650,000 or greater unless the proposer requests an exception from the requirement to submit cost or pricing data. “Cost or pricing data” are not required if the proposer proposes an award instrument other than a procurement contract (e.g., a Section 845 Other Transaction.) All proprietary subcontractor proposal documentation, prepared at the same level of detail as that required of the prime shall be provided to the Government either by the prime contractor or by the subcontractor organization when the proposal is submitted. Subcontractor proposals submitted to the Government by the prime contractor should be submitted in a sealed envelope that the prime contractor will not be allowed to view. The subcontractor must provide the same number of hard copies and/or electronic proposals as is required of the prime contractor.

The source, nature and amount of any industry cost sharing should be indicated, if applicable. Where the effort consists of multiple phases that could reasonably be partitioned for purposes of funding, these should be identified as options with separate cost estimates for each.

The cost proposal should also identify the type of support, if any, the Proposer might request from the Government, such as facilities, equipment, or materials, or any such resources that they require in order to execute their SOW. If the Government can make

directly or is used by a contractor under a contract with the agency which – (1) Requires the use of such equipment; or (2) Requires the use, to a significant extent, of such equipment in the performance of a service or the furnishing of a product. (b) The term “information technology” includes computers, ancillary, software, firmware and similar procedures, services (including support services), and related resources. (c) The term “information technology” does not include – (1) Any equipment that is acquired by a contractor incidental to a contract; or (2) Any equipment that contains imbedded information technology that is used as an integral part of the product, but the principal function of which is not the acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of data or information. For example, HVAC (heating, ventilation, and air conditioning) equipment such as thermostats or temperature control devices, and medical equipment where information technology is integral to its operation, are not information technology.”

these resources available, the cost of doing so will be added to their proposed direct costs as part of the cost evaluation process. The Government will directly fund Government facilities such as wind tunnels and test ranges. The Proposer must describe such items as facility statements of work, test durations, cost estimates and basis for estimates. Required test facility costs should be budgeted as part of the cost proposal.

The cost proposal should provide the names of other Federal, State, and local agencies or other parties where the proposal is being submitted, and indicate if the proposed effort has received funding. If none, so state.

NOTE: PROPOSERS ARE CAUTIONED THAT EVALUATION RATINGS MAY BE LOWERED AND/OR PROPOSALS REJECTED IF SUBMITTAL INSTRUCTIONS ARE NOT FOLLOWED.

The Government may award either a Federal Acquisition Regulation (FAR) based contract or an Other Transaction Authority for Prototypes (OTA) agreement. Accordingly, Offerors are asked to submit proposal responses that accommodate both options. For information on 845 Other Transaction Authority for Prototypes (OTA) agreements, refer to http://www.darpa.mil/cmo/other_trans.html. The Government will evaluate all Offerors' FAR based proposals in accordance with the established evaluation criteria. After award selection based on the FAR based proposals, the Government will evaluate the selected awardees Other Transaction proposal with the intent of selecting the program approach offering the most benefit to the Government. The intent of this evaluation approach is to prevent contractors with greater financial flexibility from reducing the proposed cost to the Government by providing a large cost share or extra effort beyond that of a contractor with less financial capability. In this approach all proposals are evaluated based upon their technical merits and ability to realistically price their proposed technical scope.

All proposers requesting an 845 Other Transaction Authority for Prototypes (OTA) agreement must include a detailed list of milestones. Each such milestone must include the following: milestone description, completion criteria, due date, payment/funding schedule (to include, if cost share is proposed, contractor and Government share amounts). It is noted that, at a minimum, such milestones should relate directly to accomplishment of program technical metrics as defined in the BAA and/or the proposer's proposal. Agreement type, fixed price or expenditure based, will be subject to negotiation by the Agreements Officer; however, it is noted that the Government prefers use of fixed price milestones with a payment/funding schedule to the maximum extent possible. Do not include proprietary data. If the proposer requests award of an 845 OTA agreement as a nontraditional defense contractor, as so defined in the OSD guide entitled "Other Transactions (OT) Guide For Prototype Projects" dated January 2001 (as amended) (<http://www.acq.osd.mil/dpap/Docs/otguide.doc>), information must be included in the cost proposal to support the claim. Additionally, if the proposer plan requests award of an 845 OTA agreement, without the required one-third (1/3) cost share, information must be included in the cost proposal supporting that there is at least one non-traditional defense contractor participating to a significant extent in the proposed

prototype project. There may be significant advantages for a contractor and/or the Government to want to enter into an OTA agreement if the conditions for an OTA can be met.

