



Broad Agency Announcement

Optimization with Noisy Intermediate-Scale Quantum devices
(ONISQ)

Defense Sciences Office

HR001119S0052

April 9, 2019

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PART I: OVERVIEW INFORMATION

- **Federal Agency Name:** Defense Advanced Research Projects Agency (DARPA), Defense Sciences Office (DSO)
- **Funding Opportunity Title:** Optimization with Noisy Intermediate-Scale Quantum devices (ONISQ)
- **Announcement Type:** Broad Agency Announcement
 - **Funding Opportunity Number:** HR001119S0052
- **Catalog of Federal Domestic Assistance (CFDA) Number(s):** 12.910 Research and Technology Development
- **Dates** (All times listed herein are Eastern Time.)
 - Posting Date: April 9, 2019.
 - Proposers Day: March 19, 2019. See Section VIII.B.
 - Abstract Due Date: April 22, 2019, 4:00 p.m.
 - FAQ Submission Deadline: May 28, 2019, 4:00 p.m. See Section VIII.A.
 - Full Proposal Due Date: June 10, 2019, 4:00 p.m.
- **Anticipated Individual Awards:** DARPA anticipates multiple awards
- **Anticipated Funding Available for Awards (approximate anticipated sum-total of all awards made):** \$33M.
- **Types of Instruments that May be Awarded:** Procurement contracts, grants, cooperative agreements or other transactions
- **Agency contacts**
 - **Technical POC:** Tatjana Curcic, Program Manager, DARPA/DSO
 - **BAA Email:** ONISQ@darpa.mil
 - **BAA Mailing Address:**
DARPA/DSO
ATTN: HR001119S0052
675 North Randolph Street
Arlington, VA 22203-2114
 - **DARPA/DSO Opportunities Website:** <http://www.darpa.mil/work-with-us/opportunities>
- **Frequently Asked Questions (FAQ):** FAQs for this solicitation may be viewed on the DARPA/DSO Opportunities Website. See Section VIII.A for further information.

PART II: FULL TEXT OF ANNOUNCEMENT

I. Funding Opportunity Description

This Broad Agency Announcement (BAA) constitutes a public notice of a competitive funding opportunity as described in Federal Acquisition Regulation (FAR) 6.102(d)(2) and 35.016 as well as 2 CFR § 200.203. Any resultant negotiations and/or awards will follow all laws and regulations applicable to the specific award instrument(s) available under this BAA, e.g., FAR 15.4 for procurement contracts.

A. Introduction

The Defense Sciences Office at the Defense Advanced Research Projects Agency (DARPA) is soliciting innovative research proposals in support of the Optimization with Noisy Intermediate-Scale Quantum devices (ONISQ) program. The goal of the ONISQ program is to establish that Quantum Information Processing (QIP) using Noisy Intermediate-Scale Quantum (NISQ) devices has a quantitative advantage for solving real-world combinatorial optimization problems as compared with the best known classical methods. In addition, the ONISQ program will develop a theoretical basis to explore the power of hybrid optimization approaches, including identifying families of problem instances in combinatorial optimization where QIP is likely to have the biggest impact. Proposed research should investigate innovative approaches that enable revolutionary advances in science, devices, and NISQ systems. Specifically excluded is research that primarily results in evolutionary improvements to the existing state of practice. For the purposes of this BAA, QIP refers to quantum information processing using noisy, non-fault-tolerant devices. The advancement of fully fault-tolerant quantum computation is outside the scope of this BAA. Quantum annealing approaches are also explicitly excluded.

B. Background

Combinatorial optimization problems are ubiquitous across a wide range of applications from specific defense challenges, such as target assignment and mission planning, to dual-use challenges including scheduling, supply chain management and circuit fault detection. Because these problems are NP-complete, exact solutions are often impossible to determine. For many cases, efficient heuristic algorithms have been developed, without guarantee of optimality. For many others, only methods that scale exponentially with the size of the problem yield good results. Fault-tolerant quantum computers (QCs) have been proposed as an answer for solving a host of intractable problems, but despite steady progress, most experts agree that such systems are still decades away. However, over the past several years, quantum processors with >50 qubits have been developed in several different platforms (e.g., superconducting, trapped ions, neutral atoms) and processors with >100 physical qubits are anticipated soon. Although these processors are noisy and thus can only implement circuits with limited depth¹, there is a growing body of research aimed at establishing the utility of these NISQ devices.

Of particular interest is the recent development of quantum heuristics suitable for low-depth quantum circuits. A hybrid quantum/classical variational approach, an example of which is the

¹ Circuit depth is the number of time steps needed to implement an algorithm.

Quantum Approximate Optimization Algorithm (QAOA), has emerged as a candidate for solving combinatorial optimization problems². In these hybrid algorithms, a quantum processor prepares a parametrized quantum state according to a set of variational parameters. This state is created by alternately applying parametrized quantum operators p times ($p \geq 1$) in a p -level circuit³. Using measurement outputs, the parameters are then optimized by a classical computer and fed back to the quantum processor in a closed loop. Due to the difficulty of evaluating this approach theoretically, the performance has not been quantitatively established. However, results to date are very encouraging and provide a strong impetus to implement and evaluate such hybrid algorithms in NISQ hardware. For example, it has been proven that the approximate solution improves as p increases. For the purposes of ONISQ objectives, a relevant figure of merit for the NISQ hardware is the product $N \cdot p$, where N is the number of qubits.

