Broad Agency Announcement

No Manning Required, Ship (NOMARS)

DARPA Tactical Technology Office

HR0011120S0017

February 3, 2020

Contents

PART I: OVERVIEW INFORMATION

- **Federal Agency Name** – Defense Advanced Research Projects Agency (DARPA), Tactical Technology Office (TTO)
- **Funding Opportunity Title** – No Manning Required, Ship (NOMARS)
- **Announcement Type** – Initial Announcement
- **Funding Opportunity Number** – HR001120S0017
- **Catalog of Federal Domestic Assistance Numbers (CFDA)** – Not applicable
- **Dates**
    - BAA Posting Date: February 03, 2020
    - Track B Abstract Due Date and Time: February 14, 2020; 2:00PM ET
    - BAA Questions Due Date: February 21, 2020; 2:00PM ET
    - Full Proposal Due Date and Time: April 02, 2020, 2:00PM ET
- **Concise description of the funding opportunity –** The No Manning Required, Ship (NOMARS) program will design, build, and field test an unmanned surface ship that can operate autonomously for long durations at sea with no human interventions or underway maintenance. NOMARS will challenge the traditional naval architecture paradigm by starting with a clean-sheet ship design process that eliminates design considerations associated with crew. NOMARS is a two-phased program, but this BAA seeks full proposals for Phase 1 (comprised of two tracks) only. This period will explore the NOMARS design space from Conceptual Design Review (CoDR) through Preliminary Design Review (PDR) and system definition.
- **Total amount anticipated to be awarded –** The total budget for Phase 1 Track A awards is $31M including options, and the total budget for Phase 1 Track B awards is $10M.
- **Anticipated individual awards** – Multiple awards are anticipated for both tracks.
- **Types of instruments that may be awarded** – Procurement contract, cooperative agreement (Track B only), or other transaction.
- **Agency contact**
    - Points of Contact

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PART II: FULL TEXT OF ANNOUNCEMENT

I. Funding Opportunity Description

A. Program Background and Overview

This publication constitutes a Broad Agency Announcement (BAA) as contemplated in Federal Acquisition Regulation (FAR) 6.102(d)(2) and 35.016 and 2 CFR § 200.203. Any resultant award negotiations will follow all pertinent law and regulation, and any negotiations and/or awards for procurement contracts will use procedures under FAR 15.4, Contract Pricing, as specified in the BAA.

NOMARS is a two-phased program that seeks to revolutionize Unmanned Surface Vessels (USVs) by developing ship architectures and system designs with no anticipation of any human presence, access, operation or habitation, and developing maintenance and logistics operations to support these designs. Accordingly, innovative proposals in the following technical areas are solicited: naval architecture; naval hull, mechanical and electrical systems; self-health monitoring and predictive analytics; power generation and distribution. 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.

This BAA encompasses two independent tracks for NOMARS Phase 1:

- Track A: Seaframe Design and Integration
  - Phase 1A: Conceptual Design
  - Phase 1B: Preliminary Design and Risk Reduction
- Track B: Technology Exploration and Maturation

A future solicitation may be issued in a limited competition among Track A Phase 1B performers to encompass Phase 2:

- Phase 2A: Detailed Design
- Phase 2B: Fabrication, Assembly, and Demonstration

The United States Navy (USN) is advancing the future concept of distributed fleet operations in which a large number of smaller combatants replaces the functionality and capability of a small number of high-value ships. Prior efforts at naval distributed lethality (e.g. Pegasus class) were not operationally successful primarily due to their limited endurance and lack of survivability. Both issues were largely driven by the presence of a human crew.

To eliminate constraints imposed by onboard crew and expand operational capabilities, the USN has made significant investments in USV development. The Navy's Unmanned Maritime Systems Program Office (PMS 406) has developed a vision for development, procurement, and deployment of variously sized USVs. Toward this vision, the Office of Naval Research (ONR) Sea Hunter prototype, initially developed under DARPA funding, demonstrated

that executive decision-making functions (e.g., navigation of the ship), could be conducted autonomously.

At-sea endurance capabilities of current and near-term USVs remain limited. This is largely due to the frequency of maintenance activities to sustain functionality, all of which require human intervention either at-sea or in port. USV designs to date are largely based upon conventional naval architecture design principles, which assume a manned ship and include constraints and accommodations associated with the human presence. While humans are vital to perform maintenance, their presence comes with a cost. Current and planned unmanned vessels continue to incorporate considerations for humans onboard, including physical access to subsystems, ad-hoc maintenance crew quarters, environmental controls, lighting and displays, and safety equipment. Additionally, ship platforms to date have not fully explored methods to significantly reduce or eliminate at-sea maintenance tasks, as they assume presence of a human crew to perform them. Considerations for a human crew impose unnecessary limitations on USVs, preventing design exploration into new technologies and new approaches to ship architecture to optimize for platform survivability and mission profile performance.

B. Program Focus

NOMARS will challenge the current naval architecture paradigm by designing, building, and demonstrating a 100-ton class unmanned vessel with no provision or allowance for humans on or inside the ship. This will allow the NOMARS vessel to demonstrate significant performance improvements and enhanced capabilities across the design space without the constraints imposed by a human presence.

The goal of the NOMARS program is to simultaneously explore two competing objectives related to USV ship design; (1) maximization of seaframe performance when human constraints are removed and (2) achieving sufficient vessel maintenance and logistics functionality for long endurance operations with no human onboard crew. The first objective focuses on maximizing gain across a new design space, with potential considerations to include: unusual hull forms, low freeboard, minimizing air-filled volumes, innovative materials, repurposing or eliminating ‘human space’. The second objective focuses on minimizing loss: isolating delicate equipment from seawater, ruggedizing hardware, exploring distributed system designs, and developing architectures optimized for depot-maintenance are at play. NOMARS will disrupt conventional naval architecture designs through exploration, and therefore pave the way for more capable, affordable small warships that can be procured and maintained in large numbers.

DARPA has derived a set of performance objectives intended to guide technology development. Because traditional naval architecture designs have not explored the NOMARS trade space, design solutions are not yet known, and thus detailed specifications of performance do not exist. Instead, NOMARS will design towards performance objectives derived from a notional distributed lethality Design Reference Mission (DRM).

The NOMARS DRM describes a USV capable of theater wide operations over a 12 month deployment. In this DRM, a force comprised of numerous autonomous NOMARS vessels

would be deployed from one or more depot facilities in the theater area of interest. The vessels would be expected to transit at cruise speed for at least 2000 nautical miles (nmi) of transit distance to a deployment station. On station, the vessels would be expected to maintain position for days/weeks, with occasional repositioning events at cruise speed. If needed, the vessels should be able to sprint to either evade forces or to rapidly reposition. NOMARS vessels are envisioned to conduct these operations continuously for months at sea, being refueled at-sea as necessary. When the mission is completed, NOMARS vessels would conduct a return trip (2000+ nmi) back to their depot location. The parameters associated with this DRM are used to communicate contemplated minimum objectives to aid in shaping solutions within the design trade space. Those performance objectives are listed in the table below.

Table 1: Performance Objectives

Metric	Performance Objective
Payload Capacity	Accommodation for size, weight, power, and cooling representative of an operational mission payload (see notional specifications below) .
Sprint Speed	20 knots or greater, sustained for at least 2 hours.
Cruise Speed	10 knots or greater, continuous operations.
Transit Endurance	Capable of transiting at cruise speed for at least 2000 nmi before refueling.
Station-keeping Endurance	Station-keeping of 4 knots or less of continuous operations for at least 30 days between refueling.
Sea-keeping	Capable of routine operations in sea-state 5, survivable up to sea-state 7, with resilience or resistance to capsizing.
Survivability	Capable of recovering from hazards.
Profile	Resistant to physical interventions/tampering operations, low-observability in radar/infrared (IR)/visual spectra desired.
Replenishment	Capable of at-sea refueling operations without human intervention onboard the NOMARS vessel.
Repair	Depot-based (no dry-dock), economical, scalable concept for maintenance between sorties.
Sortie Endurance	Capable of operating without human physical intervention at sea for 12 months between maintenance cycles.
Availability	Operational availability of at least 3:1 ratio (time at sea vs. undergoing maintenance). Vessel availability of 0.9 or better.
Cost	Ship design and maintenance architecture traceable to cost reduction strategies.
Communications	Data link requirements for ownship monitoring and adaptive health management should minimize required bandwidth and be tolerant to loss of communications or communication blackout periods.

It is expected that as designs mature, proposers will predict, assess, and demonstrate performance with respect to the above metrics. As part of Phase 1 trade-space exploration, regular discussions between performers and the Government team are encouraged to help explore and resolve questions about performance trades.

Seaframe Trades:

The NOMARS program intends to explore Medium USV (MUSV) design space (defined by the USN as a hull of between 12 and 50 meters) via the development of a seaframe. For the purposes of the NOMARS trade exploration, proposers should target a hull displacement in the 100-ton class, while keeping in mind the cost performance metric.

A NOMARS demonstration vessel will be expected to carry a notional payload. For Phase 1 design explorations, proposers should utilize the following notional payload specifications:

- Weight: 25 tons (US)
- Volume: 2,800 $ft.^3$
- Power: 70 hp peak load, 15 hp nominal load
- Cooling: 10,000 Btu/hr

Because the NOMARS seaframe will have no provision for human occupancy or at-sea access, all NOMARS maintenance must occur between sorties, akin to aircraft maintenance practices. Thus, NOMARS will require a different approach from traditional maintenance practices used by the USN to maintain ships. Instead, through NOMARS, DARPA is interested in exploring MUSVs that would be expected to be deployed on a 12-month sortie, return to base, and then undergo a maintenance cycle. DARPA has dubbed this cycle ‘depot-based maintenance’. The NOMARS vessel should be designed accordingly.

Therefore, as part of the design space evaluation, proposers should conceive a ship design leveraging the benefits that no humans can board the ship while underway, with an associated maintenance concept that enables the vessel to be maintained via a depot-based maintenance cycle. In particular, because of the costs and limitations of dry-docks, proposers should provide options that involve dry-maintenance with components that are inherently scalable and conducive to rapid, assembly line-like operations.

Mobility and Endurance Trades:

The seaframe must be capable of high-speed sprint (20 knots or greater), while being able to efficiently cruise (10 knots or greater) and conduct station keeping (4 knots) for long durations. Additionally, while at-sea refueling will likely be required for most missions, minimizing the logistics footprint of NOMARS is of critical importance and, therefore, developing a platform that can operate for long periods between refueling evolutions is a desired metric.

DARPA encourages proposers to evaluate ship design trade space options to enable optimum performance across the defined notional metrics. DARPA believes that there are opportunities for novel hull designs that have hydrodynamic benefits but have traditionally been limited by manned vessel requirements. Proposers are encouraged to examine energy harvesting modalities to extend platform endurance, provided those techniques are compatible with the other requirements in the seaframe design trade space. Proposers are also encouraged to explore alternative fuel options for ships, with the caveat that fueling options must be compatible with at-sea refueling requirements and show a traceable path with the USN logistics infrastructure.

Proposers must develop a solution for NOMARS at-sea refueling. NOMARS vessels must accomplish the at-sea refueling activities without manned intervention aboard the NOMARS vessel (manning of the refueling vessel is assumed, manned intervention via remote control of the NOMARS vessel during the event is allowed, but physical human actions aboard the NOMARS vessel is not). Proposers must identify a path within the current USN logistics architecture, develop designs for a representative demonstration by either a USN ship or a suitable proxy, and identify any required modifications to the refueling ship to accomplish the demonstration.

Hullform Trades:

NOMARS is interested in exploring how hullform designs for MUSV class vessels can be used to military advantage when limitations and requirements associated with onboard crew limitations are removed.

Proposers should explore optimum design space choices for NOMARS to enable the ship to survive and continue the mission after encountering extreme sea-states (e.g. sea state 7+). This exploration should include hull design and materials choices in conjunction with the removal of human occupancy, to evaluate how traditional ship design practices may be revised or ignored to create a more resilient ship. This trade space includes choices of internal layout of equipment and bracing structures, minimizing hull penetrations, minimizing or eliminating air-filled volumes (e.g. use of foam), and other such trades. Similarly, systems designed to mitigate damage (e.g. fire suppression systems) can be explored in the context of a capability unrestrained by human survival considerations.

Proposers are encouraged to explore the design space and methods to evade detection by opposing force maritime surveillance sensors, and if detected, impose challenges for weapon system targeting. NOMARS is not interested in the use of exquisite or costly materials to reduce the seaframe's vulnerability. Rather, NOMARS wishes to explore how design of the vessel results in a ship that is inherently harder to engage due to its physical configuration. Examples of such considerations include hull shaping, minimizing free-board, or minimizing thermal signatures via hull design or component layout choices.