F. Submission Dates and Times

1. Full Proposal Date

The full proposal (original and designated number of hard and electronic copies) must be submitted to DARPA/TTO, 3701 North Fairfax Drive, Arlington, VA 22203-1714 (Attn.: BAA 10-63) on or before 12:00 noon, local time, August 23, 2010 in order to be considered during the initial round of selections; however, proposals received after this deadline may be received and evaluated up to one year from date of posting on FedBizOpps. Full proposals submitted after the due date specified in the BAA or due date otherwise specified by DARPA may be selected contingent upon the availability of funds.

DARPA will post and update a consolidated Frequently Asked Questions (FAQ) each week, until the initial closing date. In order to receive a response to your question, submit your question to DARPA-BAA-10-63@darpa.mil.

The full proposal (original and designated number of hard and electronic copies) must be submitted in time to reach DARPA by August 23, 2010 (initial closing), in order to be considered during the initial evaluation phase; however, DARPA-BAA-10-63 will remain open until 12:00 noon (ET), January, 3, 2011 (final closing). Proposals may be submitted at any time from issuance of this announcement through (final closing time and date); however, proposers are warned that the likelihood of funding is greatly reduced for proposals submitted after the initial closing date deadline.

Failure to comply with the submission procedures may result in the submission not being evaluated.

G. Intergovernmental Review

Not Applicable.

H. Funding Restrictions

The Government has planned a \$17M budget for Phase I award(s). This budget includes any Government furnished equipment (GFE) and facilities (GFF) cost requested. Reimbursement of pre-award costs is not authorized. In developing proposals, proposers should keep in mind that multiple awards are anticipated for each of the Technical Areas.

V. APPLICATION REVIEW INFORMATION

5.1 Evaluation Criteria

Evaluation of proposals will be accomplished through a scientific/technical review of each proposal using the following criteria which are of equal importance:

- (a) Overall Scientific and Technical Merit;
- (b) Quality of the Concept Trade Study Plan;
- (c) Viability to Complete System Development;
- (d) Cost Realism;
- (e) Potential Contribution and Relevance to the DARPA Mission; and
- (f) Proposer's Capabilities and/or Related Experience

Proposals will not be evaluated against each other since they are not submitted in accordance with a common work statement. They will be evaluated with the goals and objectives of the Technical Area to which they are being proposed. The following are descriptions of the evaluation criteria:

5.1.1 Overall Scientific and Technical Merit

The proposed technical approach is innovative, feasible, achievable, complete and supported by a proposed technical team that has the expertise and experience to accomplish the proposed tasks. This criterion will assess the quality of the underlying system or architecture concepts that are the basis for the detailed proposal and the level to which the technical approach is innovative, feasible, and achievable. This includes consistency with the BAA objectives and goals, innovativeness in leveraging characteristics to achieve beyond state-of-the-art performance, robust implementation approaches, and novel approaches for fabrication to achieve low production cost.

For proposals to Technical Area One an additional evaluation will be made to the extent to which the system concept is complete and described in full detail will be considered along with effective mission specific tactics and system adaptability to future threats and missions

5.1.2 Quality of the Concept Trade Study Plan

This criterion will assess the quality of the specific tasks and integrated effort in their ability to achieve program objectives. The extent to which the plan for trade studies is complete and described in full detail will be considered. This includes completeness in addressing all or a logically defined subset of elements necessary to effect program success, innovation in study process or management, unique leveraging of resources and sufficient allocation of effort.

5.1.3 Viability to Complete System Development (Applies to Technical Area One only)

An objective of the program is to directly leverage Phase I activity to support and enhance the design, fabrication, demonstration and test during subsequent program phases. This criterion will assess the viability and quality of consideration of subsequent system development in the underlying concepts and proposed effort. This includes realism, achievability and substantiation by the proposer of the concepts, technical risks to implementing proposed concepts, robustness of risk reduction activity, and unique capabilities or facilities to support the program. The ability to leverage performer work product to support future program activity will also be assessed.