Another important and encouraging recent development is that it has been shown that large combinatorial optimization problems can be effectively decomposed into smaller parts that can then be embedded in a quantum processor without sacrificing the quality of the overall solution⁴. Therefore, if a quantum speedup is demonstrated on even modest-size NISQ devices and problem decomposition techniques are applied, it is likely that QIP will have a quantitative advantage over the best classical methods for an arbitrary-size problem.

In summary, the difficulty in solving important combinatorial optimization problems coupled with the promise of new algorithms and emerging quantum hardware, provide the impetus for the ONISQ program.

C. Program Description/Scope

ONISQ will establish the utility of NISQ processors for solving real-world combinatorial optimization problems. It is envisioned that by the end of the program, a clear pathway towards solving problems of relevance to the Department of Defense will be established. This will be accomplished via:

- Developing quantum processors with a sufficiently large number of qubits and circuit depth;
- Implementing a hybrid variational optimization algorithm in NISQ hardware and fully characterizing its performance;
- Demonstrating quantum advantage via benchmarking against state-of-the-art classical optimization algorithms for a problem of choice; quantum advantage can be manifested as, for example, a better approximate solution, as measured by the approximation ratio, or a better time/energy-to-solution scaling;
- Identifying families of problem instances in combinatorial optimization where hybrid variational approaches are likely to have the biggest impact, and developing strategies for addressing large optimization problems.

² E. Farhi et al., arXiv:1411.4028 (2018); S. Hadfield et al., *Algorithms* 12.2 (2019): 34

³ Notice that p is in general not the same as the “circuit depth” d . While p and d are proportional to each other their relationship will depend on the specific hardware and algorithm chosen.

⁴ Z. Bian, et al., *Frontiers in ICT*, Vol. 3, 14 (2016)

Quantum annealing approaches are explicitly excluded from consideration.

D. Program Structure

ONISQ is a 48-month program composed of two separate, but related, Technical Areas (TAs): proposers who want to work in both TAs should submit a stand-alone proposal for each TA. Work in TA1 will involve hardware development, with supporting theoretical efforts, and demonstration of quantum advantage. TA2 is focused on the development of theoretical foundations for demonstrating quantum advantage for real-world combinatorial optimization problems. The program is divided into two phases:

- Phase I (18-month duration) — In this phase, TA1 performers will achieve a proof of principle implementation of a quantum optimization algorithm in modest-size/performance NISQ hardware and perform initial characterization of the algorithm. TA2 performers will develop theoretical foundations for quantum optimization in NISQ devices.
- Phase II (30-month duration) — TA1 performers will fully characterize the optimization algorithm in scaled up NISQ hardware, solve a combinatorial optimization problem, and perform benchmarking against the best classical method. TA2 performers will provide theoretical proofs with respect to the viability of hybrid quantum approaches for solving real-world combinatorial problems better than with the best classical methods.

Performers will be encouraged to exchange information and collaborate openly and regularly with other performers in the program.

E. Technical Area Descriptions

The program has two TAs: TA1 is focused on the demonstration of quantum advantage in hardware, and TA2 provides foundational theoretical support to the program objectives. Each proposal should address a single TA. Instructions on the information that should be included in a proposal abstract and/or full proposal can be found in attachments B and D, respectively. The following is a detailed description of the TAs:

Technical Area 1 — Quantum optimization demonstration: The focus in this TA is to implement a hybrid quantum/classical optimization algorithm in NISQ hardware for a specific combinatorial optimization problem and to characterize it fully, with the ultimate goal of demonstrating quantum advantage over classical approaches. This will likely require significant advances in hardware, such as increasing the number of qubits and improving their quality, as well as improving the fidelity of quantum operations. Optimization of the algorithm implementation in hardware will also be important, as it can impact the requirement on circuit depth. Finally, careful benchmarking against classical methods is critical for establishing quantum advantage. The choice of the optimization problem is expected to have a clear and justified military relevance and application.

While this technical area has a strong hardware component, theoretical support on algorithm implementation optimization and benchmarking, for example, is integral and critical for this area. Addressing all of the requirements, metrics, and milestones for this TA is expected to require collaboration between experimental and theoretical physicists, engineers, computer

scientists and mathematicians. Therefore, multidisciplinary teams with broad expertise are strongly encouraged.

Proposers in this TA are expected to address the following in their proposal:

- Specify which combinatorial optimization problem will be solved, and describe the national security relevance. Explain how it is solved today and justify why the proposed approach is expected to perform better.
- Describe in detail the NISQ hardware that will be used and how it will be scaled up to achieve the program objectives. Provide a discussion about the challenges related to achieving the required quantum circuit size and depth, and error mitigation techniques that will be employed in order to achieve quantum advantage.
- Describe clearly how the algorithm will be implemented in your NISQ hardware and how its implementation will be optimized.
- Describe in detail the algorithm characterization procedures and measurements, which measure of quantum advantage will be used and why it is the relevant measure for the chosen problem.
- Describe the classical state of the art, provide a detailed procedure for benchmarking the quantum algorithm against the best classical for the chosen problem, and describe how any quantum advantage will be quantified.

Technical Area 2 – Theoretical foundations for quantum optimization: The focus in this TA is the development of more general theoretical methods to explore the power of hybrid optimization approaches and ultimately pave the way for a quantum optimization paradigm that surpasses the best classical methods for certain classes of combinatorial optimization problems. This area has 3 subareas with the aim of addressing these program goals:

- a) Identify families of instances in combinatorial optimization where hybrid quantum/classical approaches can outperform classical methods
- b) Develop novel methods that will enable addressing large combinatorial optimization problems for DoD applications and can be efficiently implemented in NISQ devices
- c) Develop new quantum optimization algorithms for NISQ devices.