Reliability Trades:

A critical aspect of the NOMARS program is demonstrating that the NOMARS vessel and sub-systems can operate for a multi-month mission with no manned interventions between

yearly maintenance cycles. NOMARS designs should develop subsystem architectures and evaluate their reliability across all critical ship systems, to be combined into final reliability metrics for the entire platform. Proposers are expected to evaluate system-level reliability for various designs, and identify high-risk items and methods to conduct risk-reduction testing for those systems.

NOMARS proposers are expected to address the challenge of multi-month operational endurance via a number of techniques. NOMARS proposers are expected to evaluate a range of potential solutions towards the reliability metric, with the understanding that bringing multiple techniques to play may be required to achieve the desired reliability. Proposers might, for example, investigate approaches that allow graceful degradation of subsystem elements, while still enabling the overall NOMARS ship to maintain critical mission capability. For instance replacing a small number of large engines with a multi-engine power generation architecture may be a solution to distribute power generation throughout the ship, and maintain capability with redundancy as components degrade. Alternatively, for some systems, proposers may opt to achieve the desired reliability through novel engineering of critical components. Select components may also be designed for high reliability over a single deployment, but designed to be replaced at that interval. DARPA encourages proposers to explore reliability with respect to all of the systems required to operate an autonomous, unmanned, seaframe, including the reliability of sensors that will be required for autonomous or remote navigation.

Of particular interest under the NOMARS program is the concept of a Self-Adaptive Health Monitoring (SAHM) architecture. Many applications leverage sensing systems combined with various forms of predictive algorithms to provide operators with knowledge of subsystem status and health. DARPA envisions that the NOMARS vessel will include a SAHM sensor network embedded within the ship and its subsystems to gather relevant data and monitor ownship health. The SAHM system should be capable of tasks such as: optimizing system/subsystem performance as equipment degrades; husbanding and managing resources over time; and maximizing critical mission capability of the ship before returning to port for the maintenance cycle. While humans are not onboard the ship, human ‘on-the-loop’ intervention could be used to augment the machine’s ability to diagnose and plan, via remote monitoring.

Cost Trades:

Because, through the NOMARS program, DARPA aims to create a capability that would lead to large numbers of small ships, assessment of the cost trades of the vessel are of critical importance and should be part of the Phase 1 design exploration. DARPA’s desire is that significant reductions in cost per ton compared to current USN warships can be achieved through the NOMARS program.

If produced in mass, the NOMARS design should enable lower-cost vessels. DARPA is interested in exploring design and manufacturing elements such as: component and material selection, subsystem fabrication, and ship manufacturing and integration processes, including approaches to leverage automation and rapid manufacturing technologies in all stages.

DARPA is interested in exploring how maintenance costs could be reduced if large numbers of ships are rapidly maintained in specialized NOMARS maintenance depots between sorties. Maintenance architecture scaling and adaptability should be explored in the trade space, as well as consideration of automation and assembly line practices similar to those employed in the automotive or aerospace industries. Ultimately, DARPA is interested in reducing operational lifecycle costs by exploring design trades between procurement costs and maintenance costs (e.g. cost of hull, cost to maintain hull, and lifetime of hull).

C. Excluded Technologies

Specific technological areas that are considered out of scope with respect to this BAA are as follows:

- Generation of power or propulsion via nuclear power (to include radioisotope thermoelectric generators).
- "Executive Autonomy" akin to the Sea Hunter vessel such as mission planning, decision making, or autonomous navigation. Proposers should allocate sufficient size, weight and power (SWaP) for navigation sensor packages and computing resources, but should not propose work to develop new command and control solutions.
- Solutions that incorporate fully submerging vehicles (e.g. unmanned underwater vehicles) are not part of this problem set, however semi-submersible solutions (air-breathing) may be considered.

D. Program Plan and Risk Management Approach

The program consists of a multi-phase developmental cycle with each phase building upon the maturation of the previous phase. The final output of the NOMARS program will be development and demonstration of a 100-ton class seagoing vessel. The final at-sea demonstration is expected to be at least 12-months of at sea operations, and include multiple at-sea refueling events and a depot-based maintenance cycle. The program plan is depicted in Figure 1.

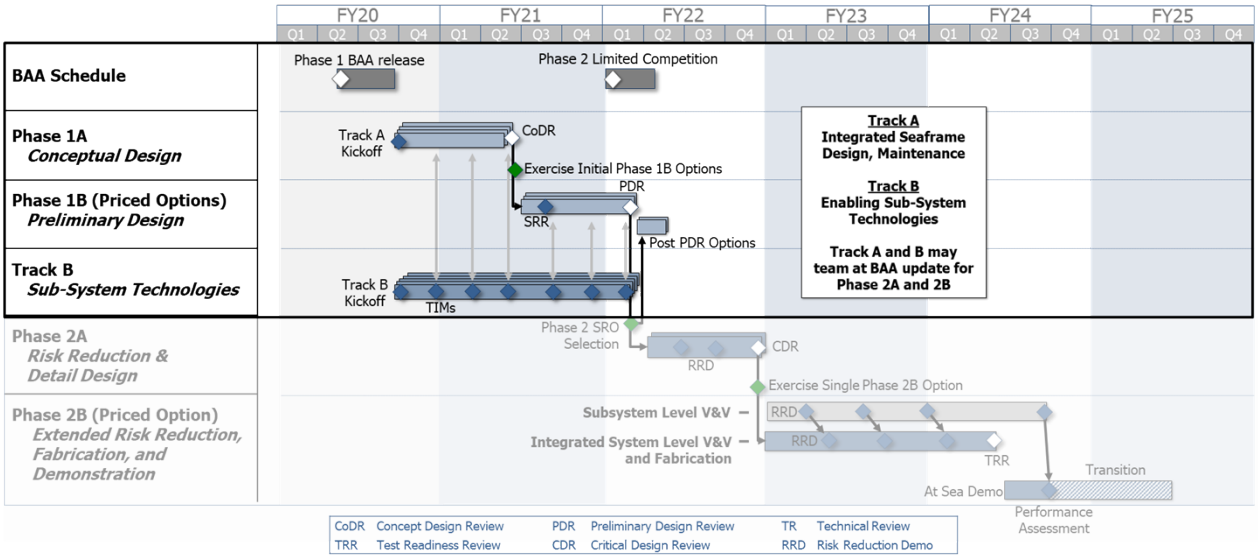

Figure 1: Program Plan

This BAA is soliciting proposals for Phase 1 (to include a Phase 1A period and a Phase 1B period), which is comprised of two tracks – Track A and Track B – with specific program emphases.

Track A is the primary program track to design, develop, and demonstrate a NOMARS demonstration vessel. Track A proposals shall comprise of: a 9-month Phase 1A Base period culminating in a Conceptual Design Review (CoDR); a Phase 1B Option 1, 9-month priced option culminating in a Preliminary Design Review (PDR); and a Phase 1B Option 2, 3-month post-PDR priced option (options are collectively Phase 1B).

Track B will mature component or subsystem technology areas relevant to the NOMARS vision. Track B proposals should consist of a single phase effort with a period of performance not to exceed 14 months, to enable potential integration of Track B solutions into Track A designs for Phase 2A. Track B proposals are encouraged to explore technologies relevant to the NOMARS vision, including but not limited to: SAHM and failure mitigation techniques, hull materials and structures, mechanical systems, propulsion systems, power generation and management, and automated refueling techniques. Track B proposers are expected to propose a research effort sufficient to develop and demonstrate their technical solution within the 14-month period of performance.

It is expected that close collaboration between the Track A and Track B performers will be critical to the program's success. Track B performers will be expected to present technical status at quarterly Technical Interchange Meetings (TIMs) with Track A performers.

Phase 1 Track A Description

Track A will execute an exploration of the design space of MUSV-class hullforms, designed from the ground-up to be optimized for the following constraints: no human occupation or habitation requirements or allowances, multi-month at-sea operations, at-sea refueling

evolutions to be conducted with no manning provisions on the NOMARS MUSV, and an associated depot maintenance architecture for the MUSV between at-sea deployments.

During Phase 1A (base), performers are expected to quantitatively explore the NOMARS trade space with respect to hull design, hull, mechanical, & electrical (HME) systems, SAHM, logistics, and maintenance for a complete vessel. Performers are expected to leverage their proposed tools and techniques to construct and explore this space, to include both software and, if desired, hardware explorations. Proposals should describe the planned approach to trade space exploration and the design evolution process to assess multiple potential NOMARS designs and culminate in a CoDR, which may include multiple potential designs, at the end of the Phase 1A effort.

Phase 1B consists of two priced options, which may be exercised dependent upon performance and funding availability. In Phase 1B, performers will, based upon their Phase 1A trade space evaluations and CoDR, down-select designs for the NOMARS seaframe and subsystem architecture. Proposers are expected to develop approaches for at-sea refueling and life-cycle depot-based maintenance of the seaframe and subsystems. Ship concepts, in addition to the hull and HME components must also include traceable analysis of expected subsystem reliability, methodology to conduct at-sea refueling, methodology to conduct depot based repair, and estimates of platform build cost and maintenance costs. Phase 1B Option 1 will culminate with a PDR of the NOMARS seaframe and its logistics and maintenance architectures. Phase 1B Option 2 is a 3 month period, to include refinement of the PDR product following Government feedback and resulting in a post-PDR update within 3 months of the original PDR. The performer will review all design documentation, requirements, risk analysis and program costs and provide an updated brief to the Government reflecting these modifications and implications to a single selected design. A report documenting updates to the PDR design, in the form of an annotated briefing will be delivered. Option 2 will also include the detailed design and risk reduction development necessary to close out Phase 1 and optimize Phase 1 designs for potential progression to Phase 2. Therefore, Option 2 tasks are expected to incorporate detailed analysis, design, and risk reduction activities for key sub-systems justifying a trajectory for future CDR-level maturity.

Track A proposers are expected to demonstrate via technology maturation and risk reduction activities, readiness to proceed through Phase 2 of the program, with the capability to be the system integrator for construction of the NOMARS demonstrator vessel, conduct at-sea demonstrations, (including at-sea refueling evolutions) and demonstrate a depot maintenance cycle. The Track A deliverable table below outlines the minimum set of program deliverables.

Table 2: Deliverables

Deliverable	Due date	Description
Kick-off meeting presentation	1 Month after award (MAA)	Presentation that summarizes the Phase 1 plan, highlighting changes made since proposal submission and detailing the first three months of Phase 1.
Operation Security Plan (OPSEC) and Controlled	1 MAA and for	Plans used to identify and monitor security activities during the performance of a

Unclassified Information (CUI) Mitigation Plan	any change in security posture	contract. Both plans are intended to be a living document that will require periodic updates throughout the life of the contract.
TIM report	2 weeks after TIM	Report or annotated briefing that summarizes findings and recommendations from Track B TIM.
Technology Maturation Plan (TMP)	Initial at kick-off, then updated quarterly	Document that defines the technology maturation plan. Must include current risk assessment and progress against risk waterfalls.
Trade study reports	< 2 weeks after completion of trade study	Report or annotated briefing that describes the trades conducted, indicating impact and traceability to respective KPOs.
Risk reduction activity report	< 2 weeks after completion of risk reduction activity	Report or annotated briefing the describes the major risk reduction activity, outcomes, and consequences to design and development.
Integrated Master Schedule (IMS)	Initial at kick-off, then updated quarterly	Program schedule, incorporating detailed plans.
Technical Status Teleconference	Monthly	Teleconference to discuss progress over the previous month and plans for the upcoming month.
Quarterly Program Review (QPR)	Quarterly	Presentation outlining technical progress, planned future activities, and program management updates (to include cost, schedule, and personnel).
Technical and financial status report	Monthly	Report that provides technical, financial, and schedule updates.
CoDR documentation	9 MAA; CoDR data items delivered 1 week prior to review	Documentation that defines the conceptual design, as influenced by trade space assessment and trade study results. It should include feasibility analysis, technology maturation plan update (including risk assessment), Phase 2 ROM, and preliminary assessment of projected design performance against Performance Objectives and associated subsystem objective metrics.