5.1.4 Cost Realism

The objective of this criterion is to establish that the proposed costs are realistic for the technical and management approach offered, as well as to determine the proposer's practical understanding of the effort. DARPA plans to evaluate innovative approaches to the ArcLight program identified in the proposal that would save significant cost to this program. The proposal will be reviewed to determine if the costs proposed are based on realistic assumptions, reflect a sufficient understanding of the technical goals and objectives of the BAA, and are consistent with the proposer's technical approach (to include the proposed SOW). At a minimum, this will involve review, at the prime and subcontract level, of the type and number of labor hours proposed per task as well as the types and kinds of materials, equipment and fabrication costs proposed. It is expected that the effort will leverage all available relevant prior research in order to obtain the maximum benefit from the available funding. For efforts with a likelihood of commercial application, appropriate direct cost sharing may be a positive factor in the evaluation. The evaluation criterion recognizes that undue emphasis on cost may motivate proposers to offer low-risk ideas with minimum uncertainty and to staff the effort with junior personnel in order to be in a more competitive posture. DARPA discourages such cost strategies.

5.1.5 Potential Contribution and Relevance to the DARPA Mission

The potential contributions of the proposed effort with relevance to the national technology base will be evaluated. Specifically, DARPA's mission is to maintain the technological superiority of the U.S. military and prevent technological surprise from harming our national security by sponsoring revolutionary, high-payoff research that bridges the gap between fundamental discoveries and their application. The impact of the proposed effort on DoD operational capability and the likelihood of system transition will be assessed.

5.1.6 Proposer's Capabilities and/or Related Experience

The proposer's prior experience in similar efforts must clearly demonstrate an ability to deliver products that meet the proposed technical performance within the proposed budget and schedule. The proposed team has the expertise to manage the cost and schedule, demonstrates a commitment to build program advocacy in the services and has the capability to build and integrate similar systems. Related efforts completed/ongoing by the proposer in this area are fully described including identification of other Government sponsors.

A. Review and Recommendation Process

Award(s) will be made to proposers whose proposals are determined to be the most advantageous to the Government, all factors considered, including the potential contributions of the proposed work to the overall technology development program and the availability of funding for the effort. DARPA's intent is to review proposals as soon as possible after they arrive; however, proposals may be reviewed periodically for administrative reasons.

It is the policy of DARPA to ensure impartial, equitable, comprehensive proposal evaluations and to select the source (or sources) whose offer meets the Government's technical, policy, and programmatic goals. Pursuant to FAR 35.016, the primary basis for selecting proposals for acceptance shall be technical, importance to agency programs, and fund availability. In order to provide the desired evaluation, qualified Government personnel will conduct reviews and (if necessary) convene panels of experts in the appropriate areas.

Proposals will not be evaluated against each other since they are not submitted in accordance with a common work statement. For evaluation purposes, a proposal is the document described in "Content and Form of Application Submission," Section IV.B. Other supporting or background materials submitted with the proposal will be considered for the reviewer's convenience only and not considered as part of the proposal.

Restrictive notices notwithstanding, proposals may be handled for administrative purposes by support contractors. These support contractors are prohibited from competition in DARPA technical research and are bound by appropriate non-disclosure requirements.

Subject to the restrictions set forth in FAR 37.203(d), input on technical aspects of the proposals may be solicited by DARPA from non-Government consultants /experts who are strictly bound by the appropriate non-disclosure requirements.

It is the policy of DARPA to treat all proposals as competitive information and to disclose their contents only for the purpose of evaluation. No proposals will be returned. Upon completion of the source selection process, the original of each proposal received will be retained at DARPA and all other copies will be destroyed.

VI. AWARD ADMINISTRATION INFORMATION

A. Award Notices

As soon as the evaluation of a proposal is complete, the proposer will be notified that 1) the proposal has been selected for funding pending contract negotiations, or 2) the proposal has not been selected. These official notifications will be sent via email to the Technical and Administrative POCs identified on the proposal coversheet.

B. Administrative and National Policy Requirements

1. Meeting and Travel Requirements

Information regarding meetings, reviews and locations are provided in Part 2, Section I. C - Phase I Key Milestone Schedule and Deliverables section above.