Awards for this technical area are expected to be made both to small teams and single investigators. Proposers to this TA may address one or multiple subareas in their proposal.

F. Schedule/Milestones

ONISQ is structured to provide proof-of-principle demonstrations of the utility of NISQ devices for combinatorial optimization applications of interest to the DoD. Proposers should specify the research and technology development schedule for the full period of performance, split between a base Phase I (18 months) and an option Phase II (30 months). The Statement of Work (SOW) must provide a detailed task breakdown, citing specific tasks and their connection to interim milestones and metrics, as applicable. Each phase of the program should be separately defined; tasks may not span more than one phase. To the extent practical, the SOW should be organized by the work required to achieve a particular technical objective. The task structure must be consistent across the proposed schedule, SOW, and cost volume. For TA1, proposers should

provide a technical and programmatic strategy that conforms to the entire program schedule and presents an aggressive plan to fully address all program goals, metrics, milestones, and deliverables. For TA2, proposers may address one or multiple subareas (see Section E), and related milestones, and deliverables.

Schedules will be synchronized across performers, as required, and monitored/ revised as necessary throughout the program. A target start date of November 1, 2019 may be assumed for planning purposes. The following milestones and metrics will serve as evaluation points during the course of the program; proposers should incorporate these into their SOW. The successful achievement of end-of-Phase I metrics will be considered when funding decisions are made for Phase II.

Phase I (18 months) milestones

Technical Area 1 – Quantum optimization demonstration

- 9 mo: Design a hybrid quantum/classical optimizer with $N \cdot p > 100$, where N is the number of qubits and p is the number of alternating applications of parametrized quantum operators in the variational protocol (see Section B).
- 18 mo: Implement the selected variational algorithm in the hybrid NISQ optimizer with $N \cdot p > 100$ and characterize its performance.

Technical Area 2 – Theoretical foundations for quantum optimization (per subarea, see section E)

- 18 mo:
 - a) Identify families of instances in combinatorial optimization where hybrid approaches could possibly outperform the best classical methods.
 - b) Develop novel methods for addressing large combinatorial optimization problems for DoD applications that can be efficiently implemented in NISQ devices. An example of such methods is problem decomposition techniques.
 - c) Develop new quantum optimization algorithms.

Phase II (30 months) milestones

Technical Area 1 – Quantum optimization demonstration

- 9 mo: Design a hybrid quantum/classical optimizer with $N \cdot p > 10,000$.
- 18 mo: Implement the selected variational algorithm in the scaled-up hybrid NISQ processor with $N \cdot p > 10,000$ and fully characterize its performance.
- 30 mo: Perform benchmarking against the best classical method for a combinatorial optimization problem of choice; demonstrate and quantify quantum advantage.

Technical Area 2 – Theoretical foundations for quantum optimization (per subarea, see section E)

- 30 mo:
 - a) Quantify the quantum advantage for the identified problem instances, to the extent possible.
 - b) Provide proofs of the soundness of the methods developed in Phase I.

- c) Perform theoretical characterization, analytical and/or numerical, of the performance of new quantum optimization algorithms.

Meetings and Travel

All proposals must include the following meetings and travel in the proposed schedule and costs:

- To continue integration and development between TAs, foster collaboration between teams and disseminate program developments, a two-day Principal Investigator (PI) meeting will be held approximately every six months. For budgeting purposes, plan for nine two-day meetings over the course of 48 months: four meetings in the Washington, D.C. area and five meetings in the San Francisco, CA area.
- Regular teleconference meetings will be scheduled with the Government team for progress reporting as well as problem identification and mitigation. Proposers should also anticipate at least one site visit per phase by the DARPA Program Manager during which they will have the opportunity to demonstrate progress towards agreed-upon milestones.

G. Deliverables

Performers will be expected to provide at a minimum the following deliverables:

- Comprehensive quarterly technical reports due within ten days of the end of the given quarter, describing progress made on the specific milestones as laid out in the SOW.
- A phase completion report submitted within 30 days of the end of each phase, summarizing the research done.
- Other negotiated deliverables specific to the objectives of the individual efforts. These may include registered reports, experimental protocols, publications, data management plan, intermediate and final versions of software libraries, code, and APIs, including documentation and user manuals, and/or a comprehensive assemblage of design documents, models, modeling data and results, and model validation data.
- Reporting as outlined in Section VI.C.

II. Award Information

A. General Award Information

DARPA anticipates multiple awards. The level of funding for individual awards made under this BAA will depend on the quality of the proposals received and the availability of funds. Awards will be made to proposers⁵ whose proposals are determined to be the most advantageous to the Government, all evaluation factors considered. See Section V for further information.

⁵ As used throughout this BAA, “proposer” refers to the lead organization on a submission to this BAA. The proposer is responsible for ensuring that all information required by a BAA--from all team members--is submitted in accordance with the BAA. “Awardee” refers to anyone who might receive a prime award from the Government, including recipients of procurement contracts, grants, cooperative agreements, or Other Transactions. “Subawardee” refers to anyone who might receive a subaward from a prime awardee (e.g., subawardee, consultant, etc.).