System Requirements Review (SRR) documentation (Phase 1B)	12 MAA	Documentation detailing system requirements specification (functional and performance), requirement traceability matrix, and decomposition for verification and validation roadmap.
PDR documentation (Phase 1B)	18 MAA; PDR data items delivered 2 weeks prior to review	Documentation that details the preliminary design of the NOMARS demonstrator. Critical system documentation should be summarized and available at the review.
Post PDR Report	21 MAA	Documentation that incorporates government provided feedback, following the PDR, into the design(s).
Phase 1 final report	9 MAA or 18 MAA as selected	Report that details all Phase 1 activities, capturing top-level results of all trade studies, design performance analyses, and demonstrator design.

Phase 1 Track B Description

The objective of Track B is to develop and mature critical enabling technologies and subsystems, central to the operation of an unmanned ship and achieving NOMARS key performance objectives. Track B efforts are envisioned to develop and demonstrate innovative unmanned surface vessel technology solutions, rather than modest incremental upgrades or improvements.

Track B performers should execute their proposed Technology Maturation Plan and mature their capability to support the goal of integration into Track A solutions at the conclusion of the Track B period of performance. Therefore, Track B efforts should be sufficiently independent of Track A Phase 1 concept development and integrated design to enable Track A assessment subject to the trade space, and streamlined Phase 2 integration if selected by a Track A. Technologies with significant consequence to conceptual seaframe configuration, or that have a waterfall effect on the design of ancillary subsystems are discouraged from Track B consideration. Phase 1 Track B maturation activities may include simulation-based testing, hardware-in-the-loop (HIL) testing, laboratory experiments, and/or demonstrations in representative environmental conditions.

DARPA anticipates that the content and output of these efforts may vary significantly, depending on focus area, but may include algorithms and software, models, test data, and/or hardware prototypes. DARPA strongly encourages the Track B proposers to aim to demonstrate the highest level of technical maturity possible within the period of performance.

The Track B deliverable table below outlines the minimum set of program deliverables. Track B proposers are welcome to propose alternative periods of performance shorter than the 14

months specified if appropriate for the proposed technical approach and technology insertion concept. Deliverable due dates may be modified accordingly.

Table 3: Deliverables

Deliverable	Due date	Description
Kick-off meeting presentation	1 MAA	Presentation that summarizes the Phase 1 plan, highlighting changes made since proposal submission and detailing the first three months of Phase 1.
TIM Briefing	3, 6, 9, 12, 15 MAA	Briefing that describes technical achievements and plans, providing sufficient insight to inform Track A integration decision-making.
TMP	Initial at kick-off, then updated quarterly	Document that defines the technology maturation plan. Must include current risk assessment and progress against risk waterfalls.
IMS	Quarterly	Integrated schedule, incorporating detailed plans.
Technical status teleconference	Monthly	Teleconference to discuss progress over the previous month and plans for the upcoming month.
Test plan(s)	> 2 weeks prior to start of test	Report that defines test objectives, approach, and quantitative success criteria tracing to KPO(s).
Technical and financial status report	Monthly	Report that provides technical, financial, and schedule updates.
Critical Technology Deliverable	14 MAA	Technical data, software, and/or hardware as applicable.
Final report	14 MAA	Report that details all Phase 1 activities, capturing top-level results of all trade studies, design performance analyses, tests, and products.

Phase 2

The Phase 2 competition will only be limited to ongoing NOMARS Phase 1B prime contractors. Updated proposal guidance for Phase 2 will be provided to Phase 1B performers near completion of the Phase 1B period. Phase 2 will be split into two stages; Phase 2A and Phase 2B.

In Phase 2A, performers will develop subsystem hardware for testing and pursue risk reduction activities to drive down the highest risk elements in the design. Performers will be expected to demonstrate sub-system reliability to prove that the selected subsystems can operate

sufficiently to support a 3-month at-sea demonstration. This phase will conclude with a system level Critical Design Review (CDR).

Phase 2B will be a priced option to construct and integrate a full NOMARS seaframe, conduct additional risk-reduction and validation testing and perform the final at-sea demonstration. A Test Readiness Review (TRR) will be conducted prior to the at-sea demonstration period, which will include at least one at-sea refueling event and conclude with a depot-maintenance cycle of the seaframe.

E. Program Execution

Program execution should include regular collaborative meetings and teleconferences to inform the Government of program, design, and development status. During Phase 1, quarterly TIMs will be held to allow Track B technology performers to demonstrate progress and findings useful for Track A system development performers. At substantial decision points, in-person technical reviews should be held to solicit Government input balancing objectives and risk (see Section I.F. "Major Review Descriptions and Expectations"). Proposers should aggressively identify technical and programmatic risks and resource parallel risk reduction paths over the life of the program. The minimum anticipated meeting rhythm is outlined below and may include multiple meetings on the same day.

- Monthly status teleconferences to provide insight into recent activities and near-term plans, briefing relevant technical development and program management topics.
- Quarterly Program Reviews to convey technical progress and overall program performance (in-person).

Throughout the design process, analysis of alternatives should be used to select configurations and hardware components. Software and subsystems should be tested to verify design margins appropriate for an experimental ship. Subsystem designs and testing should accommodate suitable analysis variability in areas where no validated models exist.

F. Major Review Descriptions and Expectations

The Performer will execute a CoDR, SRR, and PDR with content, entrance, and exit criteria tailored from a recognized industry or military standard for appropriate application to a technology demonstration program. Proposals should clearly address how these standards will be tailored in the proposed effort. Any tailoring of design review content and criteria must include an assessment of the design maturation and technical risk, and incorporate demonstrable technology maturation progress and achievements. NOMARS system design review guidance for those aspects of the program are outlined below, followed by specific CoDR, SRR, and PDR guidance. The tailored CoDR SRR, and PDR entrance and exit criteria, as well as the tailored SRR and PDR content checklists, will be evaluated to assess the adequacy of the proposed systems engineering processes. In addition, these checklists will need to be approved by the Government prior to the start of the reviews to allow the Government to understand and assess the adequacy of the proposed tailoring of these reviews.

General:

- Requirements Development - A complete set of technology demonstration system performance and design requirements is established down to the lowest expected level of the system hierarchy (i.e., system, subsystem, and component) for the subject review. Each requirement must include verification provisions. System interfaces are identified and documented.
- Design Definition - The design of the system architecture is established down to the lowest expected level of the system hierarchy for the subject review, satisfies established requirements, and is sufficiently detailed to enable the next level of design definition. Appropriate design margins are identified and maintained.
- Risk Management – Programmatic and technical risks are identified and assessed (e.g., consequence and likelihood). Mitigation plans are in place along with associated completion criteria. Programmatic and technical risks have been updated with results of any mitigation activities.
- Technology Maturation – System attributes requiring maturation have been identified and associated analysis, test, and demonstration objectives and results have been documented. The representative test article design is documented.

CoDR

The objective of this review is to determine the feasibility of the performer's trade space evaluation and seaframe concepts(s), and that they are consistent with the NOMARS program goals. The performer will present the system conceptual baseline(s), review the results of any trade studies completed, and review the initial system-level specification(s). The review will form the basis for deriving the preliminary design, allow DARPA to assess the performer's program approach and progress, and allow DARPA an opportunity to provide guidance. Following CoDR, any performer for which the Track A Phase 1 B, Option 1 is exercised will then be expected to proceed to preliminary design.

Minimum information to be provided:

- Technology conceptual design is complete and the approach is shown to be feasible through initial analysis.
- A pathway to SRR is identified.
- System baseline technologies for seaframe HME are identified.
- System baseline approach to health and mission autonomy is identified.
- Approach to logistics (at-sea refueling) and maintenance (depot-based maintenance) is identified.
- Modeling and Simulation methods to verify the hull design performance, HME reliability, and other critical factors are identified.
- Design support analysis and data from all design disciplines, to support the selected final design.
- Projected performance capabilities against DRM profile.
- Release the final conceptual design drawing package.

- Initial program schedule through the end of Phase 2, to include planned testing and analysis timelines and envisioned Phase 2 demonstration methodology.
- ROM cost estimate for Phase 2, as well as the underlying assumptions on which the cost estimate is based to aid DARPA program planning.

SRR

The objective of SRR is to ensure system design and development requirements are completed and documented. The performer will present the current system design status, review trade study results, and review system requirements definition. The review allows DARPA to assess the performer's program approach and progress, and provide guidance.

Minimum information to be provided:

- Requirements Development – Requirements are complete and preliminary interfaces are defined.
- Software Development – A software development plan, including verification and validation approach, is complete.
- Design Status – Current design status provides a feasible path to a PDR.
- Trade Studies – The results of any trade studies completed to validate design approach are presented to include cost benefit analysis and military utility.
- Cost – Initial Phase 2 cost estimates are documented and show a feasible path to a Bill of Materials (BOM) cost that meets cost metrics of demonstrator.
- Updated program schedule to include testing and analysis timelines with feasible path to test program (via modeling, land-based demonstrations, and at-sea demonstrations) within established schedule metrics.

PDR

The objective of PDR is to determine the design maturity of the selected system concept to ensure consistency with NOMARS program goals. The performer will present the system preliminary design baseline with closure around documented requirements, updated program risks, and updated program cost/schedule through completion of the program. The review will allow DARPA to assess the feasibility of the design to complete a meaningful seaframe demonstrator within program cost and schedule constraints and provide guidance.

Minimum information to be provided:

- Requirements Development – Interface and requirements are complete. Initial verification statements are complete and external interfaces are documented.
- Design Definition – Assess the allocated design documented in subsystem requirements. Preliminary design is complete to the subsystem/configuration item level, PDR requirements are traceable to system-level requirements, and the design closes around documented requirements and adequately demonstrates that performance achieves demonstrator performance metrics (detailed below).
- Logistics Plan – Assess the design's proposed method of conducting at-sea refueling, including modifications required to enable demonstration from refueling vessel.

Demonstrate that the preliminary design closes around an at-sea refueling concept that is compatible with USN logistics architectures.

- Maintenance Plan – Assess the design's proposed method of conducting depot-based maintenance. Demonstrate that the preliminary design for the maintenance architecture adequately demonstrates that the design can be maintained in a cost-effective format without use of a drydock.
- Software Development – A development plan with processes and metrics to measure progress is complete.
- Risk Management – Risks must include all design risks.
- Technology Maturation - Desired technology maturation can be achieved via planned development within program budget and schedule. Test plans define objectives and expected results that will validate design proof-of-concept. Draft Test and Evaluation Master Plan (TEMP) for Phase 2.
- Demonstrator Cost – Revised BOM cost based on preliminary design is documented and within established cost metrics.
- Design costs – Demonstrate traceability to component parts that can be used to estimate final procurement costs of NOMARS based ship designs.
- Operating costs – Demonstrate traceability of maintenance architecture towards estimates of operational costs of NOMARS based ship designs.
- Updated program schedule to include testing and analysis timelines with feasible path to sea-test program within established schedule metrics.

G. Government Management Approach and Operations

The Government recognizes that a streamlined, collaborative management approach is essential to achieving the program technical, cost, and schedule objectives. The Government Program Office is comprised of a core technical and programmatic team, which will be augmented by Government Subject Matter Experts (SMEs) from multiple organizations to assist with program execution. The performers will interface with the Government team at a minimum via coordination meetings at the technical level, status meetings at the management level and quarterly in-person program management reviews. The proposers are asked to provide a management approach to allow for regular collaboration with the Government team to ensure a successful program.

II. Award Information

A. General Award Information

Multiple awards are anticipated. The amount of resources made available under this BAA will depend on the quality of the proposals received and the availability of funds.

The Government reserves the right to select for negotiation all, some, one, or none of the proposals received in response to this solicitation and to make awards without discussions with proposers. The Government also reserves the right to conduct discussions if it is later determined to be necessary. If warranted, portions of resulting awards may be segregated into pre-priced

options. Additionally, DARPA reserves the right 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 may be opened with that proposer. The Government reserves the right to fund proposals in phases with options for continued work, as applicable.

Given the scope and technology focus of Track A and B efforts, the Government will consider Cooperative Agreements for Track B efforts only. For Track A, the Government will negotiate either FAR-based procurement contracts or other transactions.

The Government reserves the right 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 (see Section VI.B.2, "Representations and Certifications"). The Government reserves the right to remove proposals from award consideration, should the parties fail to reach agreement on award terms, conditions, and/or cost/price within a reasonable time, or the proposer fails to provide requested additional information in a timely manner. Proposals identified for negotiation may result in a procurement contract, cooperative agreement, or other transaction, depending upon the nature of the work proposed, the required degree of interaction between parties, whether or not the research is classified as Fundamental Research, and other factors.

Proposers looking for innovative, commercial-like contractual arrangements are encouraged to consider requesting Other Transactions. To understand the flexibility and options associated with Other Transactions, consult http://www.darpa.mil/work-with-us/contract-management#OtherTransactions.