2. Human Use

All research involving human subjects, to include use of human biological specimens and human data, selected for funding must comply with the federal regulations for human subject protection. Further, research involving human subjects that is conducted or supported by the DoD must comply with 32 CFR 219, *Protection of Human Subjects* (http://www.access.gpo.gov/nara/cfr/waisidx_07/32cfr219_07.html) and DoD Directive 3216.02, *Protection of Human Subjects and Adherence to Ethical Standards in DoD-Supported Research* (<http://www.dtic.mil/whs/directives/corres/pdf/321602p.pdf>).

Institutions awarded funding for research involving human subjects must provide documentation of a current Assurance of Compliance with Federal regulations for human subject protection, for example a Department of Health and Human Services, Office of Human Research Protection Federal Wide Assurance (<http://www.hhs.gov/ohrp>). All institutions engaged in human subject research, to include subcontractors, must also have a valid Assurance. In addition, personnel involved in human subjects research must provide documentation of completing appropriate training for the protection of human subjects.

For all proposed research that will involve human subjects in the first year or phase of the project, the institution must provide evidence of or a plan for review by an Institutional Review Board (IRB) upon final proposal submission to DARPA. The IRB conducting the review must be the IRB identified on the institution's Assurance. The protocol, separate from the proposal, must include a detailed description of the research plan, study population, risks and benefits of study participation, recruitment and consent process, data collection, and data analysis. Consult the designated IRB for guidance on writing the protocol. The informed consent document must comply with federal regulations (32 CFR 219.116). A valid Assurance along with evidence of appropriate training all investigators should all accompany the protocol for review by the IRB.

In addition to a local IRB approval, a headquarters-level human subjects regulatory review and approval is required for all research conducted or supported by the DoD. The Army, Navy, or Air Force office responsible for managing the award can provide guidance and information about their component's headquarters-level review process. Note that confirmation of a current Assurance and appropriate human subjects protection training is required before headquarters-level approval can be issued.

The amount of time required to complete the IRB review/approval process may vary depending on the complexity of the research and/or the level of risk to study participants. Ample time should be allotted to complete the approval process. The IRB approval process can last between one to three months, followed by a DoD review that could last between three to six months. No DoD/DARPA funding can be used towards human subjects research until ALL approvals are granted.

3. Animal Use

Any Recipient performing research, experimentation, or testing involving the use of animals shall comply with the rules on animal acquisition, transport, care, handling, and use in: (i) 9 CFR parts 1-4, Department of Agriculture rules that implement the Laboratory Animal Welfare Act of 1966, as amended, (7 U.S.C. 2131-2159); (ii) the guidelines described in National Institutes of Health Publication No. 86-23, "Guide for the Care and Use of Laboratory Animals"; (iii) DoD Directive 3216.01, "Use of Laboratory Animals in DoD Program."

For submissions containing animal use, proposals should briefly describe plans for Institutional Animal Care and Use Committee (IACUC) review and approval. Animal studies in the program will be expected to comply with the PHS Policy on Humane Care and Use of Laboratory Animals, available at <http://grants.nih.gov/grants/olaw/olaw.htm>.

All Recipients must receive approval by a DoD certified veterinarian, in addition to an IACUC approval. No animal studies may be conducted using DoD/DARPA funding until the USAMRMC Animal Care and Use Review Office (ACURO) or other appropriate DoD veterinary office(s) grant approval. As a part of this secondary review process, the Recipient will be required to complete and submit an ACURO Animal Use Appendix, which may be found at (https://mrmc-www.army.mil/index.cfm?pageid=Research_Protections.acuro&rn=1)

4. Publication Approval

It is the policy of the Department of Defense that the publication of products of fundamental research will remain unrestricted to the maximum extent possible. The definition of Contracted Fundamental Research is:

“Contracted Fundamental Research includes research performed under contracts that are (a) funded by budget category 6.1 (Basic Research), whether performed by universities or industry or (b) funded by budget category 6.2 (Applied Research) and performed on-campus at a university. The research shall not be considered fundamental in those rare and exceptional circumstances where the applied research effort presents a high likelihood of disclosing performance characteristics of military systems or manufacturing technologies that are unique and critical to defense, and where agreement on restrictions have been recorded in the contract or grant.” Such research is referred to by DARPA as “Restricted Research.”