The Government reserves the right to:

- select for negotiation all, some, one, or none of the proposals received in response to this solicitation;
- make awards without discussions with proposers;
- conduct discussions with proposers if it is later determined to be necessary;
- segregate portions of resulting awards into pre-priced options;
- accept proposals in their entirety or to select only portions of proposals for award;
- fund awards in increments with options for continued work at the end of one or more phases;
- request additional documentation once the award instrument has been determined (e.g., representations and certifications); and
- remove proposers from award consideration should the parties fail to reach agreement on award terms 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, grant, cooperative agreement, or other transaction (OT), depending upon the nature of the work proposed, the required degree of interaction between parties, 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 proposers intending to perform fundamental research and does not anticipate applying publication restrictions of any kind to individual awards for fundamental research that may result from this BAA. Notwithstanding this statement of expectation, the Government is not prohibited from considering and selecting research proposals that, while perhaps not qualifying as fundamental research under the foregoing definition, still meet the BAA criteria for submissions. If proposals are selected for award that offer other than a fundamental research solution, the Government will either work with the proposer to modify the proposed statement of work to bring the research back into line with fundamental research or else the proposer will agree to restrictions in order to receive an award.

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 DARPA’s consideration.

1. 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 citing the specific authority establishing their eligibility to propose to Government solicitations and compete with industry, and their compliance with the associated FFRDC sponsor agreement's terms and conditions. This information is required for FFRDCs proposing to be awardees or subawardees.

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. 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.

2. Foreign Participation

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. For classified submissions, this includes mitigating any Foreign Ownership Control and Influence (FOCI) issues prior to transmitting the submission to DARPA. Additional information on these subjects can be found at http://www.dss.mil/isp/foci/foci_faqs.html.

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.

Include any OCIs affirmations and disclosures in Attachment G Proposal Template Vol. 3-Admin and National Policy Requirements.

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 (e.g., OTs under the authority of 10 U.S.C. § 2371). 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

Prior to submitting a full proposal, proposers are *strongly encouraged* to first submit an abstract as described below. This process allows a proposer to ascertain whether the proposed concept is: (1) applicable to the ONISQ BAA and (2) currently of interest. For the purposes of this BAA, applicability is defined as follows:

- The proposed concept is applicable to the technical areas described herein.
- The proposed concept is important to DSO's current investment portfolio.
- The proposed concept investigates an innovative approach that enables revolutionary advances, i.e., will not primarily result in evolutionary improvements to the existing state of practice.
- The proposed work has not already been completed (i.e., the research element is complete but manufacturing/fabrication funds are required).
- The proposer has not already received funding or a positive funding decision for the proposed concept (whether from DARPA or another Government agency).

Abstracts and full proposals that are not found to be applicable to the ONISQ BAA as defined above may be deemed non-conforming⁶ and removed from consideration. All abstracts and full proposals must provide sufficient information to assess the validity/feasibility of their claims as well as comply with the requirements outlined herein for submission formatting, content and transmission to DARPA. Abstracts and full proposals that fail to do so may be deemed non-conforming and removed from consideration. Proposers will be notified of non-conforming determinations via letter.

A. Address to Request Application Package

This document contains all information required to submit a response to this solicitation. No additional forms, kits, or other materials are needed except as referenced herein. No request for proposal or additional solicitation regarding this opportunity will be issued, nor is additional information available except as provided at the Federal Business Opportunities website (<http://www.fbo.gov>), the Grants.gov website (<http://www.grants.gov/>), or referenced herein.

B. Content and Form of Application Submission

1. Abstract Information

As stated above, proposers are strongly encouraged to submit an abstract in advance of a full proposal to minimize effort and reduce the potential expense of preparing an out of scope proposal. The abstract provides a synopsis of the proposed project by briefly answering the following questions:

- What is the proposed work attempting to accomplish or do?
- How is it done today, and what are the limitations?
- Who will care and what will the impact be if the work is successful?

⁶ "Conforming" is defined as having been submitted in accordance with the requirements outlined herein.

- How much will it cost, and how long will it take?

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.

Proposers should note that a favorable response to an abstract is not a guarantee that a proposal based on the abstract will ultimately be selected for award negotiation.

While it is DARPA policy to attempt to reply to abstracts within thirty calendar days, proposers to this solicitation may anticipate a response within approximately three weeks. These official notifications will be sent via email to the Technical POC and/or Administrative POC identified on the abstract coversheet.

- **Abstract Format**

All proposers are required to use Attachment A: Abstract Summary Slide Template and Attachment B: Abstract Template provided to this solicitation on <http://www.fbo.gov> and <http://www.grants.gov>. Attachment A Abstract Summary Slide Template described herein must be in .ppt or .pptx format and should be attached as a separate file to this document.

2. Full Proposal Information

Proposals consist of Volume 1: Technical and Management Volume, Volume 2: Cost Volume, and Volume 3: Administrative and National Policy Requirements Volume.

To assist in proposal development, various attachments have been provided along with the BAA posted on <http://www.fbo.gov> (Attachment C: Proposal Summary Slide Template, Attachment D: Proposal Template Volume 1 Technical & Management Volume, Attachment E: Proposal Template Volume 2 Cost Volume, Attachment F: Proposal Template Volume 2 Cost Summary Spreadsheet, and Attachment G: Proposal Template Volume 3 Administrative & National Policy Requirements Volume).

