DEPARTMENT OF THE AIR FORCE (DAF)
SMALL BUSINESS INNOVATION RESEARCH (SBIR) PROGRAM X22.2 SBIR
COMMERCIAL SOLUTIONS OPENING (CSO)
AMENDMENT 2
19 May 2022

This Amendment modifies the subject solicitation as follows:

1. Attachment 5: URL updated to reflect new Sample Slide Deck location.
2. Table 1: Award Duration Max (in months) is updated to 24 to align with Section 8.
3. Section 4.4.1: Paragraphs inadvertently removed on Amendment 1 are reinstated to the CSO.
4. Section 4.4.15: Paragraphs inadvertently removed on Amendment 1 are reinstated to the CSO. Said paragraphs cover "Direct Contact with Topic Authors" and provide dates regarding the Topic Q&A.
5. Section 4.4.15.6: A link to video recordings from AFNWC's 27 April 2022 Industry Collider is provided.
6. Section 5.3.2: Clarification provided on the format requirements of Volume 2.
7. Section 8: Class Deviation reference updated.
8. Appendix A, 9.1: Minor updates clarify that the slide deck shall be included in the Technical Volume.

All other solicitation provisions remain unchanged as a result of this Amendment.

DEPARTMENT OF THE AIR FORCE (DAF)
SMALL BUSINESS INNOVATION RESEARCH (SBIR) PROGRAM X22.2 SBIR
COMMERCIAL SOLUTIONS OPENING (CSO)
AMENDMENT 1
13 May 2022

This Amendment modifies the subject solicitation as follows:

1. Section 4.4.20 is replaced in its entirety.
2. Section 5.1.2: a DRAFT Slide Deck is required in Volume 2.
3. Section 5.1.2: a 15-page White Paper is required in Volume 2.
4. Section 5.3.2.2 is added to outline formatting requirements for Volume 2 documents.
5. Section 6: the following language is added to this section:
    a. Review Section 8 for specific information regarding Pitch Evaluation process.
6. Section 8: updated to clarify that the Feasibility Study location is Volume 2.
7. Section 9.1.: updated to provide additional detail about slide requirements.
8. Section 9.1: revised extensively to update Required Slides section. Review for information regarding Required Slides.
9. Attachment 5: URL updated to reflect new Sample Slide Deck location.

All other solicitation provisions remain unchanged as a result of this Amendment.

DEPARTMENT OF THE AIR FORCE (DAF)
SMALL BUSINESS INNOVATION RESEARCH (SBIR) PROGRAM X22.2 SBIR COMMERCIAL SOLUTIONS OPENING (CSO)

20 April 2022: Issued for pre-release
18 May 2022: Begin accepting proposals
15 June 2022: Full proposals due **no later than 12:00 p.m. ET**

IAW with Section 879 of the National Defense Authorization Act (NDAA) for Fiscal Year 2017 (P.L. 114-328), Congress has authorized the Defense CSO Pilot Program. This program allows agencies to obtain solutions or potential new capabilities fulfilling requirements, closing capability gaps, or providing potential technological advancements. Consistent with FY17 NDAA Section 879, AF is soliciting proposals under a CSO. This solicitation is intended for informational purposes and reflects current planning. If there is inconsistency between the information in the CSO and resulting awards, if any, the awards' terms and conditions take precedent.

IMPORTANT

Deadline for Receipt: No exceptions will be made for the submission deadline above. AF recommends early submission, as computer traffic gets heavy near announcement closing. **Do not wait until the last minute**. **AF is not responsible for missed proposal submission due to system lag or inaccessibility**.

How to Submit: All proposals must be prepared and submitted through the Department of Defense (DOD) SBIR/STTR Innovation Portal (DSIP), https://www.dodsbirsttr.mil/. Ensure the proposal email address is accurate. AF is not responsible for missed notifications due to firms changing mailing addresses/email addresses/company points of contact after submission without notifying the AF. AF will not accept alternative means of submission. Any transmittal of proposals outside of DSIP will not constitute either successful proposal submission by Offerors nor Government acceptance of Offerors' proposals. **Classified proposals are NOT accepted**.

SBIR/STTR Updates and Notices:

- The CSO of record is found at https://www.dodsbirsttr.mil/. **Proposals must meet all CSO of record requirements at proposal submission deadline**.
- To receive AFVentures and other AF innovation opportunity notifications, visit https://afwerx.com/afventures-overview/

Help Desk: For AF SBIR/STTR Program questions, contact the USAF SBIR/STTR One Help Desk at 1-855-855-5360 or usaf.team@afsbirsttr.us.
Email DSIP Support at DoDSBIRSupport@reisystems.com only for further assistance with issues pertaining directly to the DSIP application. Questions submitted to DSIP Support will be addressed in the order received during normal operating hours (Monday through Friday, 9:00 a.m. to 5:00 p.m. ET).

TABLE OF CONTENTS

1. INTRODUCTION 6

2. PROGRAM DESCRIPTION 7

2.1. OBJECTIVES 7
2.2. TECHNOLOGY AND PROGRAM PROTECTION TO MAINTAIN TECHNOLOGICAL ADVANTAGE 7
2.3. THREE PHASE PROGRAM 8
2.4. TOPIC INFORMATION 9

3. DEFINITIONS 9

3.1. CERTIFIED HUBZONE SMALL BUSINESS CONCERN 9
3.2. COMMERCIAL SOLUTIONS OPENING (CSO) 9
3.3. COMMERCIALIZATION 9
3.4. ESSENTIALLY EQUIVALENT WORK 9
3.5. EXPORT CONTROL 9
3.6. FEDERAL LABORATORY 10
3.7. FOREIGN ENTITY 10
3.8. FOREIGN GOVERNMENT 10
3.9. FOREIGN NATIONALS 10
3.10. FRAUD, WASTE AND ABUSE 11
3.11. FUNDING AGREEMENT 11
3.12. INNOVATIVE 11
3.13. OTHER TRANSACTION 11
3.14. PERFORMANCE BENCHMARKS FOR PROGRESS TOWARD COMMERCIALIZATION 12
3.15. PRINCIPAL INVESTIGATOR 12
3.16. PROPRIETARY INFORMATION 12
3.17. RESEARCH INVOLVING ANIMAL SUBJECTS 12
3.18. RESEARCH INVOLVING HUMAN SUBJECTS 13
3.19. RESEARCH INVOLVING RECOMBINANT DNA MOLECULES 13
3.20. RESEARCH OR RESEARCH AND DEVELOPMENT (R/R&D) 14
3.21. SERVICE-DISABLED VETERAN-OWNED SMALL BUSINESS (SDVOSB) 14
3.22. SMALL BUSINESS CONCERN (SBC) 14
3.23. SUBCONTRACT 15
3.24. SUBCONTRACTOR 15
3.25. TEST AND EVALUATION 15
3.26. UNITED STATES 15
3.27. WOMEN-OWNED SMALL BUSINESS CONCERN 15

4. PROPOSAL FUNDAMENTALS 15

4.1. INTRODUCTION 15
4.2. OFFEROR ELIGIBILITY AND PERFORMANCE REQUIREMENTS 16
4.3. JOINT VENTURES 17
4.4. ADMINISTRATIVE PROPOSAL REQUIREMENTS 17

5. DIRECT TO PHASE II (D2P2) PROPOSAL 29

5.1. INTRODUCTION 29
5.2. MARKING PROPRIETARY PROPOSAL INFORMATION 31
5.3. DIRECT TO PHASE II PROPOSAL INSTRUCTIONS 31

6. DIRECT TO PHASE II (D2P2) REVIEW CRITERIA 41

7. CONTRACTUAL REQUIREMENTS 43

7.1. ADDITIONAL CONTRACT REQUIREMENTS 43
7.2. ENSURING ADEQUATE COVID-19 SAFETY PROTOCOLS FOR FEDERAL CONTRACTORS 46
7.3. BASIC SAFEGUARDING OF COVERED CONTRACTOR INFORMATION SYSTEMS 47
7.4. PROHIBITION ON CONTRACTING WITH PERSONS THAT HAVE BUSINESS OPERATIONS WITH THE MADURO REGIME 49
7.5. COMMERCIALIZATION UPDATES IN PHASE II 49
7.6. COPYRIGHTS 50
7.7. PATENTS 50
7.8. TECHNICAL DATA RIGHTS 50
7.9. INVENTION REPORTING 50
7.10. FINAL TECHNICAL REPORTS 51

8. DIRECT TO PHASE II TOPIC 52

9. APPENDICES 60

9.1. APPENDIX A – SUPPORTING VOLUME SLIDE DECK INSTRUCTIONS 60
9.2. APPENDIX B – CERTIFICATION QUESTIONS AND COVERSHEET SUPPLEMENT 62

10. 72

Attachments:

Attachment 1 – AF X22.2 SBIR D2P2 Lifecycle Certifications (Required)

Attachment 2 – AF X22.2 SBIR CSO D2P2 AF SBIR/STTR Environment, Safety and Occupational Health (ESOH) Questionnaire (Required)

Attachment 3 – AF X22.2 SBIR CSO D2P2 DoD SBIR/STTR Programs Contractor Certification Regarding Provision of Prohibited Video Surveillance and Telecommunications Services and Equipment (Required)

Attachment 4 – AF X22.2 SBIR CSO D2P2 DoD SBIR/STTR Programs Disclosure of Offeror's Ownership or Control by a Foreign Government (Required, if applicable)

Attachment 5 – X22.2 Sample Slide Deck (can be accessed at: https://media.defense.gov/2022/May/12/2002995801/-1/-1/1/X222-DCSO1_SAMPLE_SLIDE_DECK.PPTX)

1. INTRODUCTION

The Department of the Air Force (DAF) invites small business firms to submit proposals under this CSO for the Small Business Innovation Research (SBIR) Program. The DAF encourages firms with the capability to conduct research and development (R&D) and to commercialize results in accordance with the DAF-related topics described in Section 13 to apply to this solicitation.

The *2014 Quadrennial Defense Review* (QDR) established innovation as a central line of effort in the United States' (US') national Defense strategy. The US' decisive military advantage over its adversaries and peer competitors is steadily eroding. Consequently, under section 879 of the National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2017 (Pub. L. 114-328) Contracting Officers may acquire innovative commercial items, technologies, or services using a competitive procedure called a Commercial Solutions Opening (CSO). Under the CSO, DoD may competitively select proposals received in response to a general solicitation, similar to a Broad Agency Announcement, based on proposal review by Government scientific, technological, or other subject-matter experts. CSO use in accordance with Class Deviation 2022-O0007 is considered competitive for the purposes of 10 U.S.C. chapter 127 and FAR 6.102. Contracting officers shall treat items, technologies, and services acquired under a CSO as commercial items. The full definition of commercial items, i.e., products and services, under FAR 2.101 applies. This CSO includes no requirement for a commercial product or service be an already-developed, off-the-shelf item.

This CSO seeks innovative, commercial technologies proposed to create new DAF solutions or potential new capabilities fulfilling requirements, closing capability gaps, or providing potential technological advancements. This CSO may result in the award of prototype projects, which include not only commercially available technologies fueled by commercial or strategic investment, but also concept demonstrations, pilots, and agile development activities improving commercial technologies, existing Government-owned capabilities, or concepts for broad Defense application(s). The Government reserves the right to award a contract or an Other Transaction for any purpose, to include a prototype, under this CSO. The DAF also reserves the right to award all, part, or none of the proposals received. The Federal Government is not responsible for any monies expended by the applicant before award. The SBIR/STTR Programs are not substitutes for existing unsolicited proposal mechanisms. Unsolicited proposals are not accepted under the AF SBIR/STTR Programs for Phases I or II.

Information related to the AF Small Business Program is found at http://www.airforcesmallbiz.af.mil/. The site contains contracting opportunities within the DAF, as well as business information and upcoming outreach/conference events. Other informative sites include the Small Business Administration (SBA), www.sba.gov, the DoD Office of Small Business Programs, https://business.defense.gov/, and Procurement Technical Assistance Centers, http://www.aptac-us.us.org. These centers provide Government contracting assistance and guidance to small businesses, typically at no cost.

2. PROGRAM DESCRIPTION

2.1. Objectives

The DAF SBIR Program's objectives include stimulating technological innovation, strengthening the small business role in meeting DoD research, development, test, and evaluation (RDT&E) needs, fostering and encouraging minority and disadvantaged persons-owned small businesses in technological innovation, and increasing commercial application of DoD-supported RDT&E results.

The AF Science and Technology (S&T) Strategy identifies five (5) Strategic Capabilities, listed below. Additionally, it is possible for a solution to provide a strategic capability in a previously unconsidered area. Therefore, if an offeror feels its solution does not fit within one of the listed capabilities, it can reference the "BLUE SKY" category, including an explanation of the solution's ability to provide increased strategic capability within the context of AF, national, and global constraints. As applicable, the offeror should address the category(ies) to which the solution aligns in the Technical Volume as part of the "Defense Need" slide.