Pursuant to DoD policy, research performed under grants and contracts that are (a) funded by budget category 6.2 (Applied Research) and NOT performed on-campus at a university or (b) funded by budget category 6.3 (Advanced Technology Development) does not meet the definition of fundamental research. Publication restrictions will be placed on all such research.

Research to be performed as a result of this BAA is expected to be Non-fundamental. DARPA permission must be received before publishing any information or results relative to the program. Other restrictions may also apply.

For certain research projects, it may be possible that although the research being performed by the Prime Contractor is Restricted Research, a subcontractor may be conducting Contracted Fundamental Research. In those cases, it is the Prime Contractor's responsibility to explain in their proposal why its subcontractor's effort is Contracted Fundamental Research.

The following same or similar provision will be incorporated into any resultant Restricted Research or Non-Fundamental Research procurement contract or other transaction:

“There shall be no dissemination or publication, except within and between the Contractor and any subcontractors, of information developed under this contract or contained in the reports to be furnished pursuant to this contract without prior written approval of the DARPA Public Release Center (DARPA/PRC). All technical reports will be given proper review by appropriate authority to determine which Distribution Statement is to be applied prior to the initial distribution of these reports by the Contractor. With regard to subcontractor proposals for Contracted Fundamental Research, papers resulting from unclassified contracted fundamental research are exempt from prepublication controls and this review requirement, pursuant to DoD Instruction 5230.27 dated October 6, 1987.

When submitting material for written approval for open publication, the Contractor/Awardee must submit a request for public release to the DARPA PRC and include the following information: 1) Document Information: document title, document author, short plain-language description of technology discussed in the material (approx. 30 words), number of pages (or minutes of video) and document type (briefing, report, abstract, article, or paper); 2) Event Information: event type (conference, principle investigator meeting, article or paper), event date, desired date for DARPA's approval; 3) DARPA Sponsor: DARPA Program Manager, DARPA office, and contract number; and 4) Contractor/Awardee's Information: POC name, e-mail and phone. Allow four weeks for processing; due dates under four weeks require a justification. Unusual electronic file formats may require additional processing time. Requests can be sent either via e-mail to prc@darpa.mil or via 3701 North Fairfax Drive, Arlington VA 22203-1714, telephone (571) 218-4235. Refer to www.darpa.mil/tio for information about DARPA's public release process.”

5. Export Control

(a) *Definition.* “Export-controlled items,” as used in this clause, means items subject to the Export Administration Regulations (EAR) (15 CFR Parts 730-774) or the

International Traffic in Arms Regulations (ITAR) (22 CFR Parts 120-130). The term includes:

1) “Defense items,” defined in the Arms Export Control Act, 22 U.S.C. 2778(j)(4)(A), as defense articles, defense services, and related technical data, and further defined in the ITAR, 22 CFR Part 120.

2) “Items,” defined in the EAR as “commodities”, “software”, and “technology,” terms that are also defined in the EAR, 15 CFR 772.1.

(b) The Contractor shall comply with all applicable laws and regulations regarding export-controlled items, including, but not limited to, the requirement for contractors to register with the Department of State in accordance with the ITAR. The Contractor shall consult with the Department of State regarding any questions relating to compliance with the ITAR and shall consult with the Department of Commerce regarding any questions relating to compliance with the EAR.

(c) The Contractor's responsibility to comply with all applicable laws and regulations regarding export-controlled items exists independent of, and is not established or limited by, the information provided by this clause.

(d) Nothing in the terms of this contract adds, changes, supersedes, or waives any of the requirements of applicable Federal laws, Executive orders, and regulations, including but not limited to—

(1) The Export Administration Act of 1979, as amended (50 U.S.C. App. 2401, *et seq.*);

(2) The Arms Export Control Act (22 U.S.C. 2751, *et seq.*);

(3) The International Emergency Economic Powers Act (50 U.S.C. 1701, *et seq.*);

(4) The Export Administration Regulations (15 CFR Parts 730-774);

(5) The International Traffic in Arms Regulations (22 CFR Parts 120-130);
and

(6) Executive Order 13222, as extended;

(e) The Contractor shall include the substance of this clause, including this paragraph (e), in all subcontracts.