Full proposals requesting a procurement contract or other transaction (OT) must use the following attachments:

- Attachment C
- Attachment D
- Attachment E
- Attachment F
- Attachment G

Full proposals requesting a grant or cooperative agreement must use the following attachments in addition to the Grants.gov application package:

- Attachment C
- Attachment D
- Attachment F
- Attachment G

*Note – Budget Justification should be provided as Section L of the SF 424 Research & Related Budget form provided via Grants.gov. The Budget Justification should include the following information for the recipient and all subawardees: (1) Direct Labor: Detail the total number of persons and their level of commitment for each position listed (in sections A and B), as well as which specific tasks (as described in the SOW) they will support.(2) Equipment (section C) Provide an explanation for listed requested equipment exceeding \$5,000, properly justifying their need to meet the objectives of the program. (3) Travel (section D) Provide the purpose of the trip, number of trips, number of days per trip, departure and arrival destinations, number of people, etc. (4) Other Direct Costs (section F). Provide a justification for the items requested and an explanation of how the estimates were obtained.

Proposals not meeting the format prescribed herein may not be reviewed.

- **Full Proposal Format**

All proposers are required to use the templates provided as attachments to this solicitation on <http://www.fbo.gov> and <http://www.grants.gov>. Formatting instructions are provided therein.

3. Proprietary Information

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” or “Company 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. See Section V.B.1 for additional information.

4. Security Information

DARPA anticipates that submissions received under this BAA will be unclassified. However, should a proposer wish to submit classified information, an *unclassified* email must be sent to the BAA mailbox requesting submission instructions from the DARPA/DSO Program Security Officer (PSO).

Security classification guidance and direction via a Security Classification Guard (SCG) and/or DD Form 254, “DoD Contract Security Classification Specification,” will not be provided at this time, since DARPA is soliciting ideas only. 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. Submission Dates and Times

Proposers are warned that submission deadlines as outlined herein are in Eastern Time and will be strictly enforced. When planning a response to this solicitation, proposers should take into account that some parts of the submission process may take from one business day to one month to complete (e.g., registering for a Data Universal Numbering System (DUNS) number or Taxpayer Identification Number (TIN)).

DARPA will acknowledge receipt of *complete* submissions via email and assign identifying numbers that should be used in all further correspondence regarding those submissions. If no confirmation is received within two business days, please contact the BAA Administrator at ONISQ@darpa.mil to verify receipt.

1. Abstracts

Abstracts must be submitted per the instructions outlined herein *and received by DARPA* no later than the due date and time listed in Part One: Overview Information. Abstracts received after this time and date may not be reviewed.

2. Full Proposals

Full proposal packages--full proposal (Volume 1: Technical and Management Volume, Volume 2: Cost Volume, and Volume 3: Administrative and National Policy Requirements Volume) and, as applicable, proprietary subawardee cost proposals, classified appendices to unclassified proposals-- must be submitted per the instructions outlined herein *and received by DARPA* no later than the due date and time listed in Part One: Overview Information. Proposals received after this time and date may not be reviewed.

D. Funding Restrictions

Not applicable.

E. Unclassified Submission Instructions

Proposers must submit all parts of their submission package using the same method; submissions cannot be sent in part by one method and in part by another method nor should duplicate submissions be sent by multiple methods. Email submissions will not be accepted. Failure to comply with the submission procedures outlined herein may result in the submission being deemed non-conforming and withdrawn from consideration.

1. Abstracts

DARPA/DSO will employ an electronic upload submission system (<https://baa.darpa.mil/>) for all UNCLASSIFIED abstracts sent in response to this solicitation. *Abstracts must not be submitted via Grants.gov.*

First time users of the DARPA BAA Submission website must complete a two-step account

creation process. The first step consists of registering for an extranet account by going to the URL listed above and selecting the “Account Request” link. Upon completion of the online form, proposers will receive two separate emails; one will contain a user name and the second will provide a temporary password. Once both emails have been received, the second step requires proposers to go back to the submission website and log in using that user name and password. After accessing the extranet, proposers may then create a user account for the DARPA BAA Submission website by selecting the “Register your Organization” link at the top of the page. Once the user account is created, proposers will be able to see a list of solicitations open for submissions, view submission instructions, and upload/finalize their abstract.

Proposers who already have an account on the DARPA BAA Submission website may simply log in at <https://baa.darpa.mil/>, select this solicitation from the list of open DARPA solicitations and proceed with their abstract submission. Note: proposers who have created a DARPA BAA Submission website account to submit to another DARPA Technical Office’s solicitations do not need to create a new account to submit to this solicitation.

All abstracts submitted electronically through the DARPA BAA Submission website must meet the following requirements: (1) uploaded as a zip file (.zip or .zipx extension); (2) only contain the document(s) requested herein; (3) only contain unclassified information; and (4) must not exceed 100 MB in size. Only one zip file will be accepted per abstract and abstracts not uploaded as zip files will be rejected by DARPA.

Technical support for the DARPA BAA Submission website is available during regular business hours, Monday – Friday, 9:00 a.m. – 5:00 p.m. Requests for technical support must be emailed to BAAT_Support@darpa.mil with a copy to ONISQ@darpa.mil. Questions regarding submission contents, format, deadlines, etc. should be emailed to ONISQ@darpa.mil. Questions/requests for support sent to any other email address may result in delayed/no response.

Since proposers may encounter heavy traffic on the web server, DARPA discourages waiting until the day abstracts are due to request an account and/or upload the submission.

Note: Proposers submitting an abstract via the DARPA BAA Submission site MUST (1) click the “Finalize” button in order for the submission to upload AND (2) do so with sufficient time for the upload to complete prior to the deadline. Failure to do so will result in a late submission.