In accordance with 10 U.S.C. § 2371b(f), the Government may award a follow-on production contract or Other Transaction (OT) for any OT awarded under this BAA if: (1) that participant in the OT, or a recognized successor in interest to the OT, successfully completed the entire prototype project provided for in the OT, as modified; and (2) the OT provides for the award of a follow-on production contract or OT to the participant, or a recognized successor in interest to the OT.

In all cases, the Government contracting officer shall have sole discretion to select award instrument type, regardless of instrument type proposed, and to negotiate all instrument terms and conditions with selectees. DARPA will apply publication or other restrictions, as necessary, if it determines that the research resulting from the proposed effort will present a high likelihood of disclosing performance characteristics of military systems or manufacturing technologies that are unique and critical to defense. Any award resulting from such a determination will include a requirement for DARPA permission before publishing any information or results on the program. For more information on publication restrictions, see the section below on Fundamental Research.

B. Fundamental Research

It is DoD policy that the publication of products of fundamental research will remain unrestricted to the maximum extent possible. National Security Decision Directive (NSDD) 189 defines fundamental research as follows:

> 'Fundamental research' means 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.

As of the date of publication of this BAA, the Government expects that program goals as described herein may be met by proposed efforts for fundamental research and non-fundamental research. Some proposed research may present a high likelihood of disclosing performance characteristics of military systems or manufacturing technologies that are unique and critical to defense. Based on the anticipated type of proposer (e.g., university or industry) and the nature of the solicited work, the Government expects that some awards will include restrictions on the resultant research that will require the awardee to seek DARPA permission before publishing any information or results relative to the program.

Proposers should indicate in their proposal whether they believe the scope of the research included in their proposal is fundamental or not. While proposers should clearly explain the intended results of their research, the Government shall have sole discretion to determine whether the proposed research shall be considered fundamental and to select the award instrument type. Appropriate language will be included in resultant awards for non-fundamental research to prescribe publication requirements and other restrictions, as appropriate. This language can be found at http://www.darpa.mil/work-with-us/additional-baa.

For certain research projects, it may be possible that although the research to be performed by a potential awardee is non-fundamental research, its proposed subawardee's effort may be fundamental research. It is also possible that the research performed by a potential awardee is fundamental research while its proposed subawardee's effort may be non-fundamental research. In all cases, it is the potential awardee's responsibility to explain in its proposal which proposed efforts are fundamental research and why the proposed efforts should be considered fundamental research.

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. While multiple proposals against a single track will be considered, DARPA does not intend to select the same prime performer for both Track A and Track B (a proposed subcontract performer for either track may be selected as a prime peformer for the other track, however).

1. United States enterprises to include:

a) Industrial and commercial concerns, including small businesses

b) Accredited degree granting colleges and universities

c) Non-profit and not-for-profit organizations

2. Federally Funded Research and Development Centers (FFRDCs) and Government Entities

a) FFRDCs

FFRDCs are subject to applicable direct competition limitations and cannot propose to this BAA in any capacity unless they meet the following conditions. (1) FFRDCs must clearly demonstrate that the proposed work is not otherwise available from the private sector. (2) FFRDCs must provide a letter, on official letterhead from their sponsoring organization, that (a) cites the specific authority establishing their eligibility to propose to Government solicitations and compete with industry, and (b) certifies the FFRDC's compliance with the associated FFRDC sponsor agreement's terms and conditions. These conditions are a requirement for FFRDCs proposing to be awardees or subawardees.

All proposers are expected to address transition; transition is part of the evaluation criteria in Sections V.A and V.B. However, given their special status, FFRDCs should describe how and when a proposed technology/system will transition to which Non-FFRDC organization(s).

b) Government Entities

Government Entities (e.g., Government/National laboratories, military educational institutions, etc.) are subject to applicable direct competition limitations. 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 and contractual authority, if relevant, establishing their ability to propose to Government solicitations and compete with industry. This information is required for Government Entities proposing to be awardees or subawardees.

c) Authority and Eligibility

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 FFRDC and Government Entity eligibility submissions on a case-by-case basis; however, the burden to prove eligibility for all team members rests solely with the proposer.

3. Non-U.S. Organizations and/or Individuals

Non-U.S. organizations and/or individuals may participate to the extent that such participants comply with any necessary nondisclosure agreements, security regulations, export control laws, and other governing statutes applicable under the circumstances.

4. Classified Proposals

For classified proposals, applicants will ensure all industrial, personnel, and information systems processing security requirements are in place and at the appropriate level (e.g., Facility Clearance Level (FCL), Automated Information Security (AIS), Certification and Accreditation (C&A), and any Foreign Ownership Control and Influence (FOCI) issues are mitigated prior to submission. Additional information on these subjects can be found at http://www.dss.mil.

B. Organizational Conflicts of Interest

FAR 9.5 Requirements

In accordance with FAR 9.5, proposers are required to identify and disclose all facts relevant to potential OCIs involving the proposer's organization and *any* proposed team member (subawardee, consultant). Under this Section, the proposer is responsible for providing this disclosure with each proposal submitted to the BAA. The disclosure must include the proposer's, and as applicable, proposed team member's OCI mitigation plan. The OCI mitigation plan must include a description of the actions the proposer has taken, or intends to take, to prevent the existence of conflicting roles that might bias the proposer's judgment and to prevent the proposer from having unfair competitive advantage. The OCI mitigation plan will specifically discuss the disclosed OCI in the context of each of the OCI limitations outlined in FAR 9.505-1 through FAR 9.505-4.

Agency Supplemental OCI Policy

In addition, DARPA has a supplemental OCI policy that prohibits contractors/performers from concurrently providing Scientific Engineering Technical Assistance (SETA), Advisory and Assistance Services (A&AS) or similar support services and being a technical performer. Therefore, as part of the FAR 9.5 disclosure requirement above, a proposer must affirm whether the proposer or *any* proposed team member (subawardee, consultant) is providing SETA, A&AS, or similar support to any DARPA office(s) under: (a) a current award or subaward; or (b) a past award or subaward that ended within one calendar year prior to the proposal's submission date.

If SETA, A&AS, or similar support is being or was provided to any DARPA office(s), the proposal must include:

- The name of the DARPA office receiving the support;
- The prime contract number;
- Identification of proposed team member (subawardee, consultant) providing the support; and
- An OCI mitigation plan in accordance with FAR 9.5.

Government Procedures

In accordance with FAR 9.503, 9.504 and 9.506, the Government will evaluate OCI mitigation plans to avoid, neutralize or mitigate potential OCI issues before award and to determine whether it is in the Government's interest to grant a waiver. The Government will only evaluate OCI mitigation plans for proposals that are determined selectable under the BAA evaluation criteria and funding availability.

The Government may require proposers to provide additional information to assist the Government in evaluating the proposer's OCI mitigation plan.

If the Government determines that a proposer failed to fully disclose an OCI; or failed to provide the affirmation of DARPA support as described above; or failed to reasonably provide additional information requested by the Government to assist in evaluating the proposer's OCI mitigation plan, the Government may reject the proposal and withdraw it from consideration for award.

C. Cost Sharing/Matching

Cost sharing is not required; however, it will be carefully considered where there is an applicable statutory condition relating to the selected funding instrument. Cost sharing is encouraged where there is a reasonable probability of a potential commercial application related to the proposed research and development effort.

For more information on potential cost sharing requirements for Other Transactions for Prototype, see http://www.darpa.mil/work-with-us/contract-management#OtherTransactions.

IV. Application and Submission Information

A. Address to Request Application Package

This announcement, any attachments, and any references to external websites herein constitute the total solicitation. If proposers cannot access the referenced material posted in the announcement found at www.darpa.mil, contact the administrative contact listed herein.

B. Content and Form of Application Submission

All submissions, including abstracts and proposals must be written in English with type not smaller than 12-point font. Smaller font may be used for figures, tables, and charts. Copies of all documents submitted must be clearly labeled with the DARPA BAA number, proposer organization, and proposal title/proposal short title.

1. Abstract Format

Given the broad scope defined under Track B, abstracts will be accepted for Track B only. Track B proposers are strongly encouraged to submit an abstract in advance of a proposal. Abstracts should include a cover sheet as described in Section IV.B.3, "Proposal Format". Abstract content described in IV.B.2 should contain 1) lead organization, 2) proposer's reference number, if applicable, and 3) proposal title in the header. The cover sheet should be clearly marked "ABSTRACT," and the total length should not exceed five (5) pages. The maximum page count excludes the cover sheet and official transmittal letter but does include any figures, tables, and charts. An official transmittal letter is not required. See section IV.B.5 for abstract submission information.

2. Abstract Content

Track B abstracts should provide a preliminary overview of the proposer's critical enabling capability for NOMARS. Areas to be addressed should include:

- Key features of the envisioned capability and how it will enable the NOMARS vision;
- Description of technology's envisioned utility relative tosystem level Track A effort, including data-sharing approach during execution of Track B effort;
- Traceability of how envisioned capability relates to achieving program metrics;
- Relevant qualifications and experience of the proposer and potential teaming partners;
- Top-level schedule for Phase 1, including key maturation accomplished at each quarterly review and final deliverable.

The total abstract length shall not exceed five (5) pages. The maximum page count excludes the cover page, transmittal letter and any other front matter but does include any figures, tables, and charts. An official transmittal letter is not required.

3. Proposal Format

All proposals must be in the format given below. The typical proposal should express a consolidated effort in support of one or more related technical concepts or ideas. Disjointed efforts should not be included into a single proposal. Proposals shall consist of two volumes: 1) Volume I, Technical and Management Proposal (composed of three parts), and 2) Volume II, Cost Proposal. The maximum page limit for Volume I is 50 pages for Track A and 25 pages for Track B. Bracketed numbers before each section denote recommended page limits.

All complete proposal packages must include the parts listed below. The following templates, which contain proposal content descriptions and instructions, have been provided as attachments to the BAA posted at https:/beta.sam.gov. Use of these templates is mandatory for all proposal submissions to this BAA.

- Attachment 1 – Cost Template
- Attachment 2 – Summary Slides

Ensure that each section provides the detailed discussion of the proposed work necessary to enable an in-depth review of the specific technical and managerial issues. Specific attention must be given to addressing both risk and payoff of the proposed work that make it desirable to DARPA.

NOTE: Non-conforming submissions that do not follow the instructions herein may be rejected without further review.

a) Volume I, Technical and Management Proposal – <u>Track A</u>

<u>Section I: Administrative</u>

(a) Cover Sheet to include:
(1) BAA number (HR001120S0017);
(2) Technical area;
(3) Lead Organization submitting proposal;
(4) Type of organization, selected among the following categories: "LARGE BUSINESS," "SMALL DISADVANTAGED BUSINESS," "OTHER SMALL BUSINESS," "HBCU," "MI," "OTHER EDUCATIONAL," OR "OTHER NONPROFIT";
(5) Proposer's reference number (if any);
(6) Other team members (if applicable) and type of organization 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); and
(11) Date proposal was submitted.

(b) Official transmittal letter

Section II: Summary of Proposal {5}

This section should provide an executive-level description of key elements and methods of the proposed NOMARS Track A effort. The executive summary shall address how the proposed methodologies and capabilities will enhance the overall NOMARS program and vision, any inherent level of risk, and include a top-level schedule of proposed Phase 1 maturation activities. This section should also describe how the envisioned Phase 1 products will have adequate maturity to continue to the subsequent phase of the program for fabrication, integration and demonstration. The summary should incorporate (but is not limited to) the following elements:

A. Description of the process to select and mature design configuration(s) through CoDR, SRR, and PDR (multiple designs may be presented at PDR) with the envisioned validation and verification framework to appropriately mature the configuration(s) (to be described in detail in the Technology Assessment and Design Maturation Plan below). This section should identify key knowledge gaps and the associated analysis and test plans to address those gaps early in the program.

B. Deliverables associated with the proposed research and the plans and capability to accomplish technology transition and commercialization. Proposers responding to this BAA must submit a separate list of all technical data or computer software that will be furnished to the Government with other than unlimited rights. The Government will assume unlimited rights if proposers fail to identify any intellectual property restrictions in their proposals. Include in this section 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 no proprietary claims, this should be stated. For

forms to be completed regarding intellectual property, see Section IV.B.4.h of this BAA. There will be no page limit for the listed forms.

C. 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 tasks and 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. DARPA requires key personnel identified in the proposal to be assigned as proposed, and the resulting contract/agreement will indicate no substitution shall be made without prior approval of the Government.