1. Global Persistent Awareness
2. Resilient Information Sharing
3. Rapid, Effective Decision-Making
4. Complexity, Unpredictability, and Mass
5. Speed and Reach of Disruption and Lethality
6. BLUE SKY*

US Air Force S&T Strategy:
https://www.af.mil/Portals/1/documents/2019%20SAF%20story%20attachments/Air%20Force%20Science%20and%20Technology%20Strategy.pdf?ver=2019-04-17-131216-723&timestamp=1555530064092

The AF SBIR Program follows the policies and practices of the Small Business Administration (SBA) SBIR/STTR Policy Directive (1 Oct 20), https://www.sbir.gov/sites/default/files/SBA_SBIR_STTR_POLICY_DIRECTIVE_OCT_2020_0.pdf. This CSO incorporates and makes use of Policy Directive flexibilities to encourage proposals based on scientific and technical approaches most likely to yield important results for the AF and private sector.

2.2. Technology and Program Protection to Maintain Technological Advantage

In accordance with DoD Instruction 5000.83, Technology and Program Protection to Maintain Technological Advantage, dated 20 July 20 2020, and as a means to counter

the threat from strategic competitor nations, the DoD will employ risk-based measures to protect systems and technologies from adversarial exploitation and compromise of U.S. military vulnerabilities and weaknesses in: (1) systems, (2) components, (3) software, (4) hardware, and (5) supply chains. The initial measure being implemented for the SBIR Program is to require SBIR prime contractor awardees and their subcontractors to self-report and disclose foreign investment in ownership of, or influence over, U.S. entities, including subsidiaries and joint ventures. Reporting and disclosing such information will enable the DoD to identify national security risks posed by foreign participation, through investment, ownership, or influence, in the Defense industrial base. This information will be used by DoD program offices to determine risks posed by SBIR contractor awardees and their subcontractors to the DoD and the Defense industrial base.

2.3. Three Phase Program

The SBIR/STTR Program consists of Phases I, II, and III. The purpose of Phase I is to determine, to the extent possible, the scientific and technical merit and feasibility of ideas with commercial potential. Proposals should concentrate on RDT&E significantly contributing to proving scientific and technical feasibility and the proposed effort's commercialization potential, wherein successful completion is required to obtain further AF support, e.g., a Phase II award. Offerors should consider whether the RDT&E proposed to the AF has private sector potential, either for the proposed application or as the basis for other applications.

Phase II awards are usually based on Phase I results, including commercialization potential, relevance to Defense needs, and the Phase II proposal's technical merit. Phase II is the principal RDT&E effort, expected to produce a well-defined deliverable proposed solution prototype. In limited circumstances, Phase II awards may be made for the testing and evaluation of products, services, or technologies for use in technical or weapons systems. Phase II awardees may receive one additional, sequential Phase II award to continue the project. There is also the possibility for a third Phase II award under the Commercialization Assistance Pilot Program (CAPP). Additionally, agencies may provide opportunities to apply for Phase IIB awards seeking to bridge the gap between Phase II and III. Proposals for these opportunities, if/when available, are sought through separate, discrete solicitation cycles.

SBIR/STTR Phase IIIs include work deriving from, extending, or completing efforts made under prior SBIR/STTR funding agreements but funded by non-SBIR/STTR Program sources. This can be private sector, non-SBIR/STTR Government sources, or both. Phase III work is typically oriented towards commercializing SBIR/STTR research or technology.

2.4. Topic Information

Table 1- Consolidated Topic Information

Topic Number(s)	Topic Title	Base Cost Max	~~Base~~ Duration Max (in months)
X222-PDCSO1	2nd Air Force Nuclear Weapons Center Pitch Day	$1,500,000.00	~~24~~ 27

3. DEFINITIONS

The following definitions from the SBA SBIR/STTR Policy Directive, the Federal Acquisition Regulation (FAR), and 10 USC 2371b apply to this CSO:

3.1. Certified HUBZone Small Business Concern

An SBC certified by SBA under the Historically Underutilized Business Zones (HUBZone) Program (13 C.F.R. § 126) as a HUBZone firm listed in the Dynamic Small Business Search (DSBS).

3.2. Commercial Solutions Opening (CSO)

A competitive procedure Contracting Officers may use to acquire innovative commercial items, technologies or services.

3.3. Commercialization

The process of developing products, processes, technologies, or services and the production and delivery (whether by the originating party or others) of products, processes, technologies, or services for sale to or use by the Federal Government or commercial markets.

3.4. Essentially Equivalent Work

Work that is substantially the same research, proposed for funding in more than one application submitted to the same Federal agency, or two or more different Federal agencies for review and funding consideration. It may also include work where a specific research objective and the research design for accomplishing project objective are the same or closely related to another proposal or award, regardless of funding source.

3.5. Export Control

The International Traffic in Arms Regulations (ITAR), 22 CFR Parts 120 through projects with military or dual-use applications beyond fundamental research.

Fundamental research is basic and applied research ordinarily published and shared broadly within the scientific community. More information is available at https://www.pmddtc.state.gov/?id=ddtc_public_portal_itar_landing.

3.6. Federal Laboratory

As defined in 15 U.S.C. §3703, means any laboratory, any Federally funded research and development center (FFRDC), or any center established under 15 USC § 3705 & 3707 that is owned, leased, or otherwise used by a Federal agency and funded by the Federal Government, whether operated by the Government or by a contractor.

3.7. Foreign Entity

Foreign entity means any branch, partnership, group or sub-group, association, estate, trust, corporation or division of a corporation, non-profit, academic institution, research center, or organization established, directed, or controlled by foreign owners, foreign investors, foreign management, or a foreign government.

3.8. Foreign Government

Foreign government means any government or governmental body, organization, or instrumentality, including government owned-corporations, other than the United States Government or United States state, territorial, tribal, or jurisdictional governments or governmental bodies. The term includes, but is not limited to, non-United States national and subnational governments, including their respective departments, agencies, and instrumentalities.

3.9. Foreign Nationals

Foreign Nationals (also known as Foreign Persons) as defined by 22 CFR 120.16 means any natural person who is not a lawful permanent resident as defined by 8 U.S.C. § 1101(a)(20), or who is not a protected individual as defined by 8 U.S.C. § 1324b(a)(3). It also means any foreign corporation, business association, partnership, trust, society or any other entity or group that is not incorporated or organized to do business in the United States, as well as international organizations, foreign Governments and any agency or subdivision of foreign Governments (e.g., diplomatic missions). "Lawfully admitted for permanent residence" means the status of having been lawfully accorded the privilege of residing permanently in the United States as an immigrant in accordance with the immigration laws, such status not having changed.

"Protected individual'' means an individual who (A) is a citizen or national of the United States, or (B) is an alien who is lawfully admitted for permanent residence, is granted the status of an alien lawfully admitted for temporary residence under 8 U.S.C. § 1160(a) or 8 U.S.C. § 1255a(a)(1), is admitted as a refugee under 8 U.S.C.

§ 1157, or is granted asylum under Section 8 U.S.C. § 1158; but does not include (i) an alien who fails to apply for naturalization within six months of the date the alien first

becomes eligible (by virtue of period of lawful permanent residence) to apply for naturalization or, if later, within six months after November 6, 1986, and (ii) an alien who has applied on a timely basis, but has not been naturalized as a citizen within two (2) years after the date of the application, unless the alien can establish that the alien is actively pursuing naturalization, except that time consumed in the Service's processing the application shall not be counted toward the two (2)-year period.

3.10. Fraud, Waste and Abuse

a. **Fraud** includes any false representation about a material fact or any intentional deception designed to deprive the United States unlawfully of something of value or to secure from the United States a benefit, privilege, allowance, or consideration to which an individual or business is not entitled.

b. **Waste** includes extravagant, careless or needless expenditure of Government funds, or the consumption of Government property, that results from deficient practices, systems, controls, or decisions.

c. **Abuse** includes any intentional or improper use of Government resources, such as misuse of rank, position, or authority or resources.

3.11. Funding Agreement

Any contract, grant, cooperative agreement, or Other Transaction for Prototype entered into between any Federal Agency and any small business concern for the performance of experimental, developmental, or research work, including products or services, funded in whole or in part by the Federal Government.

3.12. Innovative

a. Any new technology, process, or method, including research and development; or

b. Any new application of an existing technology, process, or method.

3.13. Other Transaction

Refers to the type of Other Transaction Agreement (OTA) that may be placed as a result of this CSO. This type of OT is authorized by 10 U.S.C 2371b for prototype projects directly relevant to enhancing the mission effectiveness of military personnel and the supporting platforms, systems, components, or material proposed to be acquired or developed by the DoD, or for the improvement of platforms, systems, components, or materials in use by the armed forces. This type of OTA is treated by DoD as an acquisition instrument, commonly referred to as an “other transaction” for a prototype or a Section 2371b “other transaction.” The definition of a "prototype project" in the context of an OT is as follows: a prototype project addresses a proof of concept, model, reverse engineering to address obsolescence, pilot, novel application of commercial technologies for Defense purposes, agile development activity, creation, design,

development, demonstration of technical or operational utility, or combinations of the foregoing. A process, including a business process, may be the subject of a prototype project.

This authority also allows for a noncompetitive, follow-on OT for Production to an OT for Prototype competitively awarded and successfully completed. This statute requires advanced consideration be given and notice be made for follow-on OT for Production potential. It is a necessary precondition for such a follow-on award. As such, this solicitation document and resulting OTs for Prototype will include notice follow-on OTs for Production are possible.

3.14. Performance Benchmarks for Progress Toward Commercialization

IAW the SBA SBIR/STTR Policy Directive Section 4(a)(3), DoD's established benchmark threshold applies only to Phase I applicants with more than 20 awards in the prior five fiscal years. The ratio of Phase I awards to Phase II awards received during the period must be at least 4:1. Additional information can be found at https://www.sbir.gov/performance- benchmarks.

3.15. Principal Investigator

The principal investigator/project manager is the individual designated by the applicant to provide the scientific and technical direction to a project supported by the funding agreement. For both Phase I and Phase II, the primary employment of the principal investigator must be with the SBC at the time of award and during the conduct of the proposed project. Primary employment means that more than one- half of the principal investigator's time is spent in the employ of the SBC. This precludes full- time employment with another organization. Occasionally, deviations from this requirement may occur, and must be approved in writing by the Contracting Officer after consultation with the agency AF SBIR Program Manager/Coordinator. Further, an SBC may replace the principal investigator on an SBIR Phase I or Phase II award, subject to approval in writing by the Contracting Officer.

3.16. Proprietary Information

Proprietary information includes trade secrets, as well as commercial or financial information.

3.17. Research Involving Animal Subjects

"Activities involving animal subjects shall be conducted in accordance with DoDI 3216.01, "Use of Animals in DoD Programs"; 9 CFR parts 1-4; National Academy of Sciences Publication "Guide for the Care & Use of Laboratory Animals" as amended; Department of Agriculture rules implementing the Animal Welfare Act (7 U.S.C. §§ 2131-2159); and other applicable Federal/DoD/local laws, regulations, and instructions.

"Animal use" protocols apply to activities meeting any of the following criteria:

a. Any research, development, test, evaluation or training (including experimentation) involving an animal or animals.

b. An animal is defined as any living or dead, vertebrate organism (non-human) being used or intended for use in research, development, test, evaluation, or training.

c. A vertebrate is a member of the subphylum Vertebrata (within the phylum Chordata), including birds and cold-blooded animals.

See DoDI 3216.01 for definitions of these terms and applicability to work involving animals.

3.18. Research Involving Human Subjects

All research involving human subjects shall be conducted in accordance with 32 C.F.R. § 219 "The Common Rule", 10 USC §980 "Limitation on Use of Humans as Experimental Subjects", and DoDD 3216.02, "Protection of Human Subjects and Adherence to Ethical Standards in DoD-Supported Research," as well as other applicable Federal and state law and regulations, and DoD component guidance. Offerors must be cognizant of and abide by the additional restrictions and limitations imposed on the DoD regarding research involving human subjects, specifically as they regard vulnerable populations (DoDD 3216.02), recruitment of military research subjects (DoDD 3216.02), and informed consent and surrogate consent (10 U.S.C. § 980) and chemical and biological agent research (DoDD 3216.02). Food and Drug Administration regulation and policies may also apply.

"Human use" protocols apply to all research that meets any of the following criteria:

a. Any research involving an intervention or an interaction with a living person that would not be occurring or would be occurring in some other fashion but for this research.

b. Any research involving identifiable private information. This may include data/information/specimens collected originally from living individuals (broadcast video, web-use logs, tissue, blood, medical or personnel records, health data repositories, etc.) in which the identity of the subject is known, or the identity may be readily ascertained by the investigator or associated with the data/information/specimens.

See DoDD 3216.02 for definitions of these terms and more information about the applicability of DoDI 3216.02 to research involving human subjects.

3.19. Research Involving Recombinant DNA Molecules

Any recipient performing research involving recombinant DNA molecules and/or organisms and viruses containing recombinant DNA molecules shall comply with the

National Institutes of Health Guidelines for Research Involving Recombinant DNA Molecules, dated January 2011, as amended. The guidelines can be found at: https://osp.od.nih.gov/wp-content/uploads/2013/06/NIH_Guidelines.pdf. Recombinant DNA is defined as (i) molecules that are constructed outside living cells by joining natural or synthetic DNA segments to DNA molecules that can replicate in living cells or (ii) molecules that result from the replication of those described in (i) above.