2. Proposals Requesting a Procurement Contract or Other Transaction

Proposers requesting procurement contracts or other transactions may submit full proposals through ONE of the following methods: (1) electronic upload (DARPA-preferred); or (2) direct mail/hand-carry.

i. Electronic Upload

DARPA/DSO encourages proposers to submit UNCLASSIFIED proposals via the DARPA BAA Submission website at <https://baa.darpa.mil/>.

First time users of the DARPA BAA Submission website must complete a two-step account creation process. The first step consists of registering for an extranet account by going to the URL listed above and selecting the “Account Request” link. Upon completion of the online

form, proposers will receive two separate emails; one will contain a user name and the second will provide a temporary password. Once both emails have been received, the second step requires proposers to go back to the submission website and log in using that user name and password. After accessing the extranet, proposers may then create a user account for the DARPA BAA Submission website by selecting the “Register your Organization” link at the top of the page. Once the user account is created, proposers will be able to see a list of solicitations open for submissions, view submission instructions, and upload/finalize their proposal.

Proposers who already have an account on the DARPA BAA Submission website may simply log in at <https://baa.darpa.mil/>, select this solicitation from the list of open DARPA solicitations and proceed with their proposal submission. *Note: proposers who have created a DARPA BAA Submission website account to submit to another DARPA Technical Office’s solicitations do not need to create a new account to submit to this solicitation.*

All full proposals submitted electronically through the DARPA BAA Submission website must meet the following requirements: (1) uploaded as a zip file (.zip or .zipx extension); (2) only contain the document(s) requested herein; (3) only contain unclassified information; and (4) must not exceed 100 MB in size. Only one zip file will be accepted per full proposal and full proposals not uploaded as zip files will be rejected by DARPA.

Technical support for the DARPA BAA Submission website is available during regular business hours, Monday – Friday, 9:00 a.m. – 5:00 p.m. Requests for technical support must be emailed to BAAT_Support@darpa.mil with a copy to ONISQ@darpa.mil. Questions regarding submission contents, format, deadlines, etc. should be emailed to ONISQ@darpa.mil. Questions/requests for support sent to any other email address may result in delayed/no response.

Since proposers may encounter heavy traffic on the web server, DARPA discourages waiting until the day proposals are due to request an account and/or upload the submission. Note: Proposers submitting a proposal via the DARPA BAA Submission site MUST (1) click the “Finalize” button in order for the submission to upload AND (2) do so with sufficient time for the upload to complete prior to the deadline. Failure to do so will result in a late submission.

ii. Direct Mail/Hand-carry

Proposers electing to submit procurement contract or other transaction proposals via direct mail or hand-carried must provide one paper copy and one electronic copy on CD or DVD of the full proposal package. All parts of the proposal package must be mailed or hand-carried in a single delivery to the address noted in Section VII below.

3. Proposals Requesting a Grant or Cooperative Agreement

Proposers requesting grants or cooperative agreements may only submit proposals through ONE of the following methods: (1) electronic upload at Grants.gov (DARPA-preferred); or (2) direct mail/hand-carry to DARPA.

To evaluate compliance with Title IX of the Education Amendments of 1972 {20 U.S.C. A§ 1681 Et. Seq.}, the Department of Defense 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 STEM disciplines. To enable this assessment, each application must include the two following forms completed as instructed: the Research and Related Senior/Key Person Profile (Expanded) form and the Research and Related Personal Data form. Both forms are provided with the application package in Grants.gov.

i. Electronic Upload

DARPA encourages grant and cooperative agreement proposers to submit their proposals via electronic upload at <http://www.grants.gov/web/grants/applicants/apply-for-grants.html>. Proposers electing to use this method must complete a one-time registration process on Grants.gov before a proposal can be electronically submitted. *If proposers have not previously registered, this process can take up to four weeks so registration should be done in sufficient time to ensure it does not impact a proposer's ability to meet required submission deadlines.* Registration requirements and instructions are outlined at <http://www.grants.gov/web/grants/register.html>.

Carefully follow the DARPA submission instructions provided with the solicitation application package on Grants.gov. Only the required forms listed therein (e.g., SF-424 and Attachments form) should be included in the submission. *Note: Grants.gov does not accept zipped or encrypted proposals.*

Once Grants.gov has received an uploaded proposal submission, Grants.gov will send two email messages to notify proposers that: (1) the proposal has been received by Grants.gov; and (2) the proposal has been either validated or rejected by the system. *It may take up to two business days to receive these emails.* If the proposal is validated, then the proposer has successfully submitted their proposal. If the proposal is rejected, the submission must be corrected, resubmitted and revalidated before DARPA can retrieve it. If the solicitation is no longer open, the rejected proposal cannot be resubmitted. Once the proposal is retrieved by DARPA, Grants.gov will send a third email to notify the proposer. DARPA will send a final confirmation email as described in Section IV.C.

To avoid missing deadlines, Grants.gov recommends that proposers submit their proposals to Grants.gov 24-48 hours in advance of the proposal due date to provide sufficient time to complete the registration and submission process, receive email notifications and correct errors, as applicable.

Technical support for Grants.gov submissions may be reached at 1-800-518-4726 or support@grants.gov.

ii. Direct Mail/Hand-carry

Proposers electing to submit grant or cooperative agreement proposals via direct mail or hand-carried must provide one paper copy and one electronic copy on CD or DVD of the full proposal package. Proposers must complete the SF 424 R&R form (Application for Federal Assistance, Research and Related) provided at Grants.gov as part of the opportunity application package for this BAA and include it in the proposal submission. All parts of the proposal package must be mailed or hand-carried to the address noted in Section VII below.