In addition to the proposal summary description, proposers should submit completed Attachment 2 Summary Slides as an attachment to the proposal (limit of 5 slides, not contributing to proposal page count).

Section III: Detailed Proposal Information

The Technical Proposal should convince the Government that the proposer has a credible plan for successfully completing the Phase 1 program objectives outlined in Section II within cost and schedule constraints and at acceptable program execution risk.

In order to ensure an efficient and effective review process, proposals should be concise and complete, supported by verifiable facts and providing all required information in the required format. To the extent possible, the proposal should separate the classified elements into a separate appendix (included in the page count), keeping the majority of the proposal unclassified.

A. Technology Assessment and Design Maturation Plan {35}

- If applicable, a system description of a point of departure shall be provided to include a top-level description of the vision, system architecture, key system elements, and unique features of the proposer's NOMARS approach.
- The proposer shall provide their plan for maturing their enabling capability and developing Phase 1 final products within the proposed budget and schedule. The proposer shall describe their major development and risk reduction events, including planned progress to be accomplished at each quarterly review or milestone, culminating in the final Phase 1 products.
- Description of planned trade studies, aligned with the specified technology maturation plan. Should include initial analysis, example trade space evaluations, or other analysis products demonstrating depth of proposal team's conceptual space relevant to NOMARS.
- Description of methodology, paired with appropriate analytic tools, to quantifiably estimate and explore trades between vessel performance (e.g. speed, survivability), cost (procurement, operations, logistics, maintenance), and overall system reliability.
- Description of the results, products, transferable technology, and expected technology transfer path. This should also address mitigation of life-cycle and sustainment risks associated with transitioning intellectual property for U.S.

military applications, if applicable. See also Section IV.B.4.h of this BAA, "Intellectual Property."

- Describe the systems engineering approach to complete the final system design and ensure that the as-built system meets the DARPA objectives. Identification of key ongoing research indicating advantages and disadvantages of critical enabling technologies.
- Description of the facilities, processes, techniques, and tools that would be used for the proposed effort. (as applicable)
- Description of Security Management architecture and/or approach for the proposed effort. Detail unique additional security requirements regarding OPSEC, program protection planning, test planning, transportation plans, work being performed at different classification levels, and/or utilizing test equipment not approved at appropriate classification level
- Provide description of milestone and accomplishments desired, defined in time relative to start of effort. Where the effort consists of multiple portions that could reasonably be partitioned for purposes of funding, these should be identified as options with separate cost estimates for each. Additionally, proposals should clearly explain the technical approach(es) that will be employed to meet or exceed each program metric and provide ample justification as to why the approach(es) is/are feasible.

B. Integrated Master Schedule {not included in page count}

The IMS shall detail the specific tasks to be accomplished, their inter-relationship, and time sequencing. The IMS should reflect a realistic schedule that can achieve the program milestones consistent with the demonstration schedule, while aggressively pursuing performance metrics in an efficient time frame that accurately accounts for the anticipated workload. This section should:

- Provide a high-level description of the schedule with key events depicted.
- Identify the critical path, potential risks, and schedule risk mitigation plans.
- The IMS will be developed in a level of detail sufficient for the Government to make an independent analysis during proposal review and to implement critical path analysis throughout the NOMARS program; WBS level 3 or greater for Phase 1, and level 2 or greater for Phase 2.
- Provide the IMS in Microsoft Project electronic native format, and printed on 11 by 17 inch foldout pages.
- The WBS structure in the IMS shall correlate with the Cost and SOW volume structure.

The IMS should be unclassified and should not contain any proprietary information

C. Statement of Work (SOW) {not included in page count} – In plain English, clearly define the technical tasks/subtasks to be performed, their durations, and dependencies among them. The page length for the SOW will be dependent on the amount of the effort. For each task/subtask, provide:

- A general description of the objective (for each defined task/activity);
- A detailed description of the approach to be taken to accomplish each defined task/activity;

- Identification of the primary organization responsible for task execution (prime, sub, team member, by name, etc.);
- The completion criteria for each task/activity - a product, event or milestone that defines its completion.
- Define all deliverables (reporting, data, reports, software, etc.) to be provided to the Government in support of the proposed research tasks/activities; and
- Clearly identify any tasks/subtasks (to be performed by either an awardee or subawardee) that will be accomplished on-campus at a university, if applicable.

The SOW will be expressed on a common WBS matching the cost volume and IMS section.

Note: It is recommended that the SOW should be developed so that each Phase of the program is separately defined.

Do not include any proprietary information in the SOW.

D. Program Team and Experience {10, excluding resumes}

The proposer shall provide a management plan that describes the proposed engineering processes and management approach to support successful Phase 1 and 2 execution. Boiler plate process description is strongly discouraged; this section should rather be seen as an opportunity to illustrate, where applicable, how the proposer's processes have been used during proposal writing. In this section, the proposal shall:

- The proposer shall describe proposed teammates, their competencies, and proposed role.
- Key personnel should have adequate experience from past programs that is relevant to their proposed role on this program. DARPA requires key personnel identified in the proposal to be assigned as proposed, and the resulting contract/agreement will indicate no substitution shall be made without prior approval of the Government.
- The proposer shall provide resumes and qualifications of key personnel including the proposed Program Manager and any functional area leads as defined by the proposer's team organization. This section shall describe the role on the program, along with the percentage time commitment of each of these key personnel (not part of page count).
- Provide an overview of the decision processes to be used along with the organizational responsibilities and authority for the engineering effort.
- Describe how key system knowledge acquired during the program will be captured and made available to the Government, as well as describe the use of key tracking measures to enable efficient assessment of program progress.
- The proposer shall discuss its ability to execute programs of similar content and complexity on schedule and within budget as demonstrated by the team's corporate experience and key personnel performance on relevant past programs.
- Address program control approach to include method, content, and frequency of cost performance reporting as well as the approach for conducting variance

analyses, developing corrective action plans, and assessing the impact on estimates to complete.

- Describe the proposed level and method of Government interaction to facilitate efficient interactions (e.g., TIMs, deep dives) and streamlined decision making, to include situations in which variances arise.
- Describe how activities will be managed and integrated across geographically and/or organizationally separate team elements.
- Define the content of technical and financial progress reports that enables efficient program monitoring, tracking, and reporting.
- Describe the capability of the team to conduct system integration and fabrication of MUSV sized seaframes. The proposer shall discuss fabrication facilities, validation and testing capabilities, and representative examples of sea-going vessel construction experience, with the goal of demonstrating the capability of constructing a NOMARS class ship, the associated at sea-refueling demonstration infrastructure, and the ability to develop and demonstrate a maintenance 'depot' for a ship, if the team were selected to complete the full program.

Note: Program reporting tools should be the same tools used internally to manage the program. No additional unique information for the Government is desired.

b) Volume I, Technical and Management Proposal – <u>Track B</u>

<u>Section I: Administrative</u>

(a) Cover Sheet to include:
(1) BAA number (HR001120S0017);
(2) Technical area;
(3) Lead Organization submitting proposal;
(4) Type of organization, selected among the following categories: "LARGE BUSINESS," "SMALL DISADVANTAGED BUSINESS," "OTHER SMALL BUSINESS," "HBCU," "MI," "OTHER EDUCATIONAL," OR "OTHER NONPROFIT";
(5) Proposer's reference number (if any);
(6) Other team members (if applicable) and type of organization 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); and
(11) Date proposal was submitted.

(b) Official transmittal letter

<u>Section II: Summary of Proposal {5}</u>

This section should provide an executive-level description of key elements and novel features of the proposed NOMARS Track B enabling capability. The executive summary shall address how the proposed capability will enhance the overall NOMARS program and vision, including a top-level schedule of proposed technology maturation activities. This section should also describe how the envisioned Phase 1 products will have adequate maturity to enable integration into a Track A system level effort. The summary should incorporate the following elements.

A. Technical rationale, technical approach, and constructive plan for accomplishment of technical goals in support of innovative claims and deliverable creation. (In the proposal, this section should be supplemented by a more detailed plan in Section III of the Technical and Management Proposal.)

B. Innovative claims for the proposed research. This section is the centerpiece of the proposal and should succinctly describe the uniqueness and benefits of the proposed approach relative to the current state-of-art alternate approaches.

C. Deliverables associated with the proposed research and the plans and capability to accomplish technology transition in light of any commercialization and proprietary claims. Proposers responding to this BAA must submit a separate list of all technical data or computer software that will be furnished to the Government with other than unlimited rights. The Government will assume unlimited rights if proposers fail to identify any intellectual property restrictions in their proposals.

D. 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 tasks and 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. DARPA requires key personnel identified in the proposal to be assigned as proposed, and the resulting contract/agreement will indicate no substitution shall be made without prior approval of the Government.

In addition to the proposal summary description, proposers must submit completed Attachment 2 Summary Slides as an attachment to the proposal (limit of five (5) slides, not contributing to proposal page count).

Section III: Detailed Proposal Information

In order to ensure an efficient and effective review process, proposals should be concise, complete, and compelling, supported by verifiable facts and providing all required information in the required format. To the extent possible, the proposal should separate the classified elements into a separate appendix (included in the page count), keeping the majority of the proposal unclassified.

A. Technical Description of Proposed Enabling Capability {11}
The proposer shall provide a description of their proposed enabling capability and its potential payoff in achieving the NOMARS vision. This description is intended to

delineate the proposer's initial concept that will evolve based on Phase 1 activities. This section should highlight key elements of the proposed approach along with key technical challenges and risks. The proposer shall present any substantiating data or analysis that indicates the potential feasibility and effectiveness of their proposed enabling capability. The proposer should also relate this analysis to the extent possible to the NOMARS performance metrics. The proposer shall describe the relevance of their proposed capability to a NOMARS system-level effort and their vision for how their Phase 1 final products may be integrated into a Track A effort. This discussion should address the envisioned maturity achievable, including meaningful data and deliverables that will result in high likelihood of being adopted by a Track A performer. In addition, this section shall address the following elements.

- Description of the results, products, transferable technology, and expected technology transfer path to supplement information included in the summary of the proposal. This should also address mitigation of life-cycle and sustainment risks associated with transitioning intellectual property for U.S. military applications, if applicable. See also Section IV.B.4.h of this BAA, "Intellectual Property".
- Comparison with other ongoing research indicating advantages and disadvantages of the proposed effort.
- Description of the facilities, processes, tools, and methods that would be used for the proposed effort.

B. Technology Maturation Plan {6}

The proposer shall provide their plan for maturing their enabling capability and developing final products within the proposed budget and schedule. The proposer shall describe their major development and risk reduction events, including planned progress to be accomplished at each quarterly review or milestone, culminating in the final Phase 1 products.

- Proposals should clearly explain the technical approach(es) that will be employed to meet or exceed each program metric and provide ample justification as to why the approach(es) is/are feasible.
- Provide description of milestone cost and accomplishments.
- Measurable milestones should capture key development points in tasks and should be clearly articulated and defined in time relative to start of effort.
- Where the effort consists of multiple portions that could reasonably be partitioned for purposes of funding, these should be identified as options with separate cost estimates for each.

C. Integrated Master Schedule {not included in page count}

The IMS shall detail the specific tasks to be accomplished, their interrelationship, and time sequencing. The IMS should reflect a realistic schedule that can achieve the program milestones consistent with the demonstration schedule, while aggressively pursuing performance metrics in an efficient time frame that accurately accounts for the anticipated workload. This section should:

- Provide a high-level description of the schedule with key events depicted.
- Identify the critical path, potential risks, and schedule risk mitigation plans.

- The IMS will be developed in a level of detail sufficient for the Government to make an independent analysis during proposal review and to implement critical path analysis throughout the NOMARS program; WBS level 3 or greater for Phase 1, and level 2 or greater for Phases 2.
- Provide the IMS in Microsoft Project electronic native format, and printed on 11 by 17 inch foldout pages.
- The WBS structure in the IMS shall correlate with the Cost and SOW volume structure.

The IMS should be unclassified and should not contain any proprietary information

D. Statement of Work
(SOW) {not included in page count} – In plain English, clearly define the technical tasks/subtasks to be performed, their durations, and dependencies among them. The page length for the SOW will be dependent on the amount of the effort. For each task/subtask, provide:

- A general description of the objective (for each defined task/activity);
- A detailed description of the approach to be taken to accomplish each defined task/activity;
- Identification of the primary organization responsible for task execution (prime, sub, team member, by name, etc.);
- The completion criteria for each task/activity - a product, event or milestone that defines its completion.
- Define all deliverables (reporting, data, reports, software, etc.) to be provided to the Government in support of the proposed research tasks/activities; and
- Clearly identify any tasks/subtasks (to be performed by either an awardee or subawardee) that will be accomplished on-campus at a university, if applicable.