3.20. Research or Research and Development (R/R&D)

a. A systematic, intensive study directed toward greater knowledge or understanding of the subject studied;

b. A systematic study directed specifically toward applying new knowledge to meet a recognized need; or

c. A systematic application of knowledge toward the production of useful materials, devices, systems, or methods, including prototype or process design, development, and improvement to meet specific requirements.

d. Intended broadly to include the work performed under a funding agreement with the government. It includes R&D in all fields, including the physical sciences, engineering, etc. Research is systematic study directed toward fuller scientific knowledge or understanding of the subject studied. Development is systematic use of the knowledge and understanding gained from research, for the production of useful materials, devices, systems, or methods, including the design and development of prototypes and processes.

3.21. Service-Disabled Veteran-Owned Small Business (SDVOSB)

A small business concern owned and controlled by a Service-Disabled Veteran or Service-Disabled Veterans, as defined in Small Business Act 15 USC § 632(q)(2) and SBA's implementing SDVOSB regulations (13 CFR 125).

3.22. Small Business Concern (SBC)

A concern meeting the requirements set forth in 13 CFR. § 121.702. An SBC must satisfy the following conditions on the date of award:

a. Is organized for profit, with a place of business located in the United States, which operates primarily within the United States or which makes a significant contribution to the United States economy through payment of taxes or use of American products, materials or labor;

b. Is in the legal form of an individual proprietorship, partnership, limited liability company, corporation, joint venture, association, trust or cooperative, except that if the concern is a joint venture, each entity to the venture must meet the requirements set forth in paragraph (c)below;

c. Is more than 50% directly owned and controlled by one or more individuals (who are citizens or permanent resident aliens of the United States), other small business concerns (each of which is more than 50% directly owned and controlled by individuals who are citizens or permanent resident aliens of the United States), or any combination of these; and

d. Has, including its affiliates, not more than 500 employees. (For explanation of affiliate, see www.sba.gov/size.)

3.23. Subcontract

A subcontract is any agreement, other than one involving an employer-employee relationship, entered into by an awardee of a funding agreement. The funding agreement calls for supplies or services to perform the basic award. This includes consultants.

3.24. Subcontractor

Subcontractor means any supplier, distributor, vendor, firm, academic institution, research center, or other person or entity that furnishes supplies or services pursuant to a subcontract, at any tier.

3.25. Test and Evaluation

Test and Evaluation: Phase II and Phase III awards may be made for testing and evaluation of products, services or technologies for use in technical or weapons systems. Use of this authority will be subject to compliance with fiscal law.

3.26. United States

The fifty states, the territories and possessions of the Federal Government, the Commonwealth of Puerto Rico, the Republic of the Marshall Islands, the Federated States of Micronesia, the Republic of Palau, and the District of Columbia.

3.27. Women-Owned Small Business Concern

An SBC at least 51% owned by one or more women, or in the case of any publicly owned business, at least 51% of the stock is owned by women, and women control the management and daily business operations.

4. PROPOSAL FUNDAMENTALS

This section applies to all proposals.

4.1. Introduction

The proposal must provide sufficient information to demonstrate to the reviewers the proposed work represents an innovative approach to investigation of important scientific

or engineering problems and is worthy of support under the stated criteria. The proposed RDT&E must be responsive to the chosen topic.

4.2. Offeror Eligibility and Performance Requirements

a. Each proposer must qualify as a small business concern IAW 13 C.F.R §§ 701-705 at time of award and certify to this on the proposal Cover Sheet. SBIR/STTR eligibility requirements are unique and do not correspond to other small business programs (see Section 3.22 of this CSO). Proposers must meet eligibility requirements for Small Business Ownership and Control IAW 13 CFR § 121.702 and Section 4.4 of this CSO.

b. A minimum of two-thirds of the research and/or analytical work in Phase I must be conducted by the proposing firm. For Phase II, a minimum of one-half (50%) of the research and/or analytical work must be performed by the proposing firm. The work percentage is measured by both direct and indirect costs.

c. Primary employment of the principal investigator must be with the small business firm at the time of the award and during the conduct of the proposed effort. Primary employment means more than one-half of the principal investigator's time is spent with the small business. Primary employment with a small business concern precludes full-time employment at another organization.

d. All R/R&D work must be performed by the small business concern and its subcontractors in the U.S.

e. **Benchmarks.** Offerors with prior SBIR/STTR awards must meet two benchmark requirements for progress toward commercialization as determined by the Small Business Administration (SBA) on 1 June of each year.

    1. For all proposers with greater than 20 Phase I awards over the past five fiscal years, excluding the most recent year (currently FY 2017-2021), the ratio of Phase II awards to Phase I awards must be at least 0.25.

    2. For all proposers with greater than 15 Phase II awards over the last ten fiscal years excluding the last two years (currently FY 2012-2021, the proposer must have received, to date, an average of at least $100,000 of sales and/or investments per Phase II award received or have received a number of patents resulting from the SBIR work equal to or greater than 15% of the number of Phase II awards received during the period.

Consequence of failure to meet the benchmarks:

- SBA will identify and provide Agencies annually on 1 June the list of companies failing to meet minimum performance requirements. These companies will not be eligible to submit Phase I proposals for one year from that date. This requirement only affects a company's eligibility for

new Phase I awards. Companies failing to meet minimum performance requirements may continue work on current, ongoing SBIR/STTR awards. They may also apply for and receive new Phase II awards. Likewise, they are not prohibited from receiving Phase III awards.

- To provide advance warning, SBA notifies companies on 1 April if they are failing the benchmarks. If a company believes the information used was not complete or accurate, it may provide feedback through the SBA Company Registry at www.sbir.gov.

- In addition, SBA has posted a Guide to SBIR/STTR Program Eligibility to help small businesses understand program eligibility requirements, determine if they will be eligible at award, and accurately complete necessary certifications.

- Companies' benchmark information is not available to the public.

4.3. Joint Ventures

Joint ventures and limited partnerships are permitted, provided the entity created qualifies as a small business in accordance with the Small Business Act, 13 U.S.C. § 121.701. Proposers must disclose joint ventures with existing (or planned) relationships/partnerships with any foreign entity or any foreign government-controlled companies.

4.4. Administrative Proposal Requirements

The AF is committed to reducing Phase I and II proposal-to-award lead times. To this end, processes and tools have been developed allowing for rapid, streamlined contracting via periodic expedited contracting events. Such speed dictates stringent administrative practices in the proposal submission process. **The AF reserves the right to disqualify proposals for failing to meet the requirements below.**

4.4.1. Registrations and Certifications.

Proposing firms must be registered in the Defense SBIR/STTR Innovation Portal (DSIP) in order to prepare and submit proposals. All users will be required to register for a login.gov account and link it to their DSIP account. To register in Login.gov, click the Login/Register button in the top right corner on the DSIP Submissions homepage and follow the steps to register. If you already have a Login.gov account, you can link your existing Login.gov account with your DSIP account. Job Aids and Help Videos to walk you through the process are in the Learning & Support section of DSIP, here: https://www.dodsbirsttr.mil/submissions/learning-support/training-materials.

Please note that the email address you use for Login.gov should match the email address associated with your existing DSIP account. If you do not recall the email address associated with your DSIP account, or if you already have an existing Login.gov account using a different email address, you will need your Firm's DUNS number and your Firm PIN in order to link your Login.gov account with your DSIP account. If the email address associated with your existing DSIP account has been used for multiple DSIP accounts within your Firm, you will also need

your Firm's DUNS number and your Firm PIN in order to link your Login.gov account with your DSIP account. The Firm PIN can be obtained from your Firm Admin. You can view the Firm Admin's contact information by entering your Firm's DUNS number when prompted. If you are the Firm Admin, please ensure that you contact all DSIP users in your Firm and provide them with the Firm PIN.

It is recommended that you complete your Login.gov setup as soon as possible to avoid any delays in your proposal submissions.

Before the DoD Components can award a contract, proposing firms must be registered in the System for Award Management (SAM). SAM allows firms interested in conducting business with the federal government to provide basic information on business structure and capabilities as well as financial and payment information. To register, visit www.sam.gov. Firms should login to SAM and ensure the firm's registration is active and representations and certifications are up-to date to avoid delay in award.

On April 4, 2022, the DUNS Number will be replaced by the Unique Entity ID (SAM). The Federal Government will use the UEI (SAM) to identify organizations doing business with the Government. The DUNS number will no longer be a valid identifier. If the firm has an entity registration in SAM.gov (even if the registration has expired), a UEI (SAM) has already been assigned. This can be found by signing into SAM.gov and selecting the Entity Management widget in the Workspace or by signing in and searching entity information. **For firms with established Defense SBIR/STTR Innovation Portal (DSIP) accounts, update the firm profile with the UEI (SAM) as soon as possible.**

For new firm registrations, follow instructions during SAM registration on how to obtain a Commercial and Government Entry (CAGE) code and be assigned the UEI (SAM). Once a CAGE code and UEI (SAM) are obtained, update the firm's profile on the DSIP at https://www.dodsbirsttr.mil/submissions/.

4.4.2. Discretionary Technical and Business Assistance

DoD has not mandated the use of TABA pending further SBA guidance and establishment of a limit on the amount of technical and business assistance services that may be received or purchased by a small business concern that has received multiple Phase II SBIR or STTR awards for a fiscal year. However, proposers should carefully review individual component instructions to determine if TABA is being offered and follow specific proposal requirements for requesting TABA funding.

4.4.3. Prior, Current, or Pending Support of Similar Proposals or Awards

It is permissible, with proper notification, to submit identical proposals or proposals containing a significant amount of essentially equivalent work for consideration under multiple Federal program solicitations. However, it is unlawful to enter into contracts, grants, cooperative agreements, Other Transactions, or other award types, requiring essentially equivalent effort. Questions concerning prior, current, or pending support of similar proposals or awards shall be disclosed to the soliciting agency or agencies as early as possible. Note that companies may submit multiple proposals, and receive

multiple awards, to topics under this solicitation, so long as the proposed work is not essentially equivalent in nature (see Section 3.4).

4.4.4. Proprietary Information

Information constituting a trade secret, commercial or financial information, confidential personal information, or data affecting national security must be clearly marked. It shall be treated in confidence to the extent permitted by law. Awards for selected proposals will incorporate the Work Plan, in whole or part, by reference or as an attachment. Therefore, **the Work Plan shall be Non-Proprietary and marked accordingly**. Proprietary and/or classified information shall not be included in the Proposal Cover Sheet.

4.4.5. Majority-Ownership by VCOC, Hedge Fund, or Private Equity Funds

Small businesses owned in majority part by multiple venture capital operating companies (VCOCs), hedge funds, or private equity funds are not eligible to submit proposals under this CSO.

4.4.6. Conflicts of Interest

Contract awards to firms owned by or employing current or previous Federal Government employees could create conflicts of interest for those employees which may be a violation of Federal law. Proposing firms should contact the cognizant Ethics Counselor from the employee's Government agency for further guidance if in this situation.

4.4.7. Classified Proposals

Classified proposals will **not** be accepted in response to this CSO. If efforts will require classified work during Phase II performance, the proposing firm must have or obtain a facility clearance. Additional information on facility and personnel clearance procedures and requirements can be found at the Defense Security Service site, http://www.dss.mil/index.html.

4.4.8. Research Involving Human Subjects

All research involving human subjects, to include use of human biological specimens and human data, shall comply with the applicable Federal and state laws and agency policy/guidelines for human subject protection (see Section 3.18).

Institutions to be awarded funding for research involving human subjects must provide documentation of a current Federal Assurance of Compliance with Federal regulations for human subject protection, for example a Department of Health and Human Services, Office for Human Research Protections Federal wide Assurance (http://www.hhs.gov/ohrp).

Additional Federal Assurance documentation may also be requested by the AF. All institutions engaged in human subject research, to include subcontractors, must also have a valid Assurance. In addition, personnel involved in human subject research must provide documentation of completing appropriate training for the protection of human subjects. Institutions proposing to conduct human subject research that meets one of the exemption criteria in 32 CFR 219.101 are not required to have a Federal Assurance of Compliance. If selected, institutions must also provide documentation of Institutional Review Board (IRB) approval or a determination from an appropriate official in the institution that the work meets one of the exemption criteria with 32 CFR 219. As part of the IRB review process, evidence of appropriate training for all investigators should accompany the protocol. The protocol, separate from the proposal, must include a detailed description of the research plan, study population, risks and benefits of study participation, recruitment and consent process, data collection and data analysis.

The amount of time required for the IRB to review and approve the protocol will vary depending on such things as the IRB's procedures, the complexity of the research, the level of risk to study participants and the responsiveness of the Investigator. The average IRB approval process can last between one and three months.

Once the IRB has approved the research, the AF will review the protocol and the IRB's determination to ensure that the research will be conducted in compliance with DoD and DoD Component policies. The DoD review process can last between three to six months. Ample time should be allotted to complete both the IRB and DoD approval processes prior to recruiting subjects. **No funding can be used towards human subject research until ALL approvals are granted.**

4.4.9. Research Involving Animal Subjects

All research, development, testing, experimentation, education or training involving the use of animals shall comply with the applicable Federal and agency rules on animal acquisition, transport, care, handling, and use (see Section 3.17).