6. Subcontracting

Pursuant to Section 8(d) of the Small Business Act (15 U.S.C. 637(d)), it is the policy of the Government to enable small business and small disadvantaged business concerns to

be considered fairly as subcontractors to contractors performing work or rendering services as prime contractors or subcontractors under Government contracts, and to assure that prime contractors and subcontractors carry out this policy. Each proposer who submits a contract proposal and includes subcontractors is required to submit a subcontracting plan in accordance with FAR 19.702(a) (1) and (2) should do so with their proposal. The plan format is outlined in FAR 19.704.

7. Electronic and Information Technology

All electronic and information technology acquired through this solicitation must satisfy the accessibility requirements of Section 508 of the Rehabilitation Act (29 U.S.C. 794d) and FAR Subpart 39.2. Each proposer who submits a proposal involving the creation or inclusion of electronic and information technology must ensure that Federal employees with disabilities will have access to and use of information that is comparable to the access and use by Federal employees who are not individuals with disabilities and members of the public with disabilities seeking information or services from DARPA will have access to and use of information and data that is comparable to the access and use of information and data by members of the public who are not individuals with disabilities.

8. Employment Eligibility Verification

As per FAR 22.1802, recipients of FAR-based procurement contracts must enroll as Federal Contractors in E-verify and use E-Verify to verify employment eligibility of all employees assigned to the award. All resultant contracts from this solicitation will include FAR 52.222-54, "Employment Eligibility Verification." This clause will not be included in Other Transactions.

C. Reporting

The number and types of reports will be specified in the award document, but will include as a minimum monthly financial and technical status reports. The reports shall be prepared and submitted in accordance with the procedures contained in the award document and mutually agreed on before award. Reports must be delivered to DARPA and not merely placed on a Web/SharePoint site. Reports and briefing material will also be required as appropriate to document progress in accomplishing program metrics. A Final Report that summarizes the project and tasks will be required at the conclusion of the performance period for the award, notwithstanding the fact that the research may be continued under a follow-on vehicle.

Information regarding reporting and deliverables are provided in Part 2, Section I. C - Phase I Key Milestone Schedule and Deliverables section above.

E. Electronic Systems

1. Central Contractor Registration (CCR)

Selected proposers not already registered in the Central Contractor Registry (CCR) will be required to register in CCR prior to any award under this BAA. Information on CCR registration is available at <http://www.ccr.gov>.

2. Representations and Certifications

In accordance with FAR 4.1201, prospective proposers shall complete electronic annual representations and certifications at <http://orca.bpn.gov>.

3. Wide Area Work Flow (WAWF)

Unless using another approved electronic invoicing system, performers will be required to submit invoices for payment directly via the Internet/WAWF at <http://wawf.eb.mil>. Registration to WAWF will be required prior to any award under this BAA.

4. i-Edison

The award document for each proposal selected for funding will contain a mandatory requirement for patent reports and notifications to be submitted electronically through i-Edison (<http://s-edison.info.nih.gov/iEdison>).

VII. AGENCY CONTACTS

Administrative, technical or contractual questions should be sent via e-mail to DARPA-BAA-10-63@darpa.mil. All requests must include the name, email address, and phone number for a point of contact.

Electronic mail: DARPA-BAA-10-63@darpa.mil

The technical POC for this effort is Dr. Thomas Bussing:

Dr. Thomas Bussing
DARPA/TTO
ATTN: DARPA-BAA-10-63
3701 North Fairfax Drive
Arlington, VA 22203-1714

The contractual POC for this effort is Mr. Christopher Glista

Mr. Christopher Glista
DARPA/CMO
ATTN: DARPA-BAA-10-63
3701 North Fairfax Drive
Arlington, VA 22203-1714

VIII. OTHER INFORMATION

A. Intellectual Property

1. Procurement Contract Proposers

a. Noncommercial Items (Technical Data and Computer Software)