The SOW will be expressed on a common WBS matching the cost volume and IMS segment.

Note: It is recommended that the SOW should be developed so that each Phase of the program is separately defined.

Do not include any proprietary information in the SOW.

E. Program Team and Experience {3, excluding resumes}
This section shall describe the management structure and integration of the proposed team to perform the Phase 1 effort.

- The proposer shall discuss its ability to execute programs of similar content and complexity on schedule and within budget as demonstrated by the team's corporate experience and key personnel performance on relevant past programs.
- The proposer shall describe proposed teammates, their competencies, and proposed role.
- The proposer shall provide resumes and qualifications of key personnel including the proposed Program Manager and any functional area leads as defined by the proposer's team organization (two (2) page length resumes). This section shall

describe the role on the program, along with the percentage time commitment of each of these key personnel.

- Provide an overview of the decision processes to be used along with the organizational responsibilities and authority for the engineering effort.
- Describe how key system knowledge acquired during the program will be captured and made available to the Government, as well as describe the use of key tracking measures to enable efficient assessment of program progress.
- The proposer shall discuss its ability to execute programs of similar content and complexity on schedule and within budget as demonstrated by the team's corporate experience and key personnel performance on relevant past programs.
- Key personnel should have adequate experience from past programs that is relevant to their proposed role on this program. DARPA requires key personnel identified in the proposal to be assigned as proposed, and the resulting contract/agreement will indicate no substitution shall be made without prior approval of the Government.
- Describe how key system knowledge acquired during the program will be captured and made available to the Government, as well as describe the use of key tracking measures to enable efficient assessment of program progress
- Address program control approach to include method, content, and frequency of cost performance reporting as well as the approach for conducting variance analyses, developing corrective action plans, and assessing the impact on estimates to complete
- Describe the proposed level and method of Government interaction to facilitate efficient interactions (e.g., TIMs, deep dives) and streamlined decision making, to include situations in which variances arise.
- Describe how activities will be managed and integrated across geographically and/or organizationally separate team elements.
- Define the content of technical and financial progress reports that enables efficient program monitoring, tracking, and reporting.

Note: Program reporting tools should be the same tools used internally to manage the program. No additional unique information for the Government is desired.

c) Volume II, Cost Proposal – Track A and Track B

All proposers, including FFRDCs, must submit the following:

Cover sheet to include:

(1) BAA number (HR001120S0017);
(2) Technical area;
(3) Lead Organization submitting proposal;
(4) Type of organization selected among the following categories: "LARGE BUSINESS," "SMALL DISADVANTAGED BUSINESS," "OTHER SMALL BUSINESS," "HBCU," "MI," "OTHER EDUCATIONAL," OR "OTHER NONPROFIT";
(5) Proposer's reference number (if any);

(6) Other team members (if applicable) and type of organization 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), cooperative agreement, 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;
(18) CAGE Code;
(19) Subawardee Information; and
(20) Proposal validity period.

Additional Cost Proposal Information

A. Supporting Cost and Pricing Data

The proposer should include supporting cost and pricing information in sufficient detail to substantiate the summary cost estimates and should include a description of the method used to estimate costs and supporting documentation. The Government requires the use of the cost template provided in Attachment 1, in an editable (e.g., MS Excel) format with calculation formulas intact to allow traceability of the cost proposal numbers across the prime and subcontractors.

B. Cost Breakdown Information and Format

Detailed cost breakdown to include:

- Total program costs broken down by major cost items (direct labor, including labor categories; subcontracts; materials; other direct costs; overhead charges, etc.) and further broken down by task, phase, and option (applicable to Track A only).
- Major program tasks by fiscal year.
- An itemization of major subcontracts and equipment purchases.
- Documentation supporting the reasonableness of the proposed equipment costs (vendor quotes, past purchase orders/purchase history, detailed engineering estimates, etc.) shall be provided.
- An itemization of any information technology (IT) purchase, as defined by FAR 2.101 – Documentation supporting the reasonableness of the proposed equipment costs (vendor quotes, past purchase orders/purchase history, detailed engineering

estimates, etc.) shall be provided, including a letter stating why the proposer cannot provide the requested resources from its own funding for prime and all sub-awardees.
- A summary of projected funding requirements by month.
- The source, nature, and amount of any industry cost-sharing.
- 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 Experts, etc.).

Tables included in the cost proposal in editable (e.g. MS Excel) format with calculation formulas intact.

Per FAR 15.403-4, certified cost or pricing data shall be required if the proposer is seeking a procurement contract award per the referenced threshold, unless the proposer requests and is granted an exception from the requirement to submit cost or pricing data. Certified cost or pricing data are not required if the proposer proposes an award instrument other than a procurement contract (e.g., a cooperative agreement, or other transaction.)

a. Subawardee Proposals

The awardee is responsible for compiling and providing all subawardee proposals for the Procuring Contracting Officer (PCO)/ Agreements Officer (AO), as applicable. Subawardee proposals should include Interdivisional Work Transfer Agreements (ITWA) or similar arrangements. Where the effort consists of multiple portions that could reasonably be partitioned for purposes of funding, these should be identified as options with separate cost estimates for each.

All proprietary subawardee proposal documentation, prepared at the same level of detail as that required of the awardee's proposal and that cannot be uploaded with the proposed awardee's proposal, shall be provided to the Government either by the awardee or by the subawardee organization via the same submission methods and in accordance with the same proposal due date established in this BAA. The subawardee must provide the same number of copies to the PCO/GO/AO as is required of the awardee. See Section IV.B.5.b of this BAA for proposal submission information.

b. Other Transaction Requests

The Government may award either a Federal Acquisition Regulation (FAR) based contract or an Other Transaction for Prototype (OT) agreement for prototype system development.

All proposers requesting an OT must include a detailed list of milestones. Each milestone must include the following:

- Milestone description,
- completion criteria,
- due date, and

- payment/funding schedule (to include, if cost share is proposed, awardee and Government share amounts).

It is noted that, at a minimum, milestones should relate directly to accomplishment of program technical metrics as defined in the BAA and/or the proposer's proposal. Agreement type, expenditure or fixed-price based, will be subject to negotiation by the Agreements Officer. Do not include proprietary data.

4. Additional Proposal Information

a) Proprietary Markings

Proposers are responsible for clearly identifying proprietary information. Submissions containing proprietary information must have the cover page and each page containing such information clearly marked with a label such as "Proprietary." NOTE: "Confidential" is a classification marking used to control the dissemination of U.S. Government National Security Information as dictated in Executive Order 13526 and should not be used to identify proprietary business information.

b) Security Information

(1) Program Security Information

Proposers should include with their proposal any proposed solution(s) to program security requirements unique to this program. Common program security requirements include but are not limited to: operational security (OPSEC) contracting/sub-contracting plans; foreign participation or materials utilization plans; program protection plans (which may entail the following) manufacturing and integration plans; range utilization and support plans (air, sea, land, space, and cyber); data dissemination plans; asset transportation plans; test activity plans; disaster recovery plans; material/asset disposition plans, public affairs/communications plans, and controlled unclassified information (CUI) mitigation plan.

(2) Unclassified Submissions

DARPA anticipates that submissions received under this BAA will be unclassified. However, should a proposer wish to submit classified information, an unclassified e-mail must be sent to the BAA mailbox requesting submission instructions from the Technical Office Program Security Officer (PSO). If a determination is made that the award instrument may result in access to classified information, a SCG and/or DD Form 254 will be issued by DARPA and attached as part of the award.

c) Disclosure of Information and Compliance with Safeguarding Covered Defense Information Controls

The following provisions and clause apply to all solicitations and contracts; however, the definition of "controlled technical information" clearly exempts work considered fundamental

research and therefore, even though included in the contract, will not apply if the work is fundamental research.

DFARS 252.204-7000, "Disclosure of Information"
DFARS 252.204-7008, "Compliance with Safeguarding Covered Defense Information Controls"
DFARS 252.204-7012, "Safeguarding Covered Defense Information and Cyber Incident Reporting"

The full text of the above solicitation provision and contract clauses can be found at http://www.darpa.mil/work-with-us/additional-baa#NPRPAC.

Compliance with the above requirements includes the mandate for proposers to implement the security requirements specified by National Institute of Standards and Technology (NIST) Special Publication (SP) 800-171, "Protecting Controlled Unclassified Information in Nonfederal Information Systems and Organizations" (see https://doi.org/10.6028/NIST.SP.800-171r1) that are in effect at the time the BAA is issued.

For awards where the work is considered fundamental research, the contractor will not have to implement the aforementioned requirements and safeguards. However, should the nature of the work change during performance of the award, work not considered fundamental research will be subject to these requirements.

d) Human Subjects Research (HSR)/Animal Use

Proposers that anticipate involving human subjects or animals in the proposed research must comply with the approval procedures detailed at http://www.darpa.mil/work-with-us/additional-baa, to include providing the information specified therein as required for proposal submission.

e) Approved Cost Accounting System Documentation

Proposers that do not have a Cost Accounting Standards (CAS) compliant accounting system considered adequate for determining accurate costs that are negotiating a cost- type procurement contract must complete an SF 1408. For more information on CAS compliance, see http://www.dcaa.mil/. To facilitate this process, proposers should complete the SF 1408 found at http://www.gsa.gov/portal/forms/download/115778 and submit the completed form with the proposal.

f) Small Business Subcontracting Plan

Pursuant to Section 8(d) of the Small Business Act (15 U.S.C. § 637(d)) and FAR 19.702(a)(1), each proposer who submits a contract proposal and includes subcontractors might be required to submit a subcontracting plan with their proposal. The plan format is outlined in FAR 19.704.

g) Section 508 of the Rehabilitation Act (29 U.S.C. § 749d)/FAR 39.2

All electronic and information technology acquired or created through this BAA must satisfy the accessibility requirements of Section 508 of the Rehabilitation Act (29 U.S.C. § 749d)/FAR 39.2.

h) Intellectual Property

All proposers must provide a good faith representation that the proposer either owns or possesses the appropriate licensing rights to all intellectual property that will be utilized under the proposed effort.

(1) For Procurement Contracts

Proposers responding to this BAA requesting procurement contracts will need to complete the certifications at DFARS 252.227-7017. See http://www.darpa.mil/work-with-us/additional-baa for further information. If no restrictions are intended, the proposer should state "none." The table below captures the requested information:

Technical Data Computer Software To be Furnished With Restrictions	Summary of Intended Use in the Conduct of the Research	Basis for Assertion	Asserted Rights Category	Name of Person Asserting Restrictions
(LIST)	(NARRATIVE)	(LIST)	(LIST)	(LIST)

(2) For All Non-Procurement Contracts

Proposers responding to this BAA requesting a Cooperative Agreement, Technology Investment Agreement, or Other Transaction for Prototypes 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 the award instrument in question. This includes both Noncommercial Items and Commercial Items. Proposers are encouraged to use a format similar to that described in Paragraph (1) above. If no restrictions are intended, then the proposer should state "NONE."

i) System for Award Management (SAM) and Universal Identifier Requirements

All proposers must be registered in SAM unless exempt per FAR 4.1102. FAR 52.204-7, "System for Award Management" and FAR 52.204-13, "System for Award Management Maintenance" are incorporated into this BAA. See http://www.darpa.mil/work-with-us/additional-baa for further information.

International entities can register in SAM by following the instructions in this link: https://www.fsd.gov/fsd-gov/answer.do?sysparm_kbid=dbf8053adb119344d71272131f961946&sysparm_search=KB0013221.

5. Submission Information

DARPA will acknowledge receipt of all submissions and assign an identifying control number that should be used in all further correspondence regarding the submission. DARPA intends to use electronic mail correspondence regarding HR001120S0017. Submissions may not be submitted by fax or e-mail; any so sent will be disregarded.

Submissions will not be returned. An electronic copy of each submission 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 by DARPA within five (5) days after notification that a proposal was not selected.

For abstract and proposal submission dates, see Part I., Overview Information. Submissions received after these dates and times may not be reviewed

The proposal must be received at DARPA/TTO, 675 North Randolph Street, Arlington, VA 22203-2114 (Attn.: HR001120S0017) on or before, April 2, 2020, 2 PM ET), in order to be considered during the initial round of selections; however, proposals received after this deadline may be received and evaluated up to six months (180 days) from date of posting on the System for Award Management, Contract Opportunities (https://Beta.SAM.gov) or Grants.gov (http://www.grants.gov). The ability to review and select proposals submitted after the initial round deadline specified in the BAA or due date otherwise specified by DARPA will be contingent on availability of funds. Proposers are warned that the likelihood of available funding is greatly reduced for proposals submitted after the initial closing date deadline.

a) Abstract Submission

Track B proposers are strongly encouraged to submit an abstract in advance of a proposal. This procedure is intended to minimize unnecessary effort in proposal preparation and review. The time and date for submission of abstracts is specified in Part I., Overview Information. DARPA will acknowledge receipt of the submission and assign a control number that should be used in all further correspondence regarding the abstract.