For submissions containing animal use, proposals should briefly describe plans for their Institutional Animal Care and Use Committee (IACUC) review and approval.

All Recipients must receive their IACUC's approval as well as secondary or headquarters-level approval by a DoD veterinarian who is trained or experienced in laboratory animal medicine and science. **No animal research may be conducted using DoD funding until all the appropriate DoD office(s) grant approval.**

4.4.10. Research Involving Recombinant DNA Molecules

All research involving recombinant DNA molecules shall comply with the applicable Federal and state laws and regulations and any additional agency guidance. Research shall be approved by an Institutional Biosafety Committee.

4.4.11. Use of Unmanned Aircraft Systems (UAS)

All activities involving the operation of Unmanned Aerial Systems shall be conducted IAW Department of Defense Memo entitled "Guidance for the Domestic Use of Unmanned Aircraft Systems in the U.S. National Airspace, dated 18 August 2018 and DOD memo entitled, "Delegation Authority to Approve Exemptions for Using Commercial-Off-The-Shelf Unmanned Aerial Systems in Support of Urgent Needs, dated 16 November 2018. Contractor personnel operating DoD or DoD-contracted UAS in U.S. National Airspace, whether or not the domestic use is related to an intelligence activity, will comply with all laws, regulations, and guidance relating to the operation of UAS in U.S. National Airspace. Specific programs utilizing UAS are required to obtain an exemption for operational use of a UAS; therefore, additional documentation may be requested by the AF to support an exemption request. The DOD exemption approval process can require as long as two months. **No funding can be used for contracted-UAS operations until ALL approvals are granted.** In an effort to maximize identification of UAS technology, offerors are suggested to identify clearly any activities which constitute use of UAS.

4.4.12. Proposal Status and Feedback

The PI and Corporate Official indicated on the Proposal Cover Sheet will be notified by email regarding proposal selection or non-selection. The small business will receive one notification for each proposal submitted. Please note the referenced proposal number and read each notification carefully. **If changes occur to the company mail or email addresses or points of contact after proposal submission, the information must be provided to the AF via AF SBIR/STTR One Help Desk.**

<u>Feedback requests will be provided to offerors with proposals determined "Not Selectable" ONLY</u>. The notification letter will include instructions for submitting a feedback request. Offerors are entitled to no more than one feedback per proposal. NOTE: Feedback is not the same as a FAR Part 15 debriefing. Acquisitions under this solicitation are awarded via "other competitive procedures." Therefore, offerors are neither entitled to nor will they be provided FAR Part 15 debriefs.

If the preceding information is not included in the request, it will not be fulfilled. Feedback requests received more than 30 calendar days after non-selection notification receipt will be fulfilled at the Contracting Officers' discretion. Unsuccessful offerors are entitled to no more than one feedback

response for each proposal. The Contracting Officer may also delay feedback dissemination until all awards resulting from the solicitation are finalized.

Release of Proposal Review Information. After final award decisions have been announced, the peer review of the applicant's proposal may be provided to the offeror. The identity of the reviewer shall not be disclosed. Requests may be sent to the address above. The same information required for feedback requests shall be required for release of proposal review information. **If not included in the request, it will not be fulfilled.**

It is anticipated all proposal reviews will be complete, selection decisions made, and notification letters sent within approximately 90 calendar days of solicitation close. Please refrain from contacting the AF for proposal status before that time.

4.4.13. CSO, Selection, and Award Protests

Interested parties may have the right to protest this CSO by serving the Contracting Officer, Mr. Daniel Brewer, Daniel.Brewer.13@us.af.mil with the protest, by filing with the Government Accountability Office (GAO), or by filing U.S. Court of Federal Claims. Protest of selections or awards should also be directed to Mr. Brewer filed with GAO, or filed with the U.S. Court of Federal Claims. If the protest is filed with GAO, a copy of the protest shall be received by the AF Legal Operations Agency within one day of filing. Protests of a selected firm's small business status should be directed to the SBA.

4.4.14. Phase II and Direct to Phase II Award Information

a. **Number of Awards**. The number of awards will depend upon funds availability. The Government reserves the right to make no awards under this solicitation. The Federal Government is not responsible for costs incurred before award receipt.

b. **Type of Funding Agreement**. Phase II awards are executed as firm-fixed-price contracts or Other Transactions for Prototype. The Small Business Administration SBIR/STTR Policy Directive states, "Except as expressly excluded or limited by statute, awarding agencies must provide for a reasonable fee or profit on SBIR/STTR Funding Agreements, consistent with normal profit margins provided to profit-making firms for R/R&D work." Therefore, zero dollar profit proposals cannot be awarded. Awards may be negotiated; award type is at the Contracting Officer's discretion.

c. **Average Dollar Value**. Maximum Phase II contract value is found in Section 2.4.

d. **Timing**. It is intended that peer review, proposal selection, negotiations, and award will be complete within 180 calendar days of solicitation close.

4.4.15. Questions about this CSO and CSO Topics

a. General SBIR Questions/Information

1. **Air Force One SBIR/STTR Help Desk**. The Help Desk is available to address general questions about this CSO and other program-related topics. The Help Desk can be reached at usaf.team@afsbirsttr.us.

2. **DoD SBIR/STTR Help Desk** is prepared to address general questions about the proposal preparation and electronic submission process and other DSIP-related areas. The Help Desk may be contacted via email at DoDSBIRSupport@reisystems.com. Requests will be addressed in the order received during normal operating hours of Monday through Friday, 9:00 a.m. to 5:00 p.m. ET.

3. **Direct Contact with Topic Authors.** From April 20, 2022 to May 18, 2022, this CSO is issued for pre-release with the names of the topic authors and their phone numbers and e-mail addresses. During the prerelease period, proposing firms have an opportunity to contact topic authors by telephone or e-mail to ask technical questions about specific BAA topics. Questions should be limited to specific information related to improving the understanding of a particular topic's requirements. Proposing firms may not ask for advice or guidance on solution approach and you may not submit additional material to the topic author. If information provided during an exchange with the topic author is deemed necessary for proposal preparation, that information will be made available to all parties through Topic Q&A. After this period questions must be asked through Topic Q&A as described below.

4. **Topic Q&A.** Once DSIP is opened for proposal receipt on ~~**12 Jan**~~ **18 May 2022**, the only direct contact between potential offerors and topic authors may be when the latter is responding to a question submitted during the prerelease period. Proposers may submit written questions through the Topic Q&A at https://www.dodsbirsttr.mil/submissions/login. All questions and answers are posted electronically for general viewing. Identifying information for the questioner and respondent is not posted.

Questions are limited to those related to improving topic requirement understanding. Other questions, e.g., asking for advice or guidance on solution approach, will not receive a response. Proposing firms may locate the topic about which they have technical question by using the Topic Search feature on DSIP. Then, using the form at the bottom of the topic description, enter and submit the question. Answers are generally posted within seven (7) business days of question submission (answers will also be e-mailed directly to the inquirer).

Once the CSO closes to proposal submission, no communication of any kind with the topic author or through Topic Q&A regarding your submitted proposal is allowed.

Proposing firms should monitor the Topic Q&A during the CSO period. Proposing firms should also frequently monitor DSIP for solicitation/topic updates and amendments.

The Topic Q&A for CSO BAA opens on **April 20, 2022** and closes to new questions on **June 1, 2022 at 12:00 PM ET**.

5. **AF SBIR/STTR Open Topic Updates and Notices.** To receive notifications about AF Ventures and other AF innovation opportunities, please register at https://af-ventures.com/ and https://www.afwerx.af.mil/join.html.

6. **'Ask Me Anything (AMAs).** For information regarding these webinars, please visit https://www.afwerx.af.mil/sbir.html.

The AFNWC held an Industry Collider, 'Ask Me Anything' virtual event pertaining to X222-PDCSO1 on 27 April 2022. Video recordings are available at:
https://drive.google.com/drive/folders/1OSURf-bTfTqQEMfwUs7ryE7y0wgFQD6L?usp=sharing

4.4.16. Identifying RDT&E in SBIR/STTR Proposals

Subject to programmatic phase conditions, SBIR/STTR awards are made for research, development, test and evaluation (RDT&E) efforts. The definitions and criteria below govern SBIR/STTR as Research, Development, Test, and Evaluation (RDT&E) programs. These definitions and criteria implement 15 USC 638, the SBA SBIR/STTR Policy Directive (1 Oct 2020), and DoD Financial Management Regulation (FMR), Vol. 2A, Chapter 1, Section 0102, *Funding Policies* (June 2004, as amended).

Phase II Conditions:
Consistent with 15 U.S.C. 638 and the SBA SBIR/STTR Policy Directive (2020), both Phase I and II awards are aimed at furthering "scientific and technical merit and feasibility" of ideas in the proposals. The object of Phase II is to continue the R&D effort from the completed Phase I (or from prior non-SBIR/STTR research in case of Direct to Phase II award). Phase II also includes a Special Phase II Testing and Evaluation authority.

Scientific and Technical Feasibility Determination IAW 15 USC 638(cc):

Direct to Phase II awards are conditioned upon the awarding agency's determination the offeror's idea has sufficient scientific and technical feasibility and merit despite the lack of Phase I award.

4.4.16.1. Treatment of Commercial Off-the-Shelf (COTS) and Non-Developmental Items (NDIs):

COTS/NDIs: Items purchased directly from a commercial source that can be utilized without alteration through design and development, or without modification, are classified as COTS or NDI. This includes, for example, ready-to-use products, training services, and software licenses for ready-to-use software to satisfy service needs (including Software as a Service (SaaS)). Purchases of COTS and NDIs for use, including the first article and associated first article acceptance testing and related minor

adjustments are not suitable for SBIR/STTR funding. The acquisition of commercial items or NDIs for testing and operational evaluation that do not require RDT&E engineering, design or integration effort will not be funded by SBIR/STTR funds. However, if an end item requires design and development in order to accept the COTS or NDI, funding for design and development effort could be funded by SBIR/STTR funds. If a COTS or NDI is required for RDT&E test purposes, the cost could be funded by SBIR/STTR funds.

Modified COTS/Modified NDIs: Commercially available items that must be modified to satisfy user requirements are classified as "modified COTS" or "modified NDI" articles. In this instance, the first article, modification of the first article, and first article testing could be funded by SBIR/STTR funds. Follow-on purchases will not be funded by SBIR/STTR funds. The number of “modified” first articles bought with SBIR/STTR funds will not exceed the quantity needed to conduct the RDT&E acceptance tests. Modification is technology refreshment significantly changing the end item’s performance envelope. If the commercially available item is modified and requires testing prior to approval for service use or inventory it may be funded by SBIR/STTR funds, as all developmental items. In contrast to modification, continuous technology refreshment is the intentional insertion of newer technology to improve reliability, improve maintainability, reduce cost, and/or add minor performance enhancement, typically in conjunction with depot or field level maintenance. The insertion of such technology into end items as part of maintenance is not funded by SBIR/STTR funds.

4.4.16.2. **Technical Baseline:**

As RDT&E programs, SBIR/STTR efforts are subject to scientific and technical literature searches in order to establish technical baseline, avoid duplication, and justify funding IAW AFI 61-201, *Management of Scientific and Technical Information (STINFO)* (29 January 2019) and AFRL/CA guidance, *Streamlined and Waivered SBIR/STTR Specified Requirements* (05 Aug 2019).

4.4.16.3. **Non-RDT&E Effort:**

The majority of the Phase II effort must be RDT&E, but some percentage can be for non-RDT&E work, provided that the correct appropriation category is used for the corresponding deliverables, both the providing and receiving comptroller agree with the use of funds for those deliverables, and the Contract Officer determines that the overall effort remains RDT&E in nature.

4.4.16.4. **Special Circumstances:**

Offerors wishing to assert special circumstances or criteria meriting SBIR/STTR funds expenditure other than those provided above must address them in the proposal and provide appropriate statutory or regulatory justification. This information can be included in Volume 5, Supporting Documents, of the proposal.

4.4.17. Promotional Material

Promotional and non-project related proposal content is discouraged. Additional information provided via website or other communication medium, except where explicitly requested, will not be considered.

4.4.18. Fraud and False Statements

Knowingly and willfully making false, fictitious, or fraudulent statements or representations may be a felony under the Federal Criminal False Statement Act (18 USC Sec 1001), punishable by a fine of up to $10,000, imprisonment up to five years, or both.

The DoD Office of Inspector General (IG) Hotline is an important avenue for reporting fraud, waste, abuse, and mismanagement within the DoD. The DoD IG operates this hotline to receive and investigate complaints or information from contractor employees, DoD civilians, military service members, and public citizens. Individuals who wish to report fraud, waste or abuse may contact the Hotline at (800) 424-9098 between 8:00 a.m. and 5:00 p.m. Eastern Time or visit http://www.dodig.mil/Components/Administrative-Investigations/DoD-Hotline/Hotline-Complaint/. Written correspondence should be addressed to the Defense Hotline, The Pentagon, Washington DC, 20301-1900. Email reporting is available at hotline@dodig.mil.

4.4.19. State and Other Assistance Available

Many states have established programs to provide services to small business firms wishing to participate in the Federal SBIR Program. These services vary from state to state, but may include:

- Information and technical assistance;
- Matching funds to SBIR award recipients;
- Assistance in obtaining Phase III funding.