Proposers responding to this BAA requesting a procurement contract to be issued under the FAR/DFARS shall identify all noncommercial technical data and noncommercial computer software that it plans to generate, develop, and/or deliver under any proposed award instrument in which the Government will acquire less than unlimited rights, and to assert specific restrictions on those deliverables. Proposers shall follow the format under DFARS 252.227-7017 for this stated purpose. In the event that proposers do not submit the list, the Government will assume that it automatically has “unlimited rights” to all noncommercial technical data and noncommercial computer software generated, developed, and/or delivered under any award instrument, unless it is substantiated that development of the noncommercial technical data and noncommercial computer software occurred with mixed funding. If mixed funding is anticipated in the development of noncommercial technical data and noncommercial computer software generated, developed, and/or delivered under any award instrument, then proposers should identify the data and software in question, as subject to Government Purpose Rights (GPR). In accordance with DFARS 252.227-7013 Rights in Technical Data - Noncommercial Items, and DFARS 252.227-7014 Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation, the Government will automatically assume that any such GPR restriction is limited to a period of five (5) years in accordance with the applicable DFARS clauses, at which time the Government will acquire “unlimited rights” unless the parties agree otherwise. Proposers are admonished that the Government will use the list during the evaluation process to evaluate the impact of any identified restrictions and may request additional information from the proposer, as may be necessary, to evaluate the proposer’s assertions. If no restrictions are intended, then the proposer should state “NONE.” It is noted an assertion of “NONE” indicates that the Government has “unlimited rights” to all noncommercial technical data and noncommercial computer software delivered under the award instrument, in accordance with the DFARS provisions cited above. Failure to provide full information may result in a determination that the proposal is not compliant with the BAA – resulting in nonselectability of the proposal.

A sample list for complying with this request is as follows:

NONCOMMERCIAL			
Technical Data Computer Software To be Furnished With Restrictions	Basis for Assertion	Asserted Rights Category	Name of Person Asserting Restrictions

(LIST)	(LIST)	(LIST)	(LIST)
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b. Commercial Items (Technical Data and Computer Software)

Proposers responding to this BAA requesting a procurement contract to be issued under the FAR/DFARS shall identify all commercial technical data and commercial computer software that may be embedded in any noncommercial deliverables contemplated under the research effort, along with any applicable restrictions on the Government’s use of such commercial technical data and/or commercial computer software. In the event that proposers do not submit the list, the Government will assume that there are no restrictions on the Government’s use of such commercial items. The Government may use the list during the evaluation process to evaluate the impact of any identified restrictions and may request additional information from the proposer, as may be necessary, to evaluate the proposer’s assertions. If no restrictions are intended, then the proposer should state “NONE.” Failure to provide full information may result in a determination that the proposal is not compliant with the BAA – resulting in nonselectability of the proposal.

A sample list for complying with this request is as follows:

COMMERCIAL			
Technical Data Computer Software To be Furnished With Restrictions	Basis for Assertion	Asserted Rights Category	Name of Person Asserting Restrictions
(LIST)	(LIST)	(LIST)	(LIST)

B. Non-Procurement Contract Proposers – Noncommercial and Commercial Items (Technical Data and Computer Software)

Proposers responding to this BAA requesting a Grant, Cooperative Agreement, Technology Investment Agreement, or Other Transaction for Prototype shall follow the applicable rules and regulations governing these various award instruments, but in all cases should appropriately identify any potential restrictions on the Government’s use of any Intellectual Property contemplated under those award instruments in question. This includes both Noncommercial Items and Commercial Items. Although not required, proposers may use a format similar to that described in Paragraphs 1.a and 1.b above. The Government may use the list during the evaluation process to evaluate the impact of any identified restrictions, and may request additional information from the proposer, as may be necessary, to evaluate the proposer’s assertions. If no restrictions are intended, then the proposer should state “NONE.” Failure to provide full information may result in a determination that the proposal is not compliant with the BAA – resulting in nonselectability of the proposal.

C. All Proposers – Patents

Include documentation proving your ownership of or possession of appropriate licensing rights to all patented inventions (or inventions for which a patent application has been filed) that will be utilized under your proposal for the DARPA program. If a patent application has been filed for an invention that your proposal utilizes, but the application has not yet been made publicly available and contains proprietary information, you may provide only the patent number, inventor name(s), assignee names (if any), filing date, filing date of any related provisional application, and a summary of the patent title, together with either: 1) a representation that you own the invention, or 2) proof of possession of appropriate licensing rights in the invention.

1. All Proposers – Intellectual Property Representations

Provide a good faith representation that you either own or possess appropriate licensing rights to all other intellectual property that will be utilized under your proposal for the DARPA program. Additionally, proposers shall provide a short summary for each item asserted with less than unlimited rights that describes the nature of the restriction and the intended use of the intellectual property in the conduct of the proposed research.