Unclassified abstracts sent in response to this BAA may be submitted via DARPA's BAA Website (https://baa.darpa.mil). Please refer to the Proposal Submission section below for additional details. All abstracts submitted electronically through the DARPA BAA Submission website must be uploaded as zip files (.zip or .zipx extension). The final zip file should only contain the document(s) requested herein and must not exceed 50 MB in size. Only one zip file will be accepted per abstract; abstracts not uploaded as zip files will be rejected by DARPA. Successfully submitted abstracts will get a confirmation receipt.

Refer to Section VI.A.1 for DARPA response to abstract submissions.

b) Proposal Submission

Refer to Section VI.A.2 for how DARPA will notify proposers as to whether or not their proposal has been selected for potential award. Note that NO classified proposal information should be submitted through DARPA's BAA Website (https://baa.darpa.mil), though proposers will still need to visit https://baa.darpa.mil to register their organization (or verify an existing registration) to ensure the BAA office can verify and finalize their submission.

(1) For Proposers Requesting Cooperative Agreements

Proposers requesting cooperative agreements must submit proposals through one of the following methods: (1) electronic upload per the instructions at https://www.grants.gov/applicants/apply-for-grants.html; or (2) hard-copy mailed directly to DARPA. If proposers intend to use Grants.gov as their means of submission, then they must submit their entire proposal through Grants.gov; applications cannot be submitted in part to Grants.gov and in part as a hard-copy. Proposers using Grants.gov do not submit hard-copy proposals in addition to the Grants.gov electronic submission.

Submissions: Proposers must submit the three forms listed below.

Form 1: SF 424 Research and Related (R&R) Application for Federal Assistance, available on the Grants.gov website at https://apply07.grants.gov/apply/forms/sample/RR_SF424_2_0-V2.0.pdf. *This form must be completed and submitted.*

To evaluate compliance with Title IX of the Education Amendments of 1972 (20 U.S.C. § 1681 et.seq.), the Department of Defense (DoD) is collecting certain demographic and career information to be able to assess the success rates of women who are proposed for key roles in applications in science, technology, engineering or mathematics disciplines. In addition, the National Defense Authorization Act (NDAA) for FY 2019, Section 1286, directs the Secretary of Defense to protect intellectual property, controlled information, key personnel, and information about critical technologies relevant to national security and limit undue influence, including foreign talent programs by countries that desire to exploit United States' technology within the DoD research, science and technology, and innovation enterprise. This requirement is necessary for all research and research-related educational activities. The DoD is using the two forms below to collect the necessary information to satisfy these requirements. Detailed instructions for each form are available on Grants.gov.

The Research and Related Senior/Key Person Profile (Expanded) form will be used to collect the following information for all senior/key personnel, including Project Director/Principal Investigator and Co-Project Director/Co-Principal Investigator, whether or not the individuals' efforts under the project are funded by the DoD:

- Degree Type and Degree Year.
- Current and Pending Support, including:

- A list of all current projects the individual is working on, in addition to any future support the individual has applied to receive, regardless of the source.
- Title and objectives of the other research projects.
- The percentage per year to be devoted to the other projects.
- The total amount of support the individual is receiving in connection to each of the other research projects or will receive if other proposals are awarded.
- Name and address of the agencies and/or other parties supporting the other research projects
- Period of performance for the other research projects.

Additional senior/key persons can be added by selecting the "Next Person" button at the bottom of the form. Note that, although applications without this information completed may pass Grants.gov edit checks, if DARPA receives an application without the required information, DARPA may determine that the application is incomplete and may cause your submission to be rejected and eliminated from further review and consideration under the BAA. DARPA reserves the right to request further details from the applicant before making a final determination on funding the effort.

Form 2: Research and Related Senior/Key Person Profile (Expanded), available on the Grants.gov website at https://apply07.grants.gov/apply/forms/sample/RR_KeyPersonExpanded_2_0-V2.0.pdf. *This form must be completed and submitted.*

Form 3: Research and Related Personal Data, available on the Grants.gov website at https://apply07.grants.gov/apply/forms/sample/RR_PersonalData_1_2-V1.2.pdf. *Each applicant must complete the name field of this form, however, provision of the demographic information is voluntary. Regardless of whether the demographic fields are completed or not, this form must be submitted with at least the applicant's name completed.*

(2) For Proposers Requesting Procurement Contracts or OTs and Submitting to a DARPA-approved Proposal Submissions Website

Unclassified proposals sent in response to this BAA may be submitted via DARPA's BAA Website (https://baa.darpa.mil). Note: If an account has already been created for the DARPA BAA Website, this account may be reused. If no account currently exists for the DARPA BAA Website, visit the website to complete the two-step registration process. Submitters will need to register for an Extranet account (via the form at the URL listed above) and wait for two separate e-mails containing a username and temporary password. After accessing the Extranet, submitters may then create an account for the DARPA BAA website (via the "Register your Organization" link along the left side of the homepage), view submission instructions, and upload/finalize the proposal. Proposers using the DARPA BAA Website may encounter heavy traffic on the submission deadline date; proposers should start this process as early as possible.

All unclassified concepts submitted electronically through DARPA's BAA Website must be uploaded as zip files (.zip or .zipx extension). The final zip file should be no greater than 50 MB in size. Only one zip file will be accepted per submission, and submissions not uploaded as zip files will be rejected by DARPA.

Technical support for DARPA's BAA Website may be reached at BAAT_Support@darpa.mil, and is typically available during regular business hours, Eastern Time.

For a proposal that includes both classified and unclassified information, the proposal may be separated into an unclassified portion and a classified portion. The proposal should use the unclassified portion to the maximum extent reasonable. The unclassified portion can be submitted through the DARPA BAA Website, per the instructions above. The classified portion must be mailed separately, according to the instructions outlined in the "Security Information" section above. If a classified proposal may not be partitioned into classified and unclassified portions, then submit according to the instructions outlined in the "Security Information" section above.

When a proposal includes a classified portion, and when able according to security guidelines, we ask that proposers send an e-mail to HR001120S0017@darpa.mil as notification that there is a classified portion to the proposal. When sending the classified portion via mail according to the instructions outlined in the "Security Information" section above, proposers should submit one (1) original of the classified portion of their proposal and one (1) CD-ROM containing the classified portion of the proposal as a single searchable Adobe PDF file.

Please ensure that all CDs are well-marked. Each copy of the classified portion must be clearly labeled with HR001120S0017, proposer organization, proposal title (short title recommended), and Copy _ of _.

(2) For Proposers Requesting Procurement Contracts or OTs and Submitting Hard Copies

Proposers shall submit one original and two (2) copies, and one electronic copy of the proposal [in PDF (preferred)] on a CD-ROM. This includes all Volume I Technical and Management Proposal, Volume II Cost Proposal, and Attachment elements. Each copy must be clearly labeled with HR001120S0017, proposer organization, proposal title (short title recommended), and Copy _ of 2. All hard copies must be on 8 ½ by 11 paper. Proposers will also submit a program quad and charts per Attachment 2 in digital form on CD-ROM.

(3) For Proposers Requesting Cooperative Agreements

Proposers requesting cooperative agreements must submit proposals through one of the following methods: (1) electronic upload per the instructions at https://www.grants.gov/applicants/apply-for-grants.html; or (2) hard-copy mailed directly to DARPA. If proposers intend to use Grants.gov as their means of submission, then they must submit their entire proposal through Grants.gov; applications cannot be submitted in part to

Grants.gov and in part as a hard-copy. Proposers using Grants.gov do not submit hard-copy proposals in addition to the Grants.gov electronic submission.

Submissions: Proposers must submit the three forms listed below.

Form 1: SF 424 Research and Related (R&R) Application for Federal Assistance, available on the Grants.gov website at https://apply07.grants.gov/apply/forms/sample/RR_SF424_2_0-V2.0.pdf. *This form must be completed and submitted.*

To evaluate compliance with Title IX of the Education Amendments of 1972 (20 U.S.C. § 1681 et.seq.), the Department of Defense (DoD) is collecting certain demographic and career information to be able to assess the success rates of women who are proposed for key roles in applications in science, technology, engineering or mathematics disciplines. In addition, the National Defense Authorization Act (NDAA) for FY 2019, Section 1286, directs the Secretary of Defense to protect intellectual property, controlled information, key personnel, and information about critical technologies relevant to national security and limit undue influence, including foreign talent programs by countries that desire to exploit United States' technology within the DoD research, science and technology, and innovation enterprise. This requirement is necessary for all research and research-related educational activities. The DoD is using the two forms below to collect the necessary information to satisfy these requirements. Detailed instructions for each form are available on Grants.gov.

The Research and Related Senior/Key Person Profile (Expanded) form will be used to collect the following information for all senior/key personnel, including Project Director/Principal Investigator and Co-Project Director/Co-Principal Investigator, whether or not the individuals' efforts under the project are funded by the DoD:

- Degree Type and Degree Year.
- Current and Pending Support, including:
    - A list of all current projects the individual is working on, in addition to any future support the individual has applied to receive, regardless of the source.
    - Title and objectives of the other research projects.
    - The percentage per year to be devoted to the other projects.
    - The total amount of support the individual is receiving in connection to each of the other research projects or will receive if other proposals are awarded.
    - Name and address of the agencies and/or other parties supporting the other research projects
    - Period of performance for the other research projects.

Additional senior/key persons can be added by selecting the "Next Person" button at the bottom of the form. Note that, although applications without this information completed may pass Grants.gov edit checks, if DARPA receives an application without the required information, DARPA may determine that the application is incomplete and may cause your submission to be rejected and eliminated from further review and consideration under the BAA. DARPA reserves the right to request further details from the applicant before making a final determination on funding the effort.

Form 2: Research and Related Senior/Key Person Profile (Expanded), available on the Grants.gov website at https://apply07.grants.gov/apply/forms/sample/RR_KeyPersonExpanded_2_0-V2.0.pdf. *This form must be completed and submitted.*

Form 3: Research and Related Personal Data, available on the Grants.gov website at https://apply07.grants.gov/apply/forms/sample/RR_PersonalData_1_2-V1.2.pdf. *Each applicant must complete the name field of this form, however, provision of the demographic information is voluntary. Regardless of whether the demographic fields are completed or not, this form must be submitted with at least the applicant's name completed.*

(1) Grants.gov Submissions: Grants.gov requires proposers to complete a one-time registration process before a proposal can be electronically submitted. First time registration can take between three business days and four weeks. For more information about registering for Grants.gov, see http://www.darpa.mil/work-with-us/additional-baa.
(2) Hard-copy Submissions: Proposers electing to submit cooperative agreement proposals as hard copies must complete the same forms as indicated above.

6. Other Submission Requirements

DARPA will post a consolidated Frequently Asked Questions (FAQ) document. To access the posting go to: http://www.darpa.mil/work-with-us/opportunities. Under the HR001120S0017 summary will be a link to the FAQ. Submit your question/s by e-mail to HR001120S0017@darpa.mil. Questions must be received by the FAQ/Questions due date listed in Part I, Overview Information.

V. Application Review Information

A. Evaluation Criteria – Track A

Proposals will be evaluated using the following criteria, listed in descending order of importance:

1. Overall Scientific and Technical Merit

The proposed technical approach is innovative, feasible, achievable, and complete.
The proposal demonstrates sound engineering judgment and technical insight during the tradespace analysis and design point selection. The proposer's Technology Assessment and Design Maturation Plan will be reviewed to assess the extent to which it describes a sound methodology, paired with appropriate analytic tools, to quantifiably estimate and explore trades between vessel performance (e.g. speed, survivability), cost (procurement, operations, logistics, maintenance), and overall system reliability. Sufficient detail is provided to support the feasibility and suitability of the proposed technology development roadmap to achieve the NOMARS vision. The proposed technology development roadmap can reasonably be expected

to identify a solution to exhibit high performance with margin for the key performance objectives.