Contact the state SBIR/STTR Support office at https://www.sbir.gov/state_services?state=105813# for further information.

4.4.20. Use of Support Contractors for the AF SBIR Program

Proposals may be handled for administrative purposes only by support contractors, including APEX, MonTech, Inc., Oasis Systems, Riverside Research, Peerless Technologies, HPC- COM, Mile Two, Wright Brother

Institute, and MacB (an Alion Company). In addition, only Government employees and technical personnel from Federally Funded Research and Development Centers (FFRDCs) MITRE and Aerospace Corporations working under contract to provide technical support to AF Life Cycle Management Center, AF Nuclear Weapons Center, and Space and Missiles Centers may evaluate proposals. All support contractors are bound by appropriate non-disclosure agreements. Contact the AF SBIR/STTR Contracting Officer listed in Section 4.4.13 with concerns regarding the listed contractors.

4.4.21. Innovation in Manufacturing

Pursuant to EO 13329, high priority is accorded to proposals advancing innovation in U.S. small business manufacturing.

4.4.22. Renewable Energy

The Energy Independence and Security Act of 2007 (Act), 19 December 2007, P.L. 110-140, requires SBIR/STTR agencies to give high priority to energy efficiency or renewable energy system R&D projects. The Act encourages eligible US-owned SBCs accomplishing biomedical research in the areas of energy efficiency or renewable energy systems to submit proposals.

4.4.23. Proposal Preparation Tips

Those responding to this CSO should note the proposal preparation tips listed below:

a. Read and follow all CSO instructions.

b. Register the firm on the secure, password-protected DSIP system and, as instructed, prepare the firm's submission. The Air Force will accept proposals submitted via DSIP.

c. Register in the System for Award Management (SAM), https://www.sam.gov/. Firms not registered in SAM.gov are ineligible for award. Verify the firm's "Purpose of Registration" is set to ALL CONTRACTS, not solely grants and the firm's address matches the proposal and SAM.gov information. ***Begin this process early, as it can take more than 30 days for registration to be issued or updated.***

d. Register the firm with SBA's Company Registry at www.sbir.gov and provide the SBA SBC Identification for each proposal Cover Sheet submitted in response to this CSO.

e. Ensure cost adheres to Section **Error! Reference source not found.** (Phase I) or 5.3.4 (D2P2) of this CSO and the Cover Sheet cost matches the Cost Volume. The Cost Volume should ONLY include that work which will be conducted as part of the Phase I or Direct-to-Phase II effort (e.g. do

not include Phase III or privately funded work); conversely, if additional government funding will be provided to AFRL/SBRK for inclusion in the award (Phase II only), ensure that it IS represented in the Cost Volume.

f. Ensure the Project Abstract and other Cover Sheet content DOES NOT contain proprietary information.

g. Mark proprietary Technical Volume information as instructed in **Error! Reference source not found.** (Phase I) or 5.3.2 (D2P2).

h. Ensure Technical Volume content includes the items in Section **Error! Reference source not found.** (Phase I) or 5.3.2 (D2P2).

i. Ensure the proposal is submitted to the correct Component (AFWERX or AFRL) and topic number.

The AF recommends completing submission early, as computer traffic gets heavy near the announcement closing and could slow down the system. **Do not wait until the last minute.** The AF will not be responsible for proposals not submitted due to system lag or inaccessibility. Please ensure the email address listed in the proposal is current and accurate. The AF is not responsible for ensuring notifications are received by firms changing mailing addresses/e-mail addresses/company points of contact after proposal submission without proper notification. Changes after proposal submission or award (if selected) for Phase I and II shall be sent to usaf.team@afsbirsttr.us. **Note**, this provision is applicable only to proposals that were successfully submitted through the DSIP portal by the date outlined in this solicitation. This provision does not authorize offerors to alter their proposals after proposal submission and prior to the submission deadline to cure proposal deficiencies or material omissions, materially alter the technical or cost elements of the proposal, or otherwise revise the proposal to meet any SBIR eligibility requirements or to otherwise affect proposal selectability in accordance with the requirements and criteria outlined in the solicitation.

5. DIRECT TO PHASE II (D2P2) PROPOSAL

5.1. Introduction

15 U.S.C. §638(cc), as amended by NDAA FY12, Sec. 5106, and further amended by NDAA FY19, Sec. 854, PILOT TO ALLOW PHASE FLEXIBILITY, allows the AF to make SBIR Phase II awards to small business concerns without regard to whether the small business concerns were provided awards under Phase I of the program for the same proposed project. The Air Force is implementing D2P2 CSO opportunities under this authority. This does not guarantee future D2P2 opportunities will be offered. Proposals under this CSO must include documentation to determine Phase I feasibility has been met.

Awards will provide funds to conduct further RDT&E for non-Defense commercial solutions to meet specific Air Force end-users' and customers' need. These Phase II awards are intended to provide a commercialization path, and are not the proposed solutions' final step. Second phase commitments from non-SBIR Federal and non-Federal sources are not mandatory. Cost-share is also not required. However, second phase commitments serve as commercial potential evidence in accordance with 15 USC 638(e)(4)(B)(ii).

Offerors must adequately document completion of the Phase I feasibility requirement*. Offerors must demonstrate completion of R/R&D through means not solely based on previous efforts under the SBIR/STTR Programs to establish Phase II proposal feasibility based on criteria provided in the D2P2 topic descriptions. Phase II proposals require a comprehensive, detailed effort description. Proposals should demonstrate sufficient technical progress or problem-solving results to warrant more extensive RDT&E. Developing technologies with commercial and military potential is extremely important. Particularly, AF is seeking proposals emphasizing technologies' dual-use applications and commercialization.

NOTE: The offeror shall provide information to enable the agency to make the 15 U.S.C. 638(cc) determination of scientific and technical feasibility and merit. Offerors are required to provide information demonstrating scientific and technical merit and feasibility has been established as part of the Technical Volume described in Section 5.3.2. The AF will not review the Phase II proposals if it is determined the offeror 1) fails to demonstrate technical merit and feasibility are established or 2) the feasibility documentation does not support substantial performance by the offeror and/or the PI. Refer to the Phase I description within the topic to review the minimum requirements needed to demonstrate scientific and technical feasibility. **Feasibility documentation MUST NOT be solely based on work performed under prior or ongoing Federally-funded SBIR or STTR work.**

A complete proposal consists of the following:

0. **Registration**
    - Unique Entity ID (UEI) via SAM.gov registration

- Commercial or Government Entity (CAGE) Code
- SBA Small Business Concern (SBC) Control ID

1. **Volume 1: Proposal Cover Sheet**
   - CAGE, UEI
   - Certification Questions
   - Business Information
   - Proposal Information
   - Contact Information
2. **Volume 2: Technical Volume**
   - 15-Slide DRAFT Slide Deck (Instructions provided in Appendix A; example provided in Attachment 5)
   - 15-page White Paper
3. **Volume 3: Cost Volume**
   - Direct Labor Costs
   - Direct Material Costs
   - Other Direct Costs
   - Second Phase Commitment and/or Cost Share
4. **Volume 4: Company Commercialization Report**
5. **Volume 5: Supporting Documents**
   - Signed Customer Memorandum
   - Coversheet Supplement
   - Supplemental Cost Information
   - Resumes of Key Personnel
   - *Non-Proprietary* Work Plan
   - DoD Funding Agreement Certification (Signed)
   - DD Form 2345, Militarily Critical Technical Data Agreement (if applicable)
   - Allocation of Rights (optional)
   - Lifecycle Certification (required prior to award, if selected)
   - SBIR/STTR Environment, Safety and Occupational Health (ESOH)
   - Phase II Funding Commitment Documentation
     - Private Investment Letter (if applicable)
   - Additional Letters of Support (if applicable)
   - Contractor Certification Regarding Provision of Prohibited Video Surveillance and Telecommunications Services and Equipment (REQUIRED)
   - Foreign Ownership or Control Disclosure (Refer to section 5.3.7 subparagraph to determine applicability)
6. **Volume 6: Fraud, Waste and Abuse Training**

Refer to Table 1 for AFWERX topic submission requirements. Information for other topics may be found in the individual material. Proposals shall be submitted to DSIP. Upon initiation of a Proposal Cover Sheet, a proposal number is assigned. Please retain the proposal number for future reference. The proposer may add volumes or modify the Proposal Cover Sheet until the CSO closes.

Beginning with the X21.1 SBIR CSO, all proposers are required to submit

Volume 4: Company Commercialization Report (CCR), Volume 5: Contractor Certification Regarding Provision of Prohibited Video Surveillance and Telecommunications Services and Equipment, Volume 5: Foreign Ownership or Control Disclosure (Refer to section 5.3.7 subparagraph to determine applicability), and Volume 6: Fraud, Waste and Abuse training.

The Government is not obligated to make D2P2 awards nor is it responsible for offeror expenditures prior to award. All awards are subject to successful negotiations and funds availability.

5.2. Marking Proprietary Proposal Information

Offerors including data in proposals not to be disclosed to the public, or used by the Government except for evaluation purposes, shall:

1. Mark the first page of each Volume of the proposal submission with the following legend: "This proposal includes data that shall not be disclosed outside the Government and shall not be duplicated, used, or disclosed-in whole or in part-for any purpose other than to evaluate this proposal. If, however, a contract is awarded to this offeror as a result of-or in connection with-the submission of this data, the Government shall have the right to duplicate, use, or disclose the data to the extent provided in the resulting contract. This restriction does not limit the Government's right to use information contained in this data if it is obtained from another source without restriction. The data subject to this restriction are contained in pages [insert numbers or other identification of sheets]"; and

2. Mark each sheet of data it wishes to restrict with the following legend: “Use or disclosure of data contained on this page is subject to the restriction on the first page of this volume.”

The DoD assumes no liability for disclosure or use of unmarked data and may use or disclose such data for any purpose. Restrictive notices notwithstanding, proposals and final reports submitted through DSIP may be handled, for administrative purposes only, by support contractors. All support contractors are bound by appropriate non-disclosure agreements.

5.3. Direct to Phase II Proposal Instructions

A Phase II proposal should provide sufficient information to persuade the AF the proposed effort represents an innovative solution worthy of support under the stated criteria.

5.3.1. Proposal Cover Sheet (Volume 1)

Prepare the Proposal Cover Sheet in DSIP. **Do not include proprietary or classified information in the Proposal Cover Sheet**. Once the Cover Sheet is

saved, the system will assign a proposal number. The cover sheet may be modified as often as necessary until the CSO closes.

Technical Abstract: The technical abstract should include a brief program objective/effort description. Technical abstracts are submitted to the Office of the Secretary of Defense (OSD) for public release. Therefore, they shall not contain proprietary or classified information. The term "Component" on the Cover Sheet refers to the soliciting AF organization, AFWERX or AFRL.

Anticipated Benefits/Potential Commercial Applications of R/R&D: The first line of the 'Anticipated Benefits' section should follow this format: *We solved [AF problem] by providing [advantage], to help [AF end-user organization] accomplish [AF end-user's] goal. We will recognize profit by charging [non-Defense commercial customer organizations] to get [non-Defense commercial benefit]*. Be very explicit regarding the proposed AF end user and customer, if different, which is likely, and potential non-SBIR funding sources after successful Phase II completion. This list should also include non-proprietary, non-Defense commercial customers. Do not include specific AF names or non-Defense customers, as this section will be publicly released.

List of maximum 8 Key Words or Phrases, separated by commas, describing the project: This section will be used to categorize the application. These keywords may also be used to identify Phase III transition partners within the Government. Therefore, consider more than technical key words. A potentially useful analogy is Search Engine Optimization (SEO) Keywords.

5.3.2. Technical Volume (Volume 2)

~~**1. Format**~~

~~**Type of File:** The Technical Volume must be a single Portable Document Format (.pdf) file, including graphics. Perform a virus check before uploading the Technical Volume file. If a virus is detected, it may cause rejection of the proposal. **Do not lock or encrypt the uploaded file**. **Do not include or embed active graphics such as videos, moving pictures, or other similar media in the document.**~~

~~**Length Limitation:** The slide deck is limited to 15 slides; slides in excess of 15 will not be considered. The white paper submission is limited to 15 pages; pages in excess of 15 will not be considered.~~

~~**Layout:** Number all slides consecutively. Each slide should contain the company name, topic number, and proposal number assigned by DSIP when the Cover Sheet was created. For the slides, use type no smaller than 10-point font.~~

1. Format

Type of File: The Technical Volume is comprised of a slide deck not to exceed 15 charts and a white paper not to exceed 15 pages. It must be submitted as a single Portable Document Format (.pdf) file, including graphics. Perform a virus check before uploading the Technical Volume file. If a virus is detected, it may cause rejection of the proposal. **Do not lock or encrypt the uploaded file**. **Do not include or embed active graphics such as videos, moving pictures, or other similar media in the document.**

Length Limitation: The slide deck is limited to 15 charts; charts in excess of 15 will not be considered. The white paper is limited to 15 pages; pages in excess of 15 will not be considered.

Layout: Number all charts and pages consecutively. Each chart/page should contain the company name, topic number, and proposal number assigned by DSIP when the Cover Sheet was created. For the white paper, use type no smaller than 10-point on standard 8-1/2" x 11" paper with one-inch margins; the header may be included in the one-inch margin.