V. Application Review Information

A. Evaluation Criteria

Proposals will be evaluated using the following criteria listed in descending order of importance: Overall Scientific and Technical Merit; Potential Contribution and Relevance to the DARPA Mission; and Cost Realism.

- **Overall Scientific and Technical Merit**

The proposed technical approach is innovative, feasible, achievable, and complete.

The proposed technical team has the expertise and experience to accomplish the proposed tasks. 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 major technical risks and planned mitigation efforts are clearly defined and feasible. The proposed schedule aggressively pursues performance metrics in an efficient time frame that accurately accounts for the anticipated workload.

- **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.

The proposed intellectual property restrictions (if any) will not significantly impact the Government's ability to transition the technology.

- **Cost Realism**

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).

B. Review and Selection Process

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.

The review process identifies proposals that meet the evaluation criteria described above and are,

therefore, selectable for negotiation of awards by the Government. DARPA policy is to ensure impartial, equitable, comprehensive proposal evaluations and to select proposals that meet DARPA technical, policy, and programmatic goals. Proposals that are determined selectable will not necessarily receive awards (see Section II). Selections may be made at any time during the period of solicitation. For evaluation purposes, a proposal is defined to be the document and supporting materials as described in Section IV.

- **Handling of Source Selection Information**

DARPA policy is to treat all submissions as source selection information (FAR 2.101 and 3.104), and to only disclose their contents to authorized personnel. Restrictive notices notwithstanding, 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), DARPA may also request input on technical aspects of the proposals from other non-Government consultants/experts who are strictly bound by the appropriate non-disclosure requirements.

Submissions will not be returned. The original of each submission received will be retained at DARPA and all other non-required copies destroyed. A certification of destruction may be requested via email to the BAA mailbox, provided the formal request is received within 5 days after being notified of submission status.

C. Federal Awardee Performance and Integrity Information (FAPIIS)

Following the review and selection process described above, but prior to making an award above the simplified acquisition threshold (FAR 2.101), DARPA is required⁷ to review and consider any information available through the designated integrity and performance system (currently FAPIIS). Selectees have the opportunity to comment on any information about themselves entered in the database. DARPA will consider any comments and other information in FAPIIS or other systems prior to making an award.

VI. Award Administration Information

A. Selection Notices

After proposal evaluations are complete, proposers will be notified as to whether their proposal was selected for award negotiation as a result of the review process. Notification will be sent by email to the Technical and Administrative POCs identified on the proposal cover sheet. If a proposal has been selected for award negotiation, the Government will initiate those negotiations following the notification.

⁷ Per 41 U.S.C. 2313, as implemented by FAR 9.103 and 2 CFR § 200.205.

B. Administrative and National Policy Requirements

1. Solicitation Provisions and Award Clauses, Terms and Conditions

Solicitation provisions relevant to DARPA BAAs are listed on the Additional BAA Content page on DARPA’s website at www.darpa.mil/work-with-us/additional-baa. This page also lists award clauses that, depending on their applicability, may be included in the terms and conditions of awards resultant from DARPA solicitations. This list is not exhaustive and the clauses, terms and conditions included in a resultant award will depend on the nature of the research effort, the specific award instrument, the type of awardee, and any applicable security or publication restrictions.

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>.

The above information serves to put potential proposers and awardees on notice of proposal requirements and award terms and conditions to which they may have to adhere.

2. 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.

NOTE: new registrations can take an average of 7-10 business days to process in SAM. SAM registration requires the following information:

- DUNS number
- TIN
- Commercial and Government Entity (CAGE) Code. If a proposer does not already have a CAGE code, one will be assigned during SAM registration.
- Electronic Funds Transfer information (e.g., proposer’s bank account number, routing number, and bank phone or fax number).

3. 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.

4. Intellectual Property

Proposers should note that the Government does not own the intellectual property or technical data/computer software developed under Government contracts. The Government acquires the right to use the technical data/computer software. Regardless of the scope of the Government's rights, awardees may freely use their same data/software for their own commercial purposes (unless restricted by U.S. export control laws or security classification). Therefore, technical data and computer software developed under this solicitation will remain the property of the awardees, though DARPA will have, at a minimum, Government Purpose Rights (GPR) to technical data and computer software developed through DARPA sponsorship.

If proposers desire to use proprietary computer software or technical data or both as the basis of their proposed approach, in whole or in part, they should: (1) clearly identify such software/data and its proposed particular use(s); (2) explain how the Government will be able to reach its program goals (including transition) within the proprietary model offered; and (3) provide possible nonproprietary alternatives in any area that might present transition difficulties or increased risk or cost to the Government under the proposed proprietary solution. Proposers expecting to use, but not to deliver, commercial open source tools or other materials in implementing their approach may be required to indemnify the Government against legal liability arising from such use.