The proposer's enabling technology design processes and performance predictions will be reviewed to assess the extent of innovation in the technology assessment plan and the specified development roadmap, leveraging sound engineering practices to judiciously exploit the design freedom enabled by removing all crew. The Government will review the proposed technology maturation plan to assess whether the plan adequately identifies and fully characterizes technical, schedule and cost risks. The proposed development approach and content of the proposed tailored design reviews will be reviewed to assess the adequacy of proposer's systems engineering and design practices for maturing the design and executing the enabling technology maturation plan.

The proposal identifies major technical, schedule, and cost risks and planned mitigation efforts are clearly defined and feasible. Technical risks are addressed as early as possible, and schedule margin to the program critical path is maximized for all technical developments. Adequate tests are planned to validate designs and design margins. Adequate component selection events are planned to validate design trades for components commensurate with the fidelity of applicable modelling capabilities.

All major tasks proposed and critical to the technical approach are captured in the SOW. The SOW and integrated master schedule will be reviewed to assess whether they are credible, executable, and address program objectives and deliverables. The Government will review the extent to which the SOW, IMS, and associated costing details activities to an appropriate, common work breakdown structure level to enable traceability among all elements and expression of consistent program management and execution structure. Task descriptions and associated technical elements provided are complete and in a logical sequence with all proposed deliverables clearly defined such that a final outcome that achieves the goal can be expected as a result of award.

The proposal identifies an appropriate life cycle cost model, demonstrating knowledge of affordability principles associated with design, fabrication, test, operation, and maintenance of unmanned ships.

2. Potential Contribution and Relevance to the DARPA Mission

The potential contributions of the proposed effort are relevant to the national technology base. Specifically, DARPA's mission is to make pivotal early technology investments that create or prevent strategic surprise for U.S. National Security.

In addition, this evaluation will take into consideration the extent to which the proposed intellectual property (IP) rights will potentially impact the Government's ability to transition the technology to the research, industrial, and operational military communities.

3. Proposer's Capabilities and/or Related Experience

The proposed technical team has the expertise and experience to accomplish the proposed tasks. The proposer's prior experience in similar efforts clearly demonstrates an ability to deliver products that meet the proposed technical performance within the proposed budget and schedule. The proposed team possesses relevant experience and capability to address the diversity of technology areas pertinent to the NOMARS trade space. The proposed team has the expertise to manage the cost and schedule. Similar efforts completed/ongoing by the proposer in this area are fully described including identification of other Government sponsors.

The proposer substantiates the ability to develop and integrate components to raise the technology readiness level, per their described integration experience. The proposer identifies suitable access to key engineering tools, methods, and facilities to accomplish all tasks to include modeling and simulation, fabrication, and test capabilities for a NOMARs class ship.

The proposer identifies key personnel and substantially commits them to this effort. The proposed personnel have substantial related experience in the assigned area of responsibility. The proposed team is highly cohesive and utilization of personnel dedicated to rapidly advancing the technical capability is maximized.

4. Realism of Proposed Cost and Schedule

The proposed costs are realistic for the technical and management approach and accurately reflect the technical goals and objectives of the solicitation. The proposed costs are consistent with the proposer's Statement of Work and reflect a sufficient understanding of the costs and level of effort needed to successfully accomplish the proposed technical approach. The costs for the prime proposer and proposed subawardees are substantiated by the details provided in the proposal (e.g., the type and number of labor hours proposed per task, the types and quantities of materials, equipment and fabrication costs, travel and any other applicable costs and the basis for the estimates).

The proposed schedule aggressively pursues performance metrics in an efficient time frame that accurately accounts for the anticipated workload. The proposed schedule identifies and mitigates any potential schedule risk.

The proposer substantiates that they can realistically complete the proposed work within the cost and schedule provided in the proposal.

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. DARPA 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.

Government Furnished Property (GFP) costs are itemized and appropriately substantiated.

B. Evaluation Criteria – Track B

Proposals will be evaluated using the following criteria, listed in descending order of importance:

1. Overall Scientific and Technical Merit

The proposed technical approach is innovative, feasible, achievable, and complete. The proposal demonstrates sound engineering judgment and technical insight during the tradespace analysis and design point selection. Sufficient detail is provided to support the feasibility of the solution. The proposed solution can reasonably be expected to exhibit high performance with margin for the reference missions.

The proposer's enabling technology design and performance predictions will be reviewed to assess the extent of innovation in the solution proposed and whether the design feasibly meets or exceeds program objectives. The Government will review the proposed technology maturation plan to assess whether the plan adequately identifies and fully characterizes technical, schedule and cost risks. The proposed development approach and content of the proposed tailored design reviews will be reviewed to assess the adequacy of proposer's systems engineering and design practices for maturing the design and executing the enabling technology maturation plan.

The proposal identifies major technical, schedule, and cost risks and planned mitigation efforts are clearly defined and feasible. Technical risks are addressed as early as possible, and schedule margin to the program critical path is maximized for all technical developments. Adequate tests are planned to validate designs and design margins. Adequate component selection events are planned to validate design trades for components commensurate with the fidelity of applicable modelling capabilities.

All major tasks proposed and critical to the technical approach are captured in the SOW. The SOW and integrated master schedule will be reviewed to assess whether they are credible, executable, and address program objectives and deliverables. The Government will review the extent to which the SOW, IMS, and associated costing details activities to an appropriate, common work breakdown structure level to enable traceability among all elements and expression of consistent program management and execution structure. Task descriptions and associated technical elements provided are complete and in a logical sequence with all proposed deliverables clearly defined such that a final outcome that achieves the goal can be expected as a result of award.

The proposal identifies an appropriate life cycle cost model, demonstrating knowledge of affordability principles associated with design, fabrication, test, operation, and maintenance of the proposed sub-system.

2. Potential Contribution and Relevance to the DARPA Mission

The potential contributions of the proposed effort are relevant to the national technology base. Specifically, DARPA's mission is to make pivotal early technology investments that create or prevent strategic surprise for U.S. National Security.

In addition, this evaluation will take into consideration the extent to which the proposed intellectual property (IP) rights will potentially impact the Government's ability to transition the technology to the research, industrial, and operational military communities.

3. Proposer's Capabilities and/or Related Experience

The proposed technical team has the expertise and experience to accomplish the proposed tasks. The proposer's prior experience in similar efforts clearly demonstrates 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. Similar efforts completed/ongoing by the proposer in this area are fully described including identification of other Government sponsors.

The proposer substantiates the ability to develop and integrate components to raise the technology readiness level. The proposer identifies suitable access to key engineering tools, methods, and facilities to accomplish all tasks. This includes modeling and simulation, fabrication, and test capabilities.

The proposer identifies key personnel and substantially commits them to this effort. The proposed personnel have substantial related experience in the assigned area of responsibility. The proposed team is highly cohesive and utilization of personnel dedicated to rapidly advancing the technical capability is maximized.

4. Realism of Proposed Cost and Schedule

The proposed costs are realistic for the technical and management approach and accurately reflect the technical goals and objectives of the solicitation. The proposed costs are consistent with the proposer's Statement of Work and reflect a sufficient understanding of the costs and level of effort needed to successfully accomplish the proposed technical approach. The costs for the prime proposer and proposed subawardees are substantiated by the details provided in the proposal (e.g., the type and number of labor hours proposed per task, the types and quantities of materials, equipment and fabrication costs, travel and any other applicable costs and the basis for the estimates).

The proposed schedule aggressively pursues performance metrics in an efficient time frame that accurately accounts for the anticipated workload. The proposed schedule identifies and mitigates any potential schedule risk.

The proposer substantiates that they can realistically complete the proposed work within the cost and schedule provided in the proposal.

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. DARPA 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.

Government Furnished Property (GFP) costs are itemized and appropriately substantiated.

C. Review of Proposals

1. Review Process

It is the policy of DARPA to ensure impartial, equitable, comprehensive proposal evaluations based on the evaluation criteria listed in Sections V.A and V.B, and to select the source (or sources) whose offer meets the Government's technical, policy, and programmatic goals.

DARPA will conduct a scientific/technical review of each conforming proposal. Conforming proposals comply with all requirements detailed in this BAA; proposals that fail to do so may be deemed non-conforming and may be removed from consideration. Proposals will not be evaluated against each other since they are not submitted in accordance with a common work statement. DARPA's intent is to review proposals as soon as possible after they arrive; however, proposals may be reviewed periodically for administrative reasons.

Award(s) will be made to proposers whose proposals are determined to be the most advantageous to the Government, consistent with instructions and evaluation criteria specified in the BAA herein, and availability of funding.

2. Handling of Source Selection Information

DARPA policy is to treat all submissions as source selection information (see FAR 2.101 and 3.104), and to disclose their contents only for the purpose of evaluation. Restrictive notices notwithstanding, during the evaluation process, submissions may be handled by support contractors for administrative purposes and/or to assist with technical evaluation. All DARPA support contractors performing this role are expressly prohibited from performing DARPA-sponsored technical research and are bound by appropriate nondisclosure agreements. 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.

3. Federal Awardee Performance and Integrity Information (FAPIIS)

Per 41 U.S.C. 2313, as implemented by FAR 9.103 and 2 CFR § 200.205, prior to making an award above the simplified acquisition threshold, DARPA is required to review and

consider any information available through the designated integrity and performance system (currently FAPIIS). Awardees have the opportunity to comment on any information about themselves entered in the database, and DARPA will consider any comments, along with other information in FAPIIS or other systems prior to making an award.

VI. Award Administration Information

A. Selection Notices and Notifications

1. Abstracts

DARPA will respond to abstracts with a statement as to whether DARPA is interested in the idea. If DARPA does not recommend the proposer submit a full proposal, DARPA will provide feedback to the proposer regarding the rationale for this decision. Regardless of DARPA's response to an abstract, proposers may submit a full proposal. DARPA will review all conforming full proposals using the published evaluation criteria and without regard to any comments resulting from the review of an abstract.

2. Proposals

After the evaluation of a proposal is complete, the proposer will be notified that (1) the proposal has been selected for funding pending award negotiations, in whole or in part, or (2) the proposal has not been selected. These official notifications will be sent via email to the Technical POC and/or Administrative POC identified on the proposal coversheet.

B. Administrative and National Policy Requirements

1. Meeting and Travel Requirements

There will be a program kickoff meeting and all key participants are required to attend. Performers should also anticipate regular program-wide PI Meetings and periodic site visits at the Program Manager's discretion.

2. FAR and DFARS Clauses

Solicitation clauses in the FAR and DFARS relevant to procurement contracts and FAR and DFARS clauses that may be included in any resultant procurement contracts are incorporated herein and can be found at http://www.darpa.mil/work-with-us/additional-baa.

3. Controlled Unclassified Information (CUI) on Non-DoD Information Systems

Further information on Controlled Unclassified Information on Non-DoD Information Systems is incorporated herein can be found at http://www.darpa.mil/work-with-us/additional-baa.

4. Representations and Certifications

In accordance with FAR 4.1102 and 4.1201, proposers requesting a procurement contract must complete electronic annual representations and certifications at https://www.sam.gov/. In addition, resultant procurement contracts will require supplementary DARPA-specific representations and certifications. See http://www.darpa.mil/work-with-us/additional-baa for further information.

5. Terms and Conditions

For terms and conditions specific to grants and/or cooperative agreements, see the DoD General Research Terms and Conditions (latest version) at http://www.onr.navy.mil/Contracts-Grants/submit-proposal/grants-proposal/grants-terms-conditions and the supplemental DARPA-specific terms and conditions at http://www.darpa.mil/work-with-us/contract-management#GrantsCooperativeAgreements.

C. Reporting

The number and types of reports will be specified in the award document, but will include as a minimum monthly technical and financial 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 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. At least one copy of each report will be delivered to DARPA and not merely placed on a SharePoint site.

D. Electronic Systems

1. Wide Area Work Flow (WAWF)

Performers will be required to submit invoices for payment directly to https://wawf.eb.mil, unless an exception applies. Performers must register in WAWF prior to any award under this BAA.

2. 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 (https://public.era.nih.gov/iedison).

VII. Agency Contacts

For information concerning agency level protests see http://www.darpa.mil/work-with-us/additional-baa#NPRPAC.

Administrative, technical, or contractual questions should be sent via e-mail to HR001120S0017@darpa.mil. All requests must include the name, e-mail address, and phone number of a point of contact.

The BAA Coordinator may be reached at:
HR001120S0017@darpa.mil

DARPA/TTO
ATTN: HR001120S0017
675 North Randolph Street
Arlington, VA 22203-2114

VIII. Other Information

List of Attachments

- Attachment 1: Cost Proposal Template
- Attachment 2: Summary Slides Template
- Attachment 3: Proposers Day Briefing and Q&A