5.3.3. Cost Volume (Volume 3)

Complete the Cost Volume as shown in the Cost Breakdown Guidance. This is accomplished by using the online cost volume form in DSIP. Some items may not apply to the proposed project. If not, do not provide information for those items. Enough information shall be provided for AF to understand the company's plan to utilize the requested funds, i.e., the purpose, necessity, and reasonableness of each expenditure.

Fixed price payments shall be tied to measurable milestones, as agreed to with the Government. For Phase II efforts including Government second phase funding commitments wherein RGK receives non-SBIR, Governmental funding for a Phase II effort, the cost proposal should clearly identify SBIR-funded tasks and non-SBIR-funded tasks. Government second phase funding commitments awarded as Phase IIIs and private investment should not be included in the Cost Volume.

For direct costs, include substantiating information such as vendor quotes, previous orders, historical data, etc. Costs without substantiating justification should be detailed through the cost estimating process. All substantiating evidence should be included in the 'Additional Cost Information' section of the Volume 5, Supporting Documents. If selected for award, the Government may require further documentation to substantiate costs.

Provide sufficient detail, as found in 1-4 below, regarding funds' use if the contract is awarded. The itemized listing may be placed in the "Explanatory Material" section of the on-line Cost Volume (if enough room) or submitted in Volume 5, Supporting Documents, under the "Other" dropdown option. Note: Only one file can be uploaded to DSIP.

Information in the online Cost Volume form includes but is not limited to:

1. Direct Labor Costs: Identify key personnel by name, if possible, or by labor category if specific names are not available. The number of hours, labor overhead and/or fringe benefits, and actual hourly rates for each individual are required.

2. Direct Material Costs: Provide an itemized list including types, quantities, price, and, when appropriate purpose, for materials, parts, and supplies. If proposing direct material, justification information, including vendor quotes, historical costs, etc., can be included as "Supplemental Cost Information" in Volume 5, Other Supporting Documents.

3. Other Direct Costs: This category of costs includes specialized services such as machining or milling, special testing or analysis, and/or cost incurred in obtaining temporary use of specialized equipment. Proposals, which include leased hardware, must provide an adequate lease vs. purchase justification or rational. If proposing other direct costs, additional information can be included as "Supplemental Cost Information" in Volume 5, Other Supporting Documents.

    a. Travel: Include travel costs in "Other Direct Costs." Travel costs must relate to the needs of the project. Break out travel cost by trip, number of travelers, airfare, per diem, lodging, etc. The number of trips required, as well as the destination and purpose of each should be included. Recommend budgeting at least one (1) trip to the Air Force location managing the contract. Greater travel expectations will be required as noted in some topic statements and corresponding SBIR/STTR Interactive Topic Information System (SITIS) Q&A. Estimation of travel costs need not be an overly onerous exercise, and actual travel cost may differ from your proposed travel. This information allows the Government CO to ensure travel costs are not excessive.

    b. Subcontracts: Include subcontract/consultant costs in "Other Direct Costs." Involvement of university or other consultants in the planning and/or research stages of the project may be appropriate. If so, describe in detail and include information in the Cost Volume. The proposed total of all consultant fees, facility leases or usage fees, and other subcontract or purchase agreements may not exceed one-third of the total contract price or cost, unless otherwise approved in writing by the Contracting Officer. Support subcontract costs with copies of the subcontract agreements. The supporting agreement documents must adequately

describe the work to be performed. At a minimum, an offeror must include a Statement of Work (SOW) with a corresponding detailed Cost Volume for each planned subcontract.

c. Consultants: Provide a separate agreement letter for each consultant. The letter should briefly state what service or assistance will be provided, the number of hours required and hourly rate

d. Special Tooling/Test Equipment/Material: The inclusion of equipment and materials will be carefully reviewed relative to need and appropriateness of the work proposed. The purchase of special tooling and test equipment must, in the opinion of the CO, be advantageous to the Government and relate directly to the specific effort. They may include such items as innovative instrumentation and/or automatic test equipment. Title to property furnished or funded by the Government will be vested with the AF, unless determined that title transfer to the contractor is more cost effective than equipment recovery by the Government.

ROUND ALL COSTS TO THE NEAREST DOLLAR!

NOTE: If no exceptions are taken to an offeror's proposal, the Government may award a contract with only clarifications. Therefore, the initial proposal should contain an offeror's best terms from a cost/ price and technical standpoint. For questions regarding the award document, contact the AF SBIR/STTR CO, Daniel Brewer, Daniel.Brewer.13@us.af.mil.

5.3.4. Commercialization Report (Volume 4)

The Company Commercialization Report (CCR) allows companies to report funding outcomes resulting from prior SBIR and STTR awards. SBIR and STTR awardees are required by SBA to update and maintain their organization's CCR on SBIR.gov. Commercialization information is required upon completion of the last deliverable under the funding agreement. Thereafter, SBIR and STTR awardees are requested to voluntarily update the information in the database annually for a minimum period of 5 years.

If the proposing firm has prior DoD and/or non-DoD Phase I and/or Phase II SBIR/STTR awards, regardless of whether the project has any commercialization to date, a PDF of the CCR must be downloaded from SBIR.gov and uploaded to the Firm Forms section of DSIP by the Firm Admin. Firm Forms are completed by the DSIP Firm Admin and are applied across all proposals the firm submits. The DSIP CCR requirement is fulfilled by completing the following:

1. Log into the firm account at https://www.sbir.gov/.

2. Navigate to My Dashboard > My Documents to view or print the information currently contained in the Company Registry Commercialization Report.
3. Create or update the commercialization record, from the company dashboard, by scrolling to the "My Commercialization" section, and clicking the create/update Commercialization tab under "Current Report Version". Please refer to the "Instructions" and "Guide" documents contained in this section of the Dashboard for more detail on completing and updating the CCR. **Ensure the report is certified and submitted.**
4. Click the "Company Commercialization Report" PDF under the My Documents section of the dashboard to download a PDF of the CCR.
5. Upload the PDF of the CCR (downloaded from SBIR.gov in previous step) to the Company Commercialization Report in the Firm Forms section of DSIP. This upload action must be completed by the Firm Admin.

This version of the CCR, uploaded to DSIP from SBIR.gov, is inserted into all proposal submissions as Volume 4.

During proposal submission, the proposer will be prompted with the question: "Do you have a new or revised Company Commercialization Report to upload?". There are three possible courses of action:

a. If the proposing firm has prior DoD and/or non-DoD Phase I and/or Phase II SBIR/STTR awards, and **DOES have a new or revised CCR from SBIR.gov to upload to DSIP**, select YES.
   - If the user is the Firm Admin, they can upload the PDF of the CCR from SBIR.gov directly on this page. It will also be updated in the Firm Forms and be associated with all new or in-progress proposals submitted by the firm. If the user is not the Firm Admin, they will receive a message that they do not have access and must contact the Firm Admin to complete this action.
   - **WARNING:** Uploading a new CCR under the Firm Forms section of DSIP or clicking "Save" or "Submit" in Volume 4 of one proposal submission is considered a change for ALL proposals under any open BAAs or CSOs. If a proposing firm has previously certified and submitted any Phase I or Direct to Phase II proposals under ***any*** BAA or CSO ***that is still open***, those proposals will be automatically reopened. Proposing firms will have to recertify and resubmit such proposals. If a proposing firm does not recertify or resubmit such proposals, they will not be considered fully submitted and will not be evaluated.

b. If the proposing firm has prior DoD and/or non-DoD Phase I and/or Phase II SBIR/STTR awards, and **DOES NOT have a new or revised CCR from SBIR.gov to upload to DSIP**, select NO.
   - If a prior CCR was uploaded to the Firm Forms, the proposer will see a file dialog box at the bottom of the page and can view the previously uploaded CCR. This read-only access allows the proposer to confirm that the CCR has been uploaded by the Firm Admin.

- If no file dialog box is present at the bottom of the page that is an indication that **there is no previously uploaded CCR in the DSIP Firm Forms**. To fulfill the DSIP CCR requirement the Firm Admin must follow steps 1-5 listed above to download a PDF of the CCR from SBIR.gov and upload it to the DSIP Firm Forms to be included with all proposal submissions.

c. If the proposing firm has **NO** prior DoD and/or non-DoD Phase I and/or Phase II SBIR/STTR awards, the upload of the CCR from SBIR.gov is not required and firm will select NO. The CCR section of the proposal will be marked complete.

While all proposing firms with prior DoD and/or non-DoD Phase I and/or Phase II SBIR/STTR awards must report funding outcomes resulting from these awards through the CCR from SBIR.gov and upload a copy of this report to their Firm Forms in DSIP. **The Air Force will not consider the CCR during proposal evaluations.**

5.3.5. Supporting Documents (Volume 5)

Used to submit additional documentation supporting the Technical Volume (Volume 2) and the Cost Volume (Volume 3). NOTE – when combining .pdf documents, ensure digital signatures are not stripped.

Beginning with the X21.1 SBIR CSO, all applicants are REQUIRED to submit the following documents to Volume 5:

1. Contractor Certification Regarding Provision of Prohibited Video Surveillance and Telecommunications Services and Equipment (REQUIRED)
2. Foreign Ownership or Control Disclosure (REQUIRED - Refer to section 5.3.1 to determine applicability.)

Documents acceptable for inclusion in Volume 5 are:

1. **Coversheet Supplement:** The online coversheet asks many question, depending on the answers more information may be needed. The list of questions, and additional information **required** based on responses to those questions, are provided in Appendix B. Failure to provide supplemental information, when required, may result in company ineligibility.

2. **Supplemental Cost Information:** This document is used to provide additional cost information to augment the Cost Volume (Volume 3) provided in the online form. The Supplemental Cost Information detail must be adequate to enable Air Force personnel to determine the purpose, necessity, and reasonableness of each cost element provided in the Cost Volume. Information in this section should include the following where applicable:

a. For significant costs, e.g., large number of hours, very high hourly wages, substantial labor overhead/fringe rates, etc., provide justification. Helpful resources for determining average rates are https://www.bls.gov/oes/current/oes_nat.htm.

b. **Direct Material Costs:** Provide an itemized list of types, quantities, price, and purpose for proposed materials, parts, and supplies. For the materials, provide the cost basis, e.g., historical information, vendor quotes, catalogs, etc.

c. **Travel included in Other Direct Costs:** If travel was proposed as an Other Direct Cost, funding requested must related to the project's needs. Provide the number of trips, travelers per trip, specific locations, and purpose. Also include the sources of estimated costs for flights, lodging, meals, and ground transportation. A useful resource for this section is https://www.gsa.gov/travel-resources.

d. **Special Tooling/Test Equipment/Material:** While special tooling/ test equipment/material costs may be included for Phase I, it will be carefully reviewed to determine need and appropriateness for the proposed work. Special tooling and test equipment purchases must, in the Government CO's opinion, be advantageous to the Government and directly related to the effort. This can include innovative instrumentation or automatic test equipment. Typically title to property furnished by the Government or acquired with Government funds will be vested with the DoD Component. Only if it is determined title transfer to the contractor would be more cost effective than equipment recovery will it be otherwise dispositioned.

e. **Copies of Subcontract Agreements:** If the offeror intends to utilize consultants, subcontractors, academia, etc., describe the relationship in detail, including information in the Cost Volume. The proposed total of all consultant fees, facility leases/usage fees, and/or other subcontract or purchase agreements, may not exceed one-third of the total contract price/cost, unless otherwise approved in writing by the Government CO. Provide copies of subcontract agreements. The supporting agreement documents must adequately describe the work to be performed. **At a minimum, an offeror must include a Statement of Work (SOW) with a corresponding, detailed Cost Volume for each planned subcontract.**

f. **Copies of Consultant Agreements:** Provide a separate agreement letter for each consultant. The letter should briefly state the tasks to be provided, hours required, and hourly rate. Some firms seek assistance from subcontractors or consultants to determine their solution's feasibility for a specific DoD customer. **If working with a customer discovery firm like this, the associated agreement is required to be**

included in the proposal.

g. **Facilities/Equipment:** Describe instrumentation and/or physical/digital facilities necessary and available to carry out the proposed effort. Justify equipment to be purchased, including in 'Additional Cost Information,' as necessary. State whether proposed performance locations meet Federal, state, and local government environmental laws and regulations for airborne emissions, waterborne effluents, external radiation levels, outdoor noise, solid/bulk waste disposal practices, toxic/hazardous material handling/storage, and others as identified.

h. **Indirect Costs:** The proposal should identify the specific rates used and allocation bases to which they are applied. Provide proposed rates and applications per FY throughout the anticipated performance period. Do not propose composite rates.

NOTE: If selected, offerors may be requested to provide additional documentation to the Government to substantiate costs, e.g., explain cost estimates for equipment, materials, and consultants or subcontractors.

3. **Resumes of Key Personnel**: Full resumes, including a publications list, for the Primary Investigator and other key technical personnel shall be included.

4. **Non-Proprietary Work Plan:** Provide a complete, non-proprietary work plan, free of proprietary markings. Attach as a stand-alone document, if possible, for inclusion in the contact document, if selected. Failure to provide this document will necessitate a request for revision and may delay contract award.