All references to "Unlimited Rights" or "Government Purpose Rights" are intended to refer to the definitions of those terms as set forth in the Defense Federal Acquisition Regulation Supplement (DFARS) 227.

a. Intellectual Property Representations

All proposers must provide a good faith representation of either ownership or possession of appropriate licensing rights to all other intellectual property to be used for the proposed project. Proposers must provide a short summary for each item asserted with less than unlimited rights that describes the nature of the restriction and the intended use of the intellectual property in the conduct of the proposed research.

b. Patents

All proposers must include documentation proving ownership or possession of appropriate licensing rights to all patented inventions to be used for the proposed project. If a patent application has been filed for an invention, but it includes proprietary information and is not publicly available, a proposer must provide documentation that includes: the patent number, inventor name(s), assignee names (if any), filing date, filing date of any related provisional application, and summary of the patent title, with either: (1) a representation of invention

ownership; or (2) proof of possession of appropriate licensing rights in the invention (i.e., an agreement from the owner of the patent granting license to the proposer).

c. Procurement Contracts

- **Noncommercial Items (Technical Data and Computer Software):** Proposers requesting a procurement contract must list all noncommercial technical data and computer software that it plans to generate, develop, and/or deliver, in which the Government will acquire less than unlimited rights and to assert specific restrictions on those deliverables. In the event a proposer does not submit the list, the Government will assume that it has unlimited rights to all noncommercial technical data and computer software generated, developed, and/or delivered, unless it is substantiated that development of the noncommercial technical data and computer software occurred with mixed funding. If mixed funding is anticipated in the development of noncommercial technical data and computer software generated, developed, and/or delivered, proposers should identify the data and software in question as subject to GPR. In accordance with DFARS 252.227-7013, “Rights in Technical Data - Noncommercial Items,” and DFARS 252.227-7014, “Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation,” the Government will automatically assume that any such GPR restriction is limited to a period of 5 years, at which time the Government will acquire unlimited rights unless the parties agree otherwise. The Government may use the list during the evaluation process to evaluate the impact of any identified restrictions and may request additional information from the proposer, as may be necessary, to evaluate the proposer’s assertions. Failure to provide full information may result in a determination that the proposal is non-conforming. A template for complying with this request is provided in Section IV.B.2.
- **Commercial Items (Technical Data and Computer Software):** Proposers requesting a procurement contract must list all commercial technical data and commercial computer software that may be included in any noncommercial deliverables contemplated under the research project, and assert any applicable restrictions on the Government’s use of such commercial technical data and/or computer software. In the event a proposer does not submit the list, the Government will assume there are no restrictions on the Government’s use of such commercial items. The Government may use the list during the evaluation process to evaluate the impact of any identified restrictions and may request additional information from the proposer to evaluate the proposer’s assertions. Failure to provide full information may result in a determination that the proposal is non-conforming. A template for complying with this request is provided in Section IV.B.2.

d. Other Types of Awards

Proposers requesting an award instrument other than a procurement contract shall follow the applicable rules and regulations governing those award instruments, but in all cases should appropriately identify any potential restrictions on the Government’s use of any intellectual property contemplated under those award instruments. This includes both noncommercial items and commercial items. The Government may use the list as part of the evaluation

process to assess the impact of any identified restrictions, and may request additional information from the proposer, to evaluate the proposer's assertions. Failure to provide full information may result in a determination that the proposal is non-conforming. A template for complying with this request is provided in Section IV.B.2.c.

5. 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.

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

All proposers and awardees will be subject to the DARPA requirements related to Controlled Unclassified Information on Non-DoD Information Systems as detailed at www.darpa.mil/work-with-us/additional-baa.

7. Electronic Invoicing and Payments

Awardees will be required to submit invoices for payment electronically via Wide Area Work Flow (WAWF) at <https://wawf.eb.mil>, unless an exception applies. Registration in WAWF is required prior to any award under this BAA.

8. Electronic and Information Technology

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) and FAR 39.2.

9. Publication of Grant Awards

Per Section 8123 of the Department of Defense Appropriations Act, 2015 (Pub. L. 113-235), all grant awards must be posted on a public website in a searchable format. To comply with this requirement, proposers requesting grant awards must submit a maximum one (1) page abstract that may be publicly posted and explains the program or project to the public. The proposer should sign the bottom of the abstract confirming the information in the abstract is approved for public release. Proposers are advised to provide both a signed PDF copy, as well as an editable (e.g., Microsoft word) copy. Abstracts contained in grant proposals that are not selected for award will not be publicly posted.

10. 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.

C. Reporting

1. Technical and Financial Reports

The number and types of technical and financial reports required under the contracted project will be specified in the award document, and will include, as a minimum, monthly financial status reports and a yearly status summary. A final report that summarizes the project and tasks will be required at the conclusion of the performance period for the award. The reports shall be prepared and submitted in accordance with the procedures contained in the award document.

2. Patent Reports and Notifications

All resultant awards 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

DARPA will use email for all technical and administrative correspondence regarding this solicitation.

- **Technical POC:** Tatjana Curcic, Program Manager, DARPA/DSO
- **BAA Email:** ONISQ@darpa.mil
- **BAA Mailing Address:**
DARPA/DSO

ATTN: HR001119S0052
675 North Randolph Street
Arlington, VA 22203-2114

- **DARPA/DSO Opportunities Website:** <http://www.darpa.mil/work-with-us/opportunities>

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

VIII. Other Information

A. Frequently Asked Questions (FAQs)

Administrative, technical, and contractual questions should be emailed to ONISQ@darpa.mil. All questions must be in English and must include the name, email address, and the telephone number of a point of contact.

DARPA will attempt to answer questions in a timely manner; however, questions submitted within 10 days of the proposal due date may not be answered. DARPA will post an FAQ list at: <http://www.darpa.mil/work-with-us/opportunities>. The list will be updated on an ongoing basis until the BAA expiration date as stated in Part I.

B. Proposers Day

The ONISQ Proposers Day was held on March 19, 2019 in Arlington, VA. Presentations from the meeting will be posted at: <http://www.darpa.mil/work-with-us/opportunities>. Viewing the presentations is voluntary and is not required to propose to this solicitation.