5. **DoD Funding Agreement Certification (Signed):** Funding Agreement Certifications must be completed and signed at time of proposal submission and included in Volume 5. This certification can be found at: https://www.afsbirsttr.af.mil/Program/Phase-I-and-II/ under "Phase I and II Certification – Funding Agreement."

6. **DD Form 2345 - ITAR/EAR Certification:** For proposals whose solutions fall under export-controlled regulations (either International Traffic in Arms (ITAR) or Export Administration Regulations (EAR)), a copy of the certified DD Form 2345, Militarily Critical Technical Data Agreement, or evidence of application submission must be included. The form, instructions, and FAQs may be found at the United States/Canada Joint Certification Program website, http://www.dla.mil/HQ/InformationOperations/Offers/Products/LogisticsApplications/JCP/DD 2345Instructions.aspx. Approval of the DD Form 2345 will be verified if proposal is chosen for award.

7. **Allocation of Rights**: If subcontracting to a research institution or other organization, the firm may wish to complete an allocation of rights agreement. This is not required for SBIR awards but may be used at the company's discretion. Example: https://www.afsbirsttr.af.mil/Portals/60/Pages/Phase%20I-II/Model%20agreement%20for%20the%20allocation%20of%20rights.pdf

8. **Lifecycle Certification**: All SBIR/STTR Phase II awardees must complete a certification document at award (Phase I and II and D2P2), prior to receipt of more than half the total contract award amount (Phase II and D2P2), and before final payment receipt (Phase I and II and D2P2). All questions must be answered and an authorized officer of the company must sign and date prior to submission. The document is found at https://www.afsbirsttr.af.mil/Portals/60/Pages/Phase%20I-II/SBIR-STTR-Phase-I-II-Life%20Cycle%20Certifications.pdf.

9. **SBIR/STTR Environment, Safety and Occupational Health (ESOH) Questionnaire**: Include a completed SBIR/STTR Environment, Safety, and Occupational Health (ESOH) Questionnaire in Volume 5, Supporting Documents, "Other" section. Form can be found at https://www.afsbirsttr.af.mil/Portals/60/Pages/Phase%20I-II/SBIR_Ph_II_ESOH_Questionaire.pdf.

10. **Additional Letters of Support:** Letters of support demonstrate that the proposed innovation, if developed, would solve a valid market need. More generally, letters of support can validate commercial impact claims made in the proposal. Therefore, letters from potential technology end users (e.g., customers and corporate partners/collaborators) are appropriate, as well as letters from actual or potential investors. All letters should be uploaded in a single .pdf file organized logically. NOTE: When combining .pdf documents, ensure digital signatures are not stripped.

5.3.6. Contractor Certification Regarding Provision of Prohibited Video Surveillance and Telecommunications Services and Equipment

The DoD must comply with Section 889(a)(1)(B) of the National Defense Authorization Act (NDAA) for Fiscal Year 2019, and is working to reduce or eliminate contracts with entities that use any equipment, system, or service that uses covered telecommunications equipment or services (as defined in the attachment) as a substantial or essential component of any system, or as critical technology as part of any system.

All proposals must include the certifications found in Federal Acquisition Regulation clauses 52.204-24, 52-204-25, and 52-204-26, executed by the proposer's authorized company representative. These Federal Acquisition Regulation clauses may be found attached. **These certifications must be**

signed by the authorized company representative and uploaded as a separate PDF file in Volume 5 for all proposal submissions.

Completion of the required certification clauses requires due diligence for contractors proposed as a part of the submission, including research partners and suppliers. Therefore, proposers are strongly encouraged to review certification requirements early in the proposal development process. Failure to complete and/or submit the required certifications with the proposal may be cause for rejection without evaluation.

5.3.7. Foreign Ownership or Control Disclosure

Proposers must review Attachment 2: Foreign Ownership or Control Disclosure to determine applicability. If applicable, an authorized firm representative must complete the Foreign Ownership or Control Disclosure (Attachment 4). The completed and signed disclosure must be uploaded to Volume 5 of the proposal submission.

5.3.8. Fraud, Waste and Abuse Training (Volume 6)

The Fraud, Waste and Abuse (FWA) training is **required** for Phase I and Direct to Phase II proposals. The training provides information on what represents FWA in the SBIR/STTR Programs, the most common mistakes leading to FWA, and the penalties and ways to prevent FWA. This training material must be thoroughly reviewed once per year. Plan ahead and leave ample time to complete this training based on the proposal submission deadline.

6. DIRECT TO PHASE II (D2P2) REVIEW CRITERIA

Proposals will be evaluated on a competitive basis. Proposals will initially be screened to determine responsiveness. Proposals passing this initial screening will be peer reviewed by engineers or scientists to determine the most promising technical and scientific approaches. Each proposal will be judged on its own merits. An offeror may submit, and subsequently receive awards for, multiple D2P2 proposals under a single solicitation provided the successful proposals do not contain essentially equivalent work. The DAF is under no obligation to fund a specific number of Phase II proposals and may elect to award none.

Proposals will be peer reviewed based on the criteria below. Selections will represent best value to the Government considering the following factors listed in descending order of importance:

1. The appropriateness and relevance in fulfilling a need of the Air Force Nuclear Weapons Center (AFNWC). An account of how the proposal meets an AFNWC technical area indicates appropriateness and relevance. While not required, a signed customer memorandum and/or letter of support from other Government personnel may be indicators of appropriateness and relevance.

2. Technical approach. The technical approach soundness, technical merit, and innovation of the proposed technical approach, as well as its differentiation from current customer alternatives. Includes the proposed Principal Investigators'/Project Managers', supporting staff, and consultants' qualifications to execute the proposed approach.

3. The potential for Government or private sector commercialization and benefits expected to accrue from commercialization. The SBC's record of commercializing SBIR or other research, the existence of Phase II follow-on commitments for the subject research, and matching funding, whether from Government or private sources, are evidence of commercialization potential.

Price reasonableness and realism will be considered to the extent appropriate. IAW 15 USC 638(dd)(7), investment by venture capital, private equity firms, or hedge funds shall not be used as an award criterion.

Peer reviewers will base their conclusions only on information contained in the proposals. It cannot be assumed reviewers are acquainted with the firm, key individuals, or referenced experiments.

Review Section 8 for specific information regarding Pitch Evaluation process.

Other Factors Considered During the Selection Process:

- National security concerns.
- Pursuant to EO 13329, high priority is accorded to proposals advancing innovation in U.S. small business manufacturing.
- The Energy Independence and Security Act of 2007 (Act), 19 December 2007, P.L. 110-140, requires SBIR/STTR agencies to give high priority to energy efficiency or renewable energy system R&D projects. The Act encourages eligible US-owned SBCs accomplishing biomedical research in the areas of energy efficiency or renewable energy systems to submit proposals.

7. CONTRACTUAL REQUIREMENTS

7.1. Additional Contract Requirements

Small Business Concerns (SBCs) are strongly encouraged to engage with their Contracting/Agreements Office to determine what measures can be taken in the event contract performance is affected due to the COVID-19 situation. SBCs are encouraged to monitor the CDC Website, engage with your employees to share information and discuss COVID-19 concerns employees may have. Please identify to your Contracting/Agreements Officer potential impacts to the welfare and safety of your workforce and any contract/OT performance issues. Most importantly, keep in mind that only your Contracting/Agreements Officer can affect changes to your contract/OT.

Upon award of a contract, the contractor will be required to make certain legal commitments through acceptance of Government contract clauses in the Phase I contract. The outline that follows is illustrative of the types of provisions required by the Federal Acquisition Regulation that will be included in the Phase I contract. This is not a complete list of provisions to be included in Phase I contracts, nor does it contain specific wording of these clauses. Copies of complete general provisions will be made available prior to award.

Examples of general provisions:

a. **Standards of Work**. Work performed under the contract must conform to high professional standards.
b. **Inspection**. Work performed under the contract is subject to Government inspection and evaluation at all reasonable times.
c. **Examination of Records**. The Comptroller General (or a fully authorized representative) shall have the right to examine any directly pertinent records of the contractor involving transactions related to this contract.
d. **Default**. The Government may terminate the contract if the contractor fails to perform the work contracted.
e. **Termination for Convenience**. The contract may be terminated at any time by the Government if it deems termination to be in its best interest, in which case the contractor will be compensated for work performed and for reasonable termination costs.
f. **Disputes**. Any dispute concerning the contract which cannot be resolved by agreement shall be decided by the contracting officer with right of appeal.
g. **Contract Work Hours**. The contractor may not require an employee to work more than eight hours a day or forty hours a week unless the employee is compensated accordingly (that is, receives overtime pay).
h. **Equal Opportunity**. The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin.
i. **Affirmative Action for Veterans**. The contractor will not discriminate against any employee or applicant for employment because he or she is a disabled veteran.

j. **Affirmative Action for Handicapped**. The contractor will not discriminate against any employee or applicant for employment because he or she is physically or mentally handicapped.
k. **Officials Not to Benefit**. No member of or delegate to Congress shall benefit from the contract.
l. **Covenant Against Contingent Fees**. No person or agency has been employed to solicit or secure the contract upon an understanding for compensation except bona fide employees or commercial agencies maintained by the contractor for the purpose of securing business.
m. **Gratuities**. The contract may be terminated by the Government if any gratuities have been offered to any representative of the Government to secure the contract.
n. **Patent Infringement**. The contractor shall report each notice or claim of patent infringement based on the performance of the contract.
o. **Military Security Requirements**. The contractor shall safeguard any classified information associated with the contracted work in accordance with applicable regulations.
p. **American Made Equipment and Products**. When purchasing equipment or a product under the SBIR funding agreement, purchase only American-made items whenever possible.

Applicable Federal Acquisition Regulation (FAR) and/or Defense Federal Acquisition Regulation Supplement (DFARS) Clauses:

a. **Unique Identification (UID)**. If your proposal identifies hardware that will be delivered to the government, be aware of the possible requirement for unique item identification in accordance with DFARS 252.211-7003.
b. **Disclosure of Information.** In accordance with FAR 252.204-7000, Government review and approval will be required prior to any dissemination or publication, regardless of medium (e.g., film, tape, document), pertaining to any part of this contract or any program related to this contract except within and between the Contractor and any subcontractors, of unclassified and non-fundamental information developed under this contract or contained in the reports to be furnished pursuant to this contract.
c. **Animal Welfare**. Contracts involving research, development, test, evaluation, or training on vertebrate animals will incorporate DFARS clause 252.235-7002.
d. **Protection of Human Subjects**. Effective 29 July 2009, contracts that include or may include research involving human subjects in accordance with 32 CFR Part 219, DoD Directive 3216.02 and 10 U.S.C. 980, including research that meets exemption criteria under 32 CFR 219.101(b), will incorporate DFARS clause 252.235-7004.
e. **E-Verify**. Contracts exceeding the simplified acquisition threshold may include the FAR clause 52.222-54 “Employment Eligibility Verification” unless exempted by the conditions listed at FAR 22.2803.
f. **ITAR**. In accordance with DFARS 225.7901-4, Export Control Contract Clauses, the clause found at DFARS 252.225-7048, Export-Controlled Items (June 2013), must be included in all BAAs/solicitations and contracts. Therefore, all awards resulting from this BAA will include DFARS 252.225-7048. Full text of the clause may be found at

https://www.govinfo.gov/content/pkg/CFR-2013-title48-vol3/pdf/CFR-2013-title48-vol3-sec252-225-7048.pdf.

g. **Cybersecurity**. Any SBC receiving an SBIR/STTR award is required to provide adequate security on all covered contractor information systems. Specific security requirements and cyber incident reporting requirements are listed in DFARS 252.204.7012. Compliance is mandatory.

h. **Safeguarding Covered Defense Information Controls.** As prescribed in DFARS 252.204-7008, for covered contractor information systems that are not part of an information technology service or system operated on behalf of the Government, the SBC represents that it will 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".

i. **Limitations on the Use or Disclosure of Third- Party Contractor Reported Cyber Incident Information.** As required in DFARS 252.204-7009, the Contractor must agree that certain conditions apply to any information it receives or creates in the performance of a resulting contract that is information obtained from a third-party's reporting of a cyber incident pursuant to DFARS clause 252.204-7012, Safeguarding Covered Defense Information and Cyber Incident Reporting (or derived from such information obtained under that clause).

j. **Notice of NIST SP 800-171 DoD Assessment Requirements.** As prescribed by DFARS 252.204-7019, in order to be considered for award, the SBC is required to implement NIST SP 800-171. The SBC shall have a current assessment (see 252.204-7020) for each covered contractor information system that is relevant to the offer, contract, task order, or delivery order. The Basic, Medium, and High NIST SP 800-171 DoD Assessments are described in the NIST SP 800-171 DoD Assessment Methodology located at https://www.acq.osd.mil/dpap/pdi/cyber/strategically_assessing_contractor_implementation_of_NIST_SP_800-171.html. In accordance with DFARS 252.204-7020, the SBC shall provide access to its facilities, systems, and personnel necessary for the Government to conduct a Medium or High NIST SP 800-171 DoD Assessment, as described in NIST SP 800-171 DoD Assessment Methodology, linked above. Notification of specific requirements for NIST SP 800-171 DoD assessments and assessment level will be provided as part of the component instructions, topic, or award.

k. **Contractor Certification Regarding Provision of Prohibition on Contracting for Certain Telecommunications and Video Surveillance Services or Equipment.** In accordance with DFARS Subpart 204.21, DFARS provisions 252.204-7016, 252.204-7017, and clause 252.204-7018 are incorporated into this solicitation. This subpart implements section 1656 of the National Defense Authorization Act for Fiscal Year 2018 (Pub. L. 115-91) and section 889(a)(1)(A) of the National Defense Authorization Act for Fiscal Year 2019 (Pub. L. 115-232). Full text of the provisions and clause and required offeror representations can be found in Attachment 1 of this BAA.

l. **Disclosure of Ownership or Control by a Foreign Government**. DFARS 252.209-7002, Disclosure of Ownership or Control by a Foreign Government (JUN 2010), is

incorporated into this solicitation. In accordance with DFARS 252.209-7002, any SBC submitting a proposal in response to this solicitation is required to disclose, by completing Attachment 2 to this solicitation, Foreign Ownership or Control Disclosure, any interest a foreign government has in the SBC when that interest constitutes control by a foreign government, as defined in DFARS provision 252.209-7002. If the SBC is a subsidiary, it is also required to disclose any reportable interest a foreign government has in any entity that owns or controls the subsidiary, including reportable interest concerning the SBC's immediate parent, intermediate parents, and the ultimate parent.

7.2. Ensuring Adequate COVID-19 Safety Protocols for Federal Contractors

In accordance with Class Deviation 2021-O0009 implementing the direction provided by Executive Order 14042, the following clause 252.223-7999 will be incorporated into awards that: (a) exceed the simplified acquisition threshold of $250,000; and, (b) have been identified by the awarding DoD Component as meeting the applicability requirements as outlined in E.O. 14042 to ensure that contractors comply with all guidance for contractor and subcontractor workplace locations published by the Safer Federal Workforce Task Force at: https://www.saferfederalworkforce.gov/contractors/.

Covered contractors are cautioned to pay particular attention to "COVID 19 Workplace Safety: Guidance for Federal Contractors and Subcontractors" dated 24 September 2021 as promulgated by the Safer Federal Workforce Task Force.

252.223-7999 Ensuring Adequate COVID-19 Safety Protocols for Federal Contractors (Deviation 2021-O0009)

(a) *Definition*. As used in this clause –

United States or its outlying areas means—

(1) The fifty States;

(2) The District of Columbia;

(3) The commonwealths of Puerto Rico and the Northern Mariana Islands;

(4) The territories of American Samoa, Guam, and the United States Virgin Islands; and

(5) The minor outlying islands of Baker Island, Howland Island, Jarvis Island, Johnston Atoll, Kingman Reef, Midway Islands, Navassa Island, Palmyra Atoll, and Wake Atoll.

(b) *Authority*. This clause implements Executive Order 14042, Ensuring Adequate COVID Safety Protocols for Federal Contractors, dated September 9, 2021 (published in the *Federal Register* on September 14, 2021, 86 FR 50985).

(c) *Compliance*. The Contractor shall comply with all guidance, including guidance conveyed through Frequently Asked Questions, as amended during the performance of this contract, for contractor or subcontractor workplace locations published by the Safer Federal Workforce Task Force (Task Force Guidance) at *https:/www.saferfederalworkforce.gov/contractors/*.

(d) *Subcontracts*. The Contractor shall include the substance of this clause, including this paragraph (d), in subcontracts at any tier that exceed the simplified acquisition threshold, as defined in Federal Acquisition Regulation 2.101 on the date of subcontract award, and are for services, including construction, performed in whole or in part within the United States or its outlying areas.

7.3. Basic Safeguarding of Covered Contractor Information Systems

FAR 52.204-21, Basic Safeguarding of Covered Contractor Information Systems, is incorporated into this solicitation. In accordance with FAR 52.204-21, the contractor shall apply basic safeguarding requirements and procedures when the contractor or a subcontractor at any tier may have Federal contract information residing in or transiting through its information system.

FAR 52.204-21 Basic Safeguarding of Covered Contractor Information Systems (JUN 2016)

(a) Definitions. As used in this clause -

Covered contractor information system means an information system that is owned or operated by a contractor that processes, stores, or transmits Federal contract information.

Federal contract information means information, not intended for public release, that is provided by or generated for the Government under a contract to develop or deliver a product or service to the Government, but not including information provided by the Government to the public (such as on public Web sites) or simple transactional information, such as necessary to process payments.

Information means any communication or representation of knowledge such as facts, data, or opinions, in any medium or form, including textual, numerical, graphic, cartographic, narrative, or audiovisual (Committee on National Security Systems Instruction (CNSSI) 4009).

Information system means a discrete set of information resources organized for the collection, processing, maintenance, use, sharing, dissemination, or disposition of information (44 U.S.C. 3502).

Safeguarding means measures or controls that are prescribed to protect information systems.

(b) Safeguarding requirements and procedures.

(1) The Contractor shall apply the following basic safeguarding requirements and procedures to protect covered contractor information systems. Requirements and

procedures for basic safeguarding of covered contractor information systems shall include, at a minimum, the following security controls:

(i) Limit information system access to authorized users, processes acting on behalf of authorized users, or devices (including other information systems).

(ii) Limit information system access to the types of transactions and functions that authorized users are permitted to execute.

(iii) Verify and control/limit connections to and use of external information systems.

(iv) Control information posted or processed on publicly accessible information systems.

(v) Identify information system users, processes acting on behalf of users, or devices.

(vi) Authenticate (or verify) the identities of those users, processes, or devices, as a prerequisite to allowing access to organizational information systems.

(vii) Sanitize or destroy information system media containing Federal Contract Information before disposal or release for reuse.

(viii) Limit physical access to organizational information systems, equipment, and the respective operating environments to authorized individuals.

(ix) Escort visitors and monitor visitor activity; maintain audit logs of physical access; and control and manage physical access devices.

(x) Monitor, control, and protect organizational communications (i.e., information transmitted or received by organizational information systems) at the external boundaries and key internal boundaries of the information systems.

(xi) Implement subnetworks for publicly accessible system components that are physically or logically separated from internal networks.

(xii) Identify, report, and correct information and information system flaws in a timely manner.

(xiii) Provide protection from malicious code at appropriate locations within organizational information systems.

(xiv) Update malicious code protection mechanisms when new releases are available.

(xv) Perform periodic scans of the information system and real-time scans of files from external sources as files are downloaded, opened, or executed.

(2) **Other requirements**. This clause does not relieve the Contractor of any other specific safeguarding requirements specified by Federal agencies and departments relating to covered contractor information systems generally or other Federal safeguarding requirements for controlled unclassified information (CUI) as established by Executive Order 13556.

(c) Subcontracts. The Contractor shall include the substance of this clause, including this paragraph (c), in subcontracts under this contract (including subcontracts for the acquisition of commercial items, other than commercially available off-the-shelf items), in which the subcontractor may have Federal contract information residing in or transiting through its information system.

7.4. Prohibition on Contracting with Persons that have Business Operations with the Maduro Regime

Section 890 of the National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2020 prohibits entering into a contract for the procurement of products or services with any person that has business operations with an authority of the government of Venezuela that is not recognized as the legitimate government of Venezuela by the United States Government, unless an exception applies. See provision 252.225-7974 Class Deviation 2020-O0005 "Prohibition on Contracting with Persons that have Business Operations with the Maduro Regime.

7.5. Commercialization Updates in Phase II

After Phase II award, the awardee shall be required to periodically update the following Phase II commercialization results at https://www.dodsbirsttr.mil/submissions.

a. Sales revenue from Phase II-developed products and non-R&D services;

b. Additional investment from non-Federal SBIR/STTR Program in activities furthering Phase II technology development and/or commercialization;

c. Phase II technology used in a fielded DoD system or acquisition program and, if any, which system or program;

d. The number of patents resulting from SBIR/STTR Program awards;

e. Growth in number of firm employees; and

f. Completion of an initial public offering of stock (IPO), if any, resulting all or in part from the Phase II project.

Project updates will be required one year after Phase I performance starts, at Phase II completion, and when the firm submits a new SBIR or STTR proposal to DoD. Firms not submitting new proposals to DoD will update annually after Phase II completion.

7.6. Copyrights

With the CO/AO's prior written permission, the awardee may copyright (consistent with appropriate national security considerations, if any) material developed with DoD support. DoD receives a royalty-free license for the Federal Government and requires each publication contain an appropriate acknowledgment and disclaimer statement.

7.7. Patents

Awardees normally retain the principal worldwide patent rights to Government-funded inventions. The Government receives a royalty-free license, reserves the right to require the patent holder to license others in certain limited circumstances, and requires anyone exclusively licensed to sell the invention in the United States to manufacture it domestically. As authorized by 35 USC 205, the Government will not publicly disclose a Government-supported invention for a period of five years to allow the awardee to pursue a patent. See also Invention Reporting in Section 7.9.

7.8. Technical Data Rights

Rights in technical data, including software, developed under the award terms resulting from proposals submitted under this CSO, generally remain with the awardee. The Government obtains a royalty-free license to use such technical data only for Government purposes during the period commencing with contract/Other Transaction award and ending after 20 years. This data should be marked with the restrictive legend specified in DFARS 252.227-7018 or similar. Upon expiration of the 20 year restrictive license, the Government has Government Purpose Rights in the SBIR data. During the license period, the Government may not release or disclose SBIR data to any entity other than its support services contractors except (1) for evaluation purposes; (2) as expressly permitted by the contractor; or (3) use, release, or disclosure is necessary for emergency repair or overhaul of Government-operated items. See DFARS clause 252.227-7018, "Rights in Noncommercial Technical Data and Computer Software – Small Business Innovation Research (SBIR) Program" at https://www.ecfr.gov/cgi-bin/text-idx?rgn=div5;node=48%3A3.0.1.8.48#se48.3.252_1227_67018. If a proposer plans to submit assertions IAW DFARS 252.227-7017 or similar award term, those assertions must be identified and restrictions MUST be included in the proposal submission. Award cannot be executed until assertions are approved or mutually agreed-upon during negotiations.

7.9. Invention Reporting

SBIR awardees must report inventions to the Component within two months of the inventor's report to the awardee. The inventions report may be accomplished by submitting paper documentation.

7.10. Final Technical Reports

a. **Content:** A final report is required for each award. The reports must contain detail regarding the project objectives, work performed, results obtained, and estimates of technical feasibility. A completed SF 298, "Report Documentation Page," will be used as the report's first page. The Report Documentation Page may be prepared and printed from Defense Technical Information Center's (DTIC's) site at http://www.dtic.mil/dtic/submit/guidance_on_submitting_docs_to_dtic.html. Additionally, the final technical report shall contain a completed DD Form 882, "Report of Inventions and Subcontracts."

b. **SF 298 Form "Report Documentation Page" Preparation**:

   1. For unclassified reports, the submitting company should fill in Block 12 (Distribution/Availability Statement) of the SF 298, "Report Documentation Page," with the following statement: "Distribution authorized to U.S. Government only; Proprietary Information, (Date of Determination). Other requests for this document shall be referred to the Component SBIR Program Office." Note: Data developed under SBIR/STTR awards is subject to DFARS 252.227-7018 or similar protection. AF will review the awardee's Block 12 information and assign the final distribution statement.

   2. For additional distribution statement guidance, visit the DTIC site: http://www.dtic.mil/dtic/pdf/distribution_statements_and_reasons.pdf

      Block 14 (Abstract), "Report Documentation Page" must include as the first sentence, "Report developed under SBIR/STTR contract (or OT) for topic [insert topic number]. [Follow with the topic title, if possible.]" The abstract must identify the work's purpose and briefly describe that conducted, the findings/results, and potential applications. The abstract will be published by the DoD. Therefore, **it shall not contain proprietary or classified data.** Type "UU" in Block 17.

   3. Block 15 (Subject Terms) 298 must include the term "SBIR Report".

c. **Submission**: All final reports are submitted to the awarding AF organization IAW the award document. Companies shall not submit Final Reports directly to DTIC. Delivery is normally required within 30 calendar days after technical program completion. Requirements regarding other deliverables' submission

will be defined in Sections B and C of contract, and Appendix A of Other Transaction for Prototype, award documents. Special submission instructions for CLASSIFIED reports will be defined in the award's delivery schedule. DO NOT E-MAIL classified or controlled unclassified reports, or reports containing SBIR/STTR Data Rights protected under DFARS 252.227-7018.

8. Direct to Phase II Topic

X222-PDCSO1 TITLE: 2nd Air Force Nuclear Weapons Center Pitch Day

TECH FOCUS AREAS: Microelectronics; Cybersecurity; Network Command, Control and Communications; Nuclear; Autonomy; Artificial Intelligence/Machine Learning; General Warfighting Requirements (GWR)

TECHNOLOGY AREAS: Ground Sea; Nuclear; Sensors; Electronics; Space Platform; Materials; Information Systems; Air Platform

The technology within this topic is restricted under the International Traffic in Arms Regulation (ITAR), 22 CFR Parts 120-130, which controls the export and import of defense-related material and services, including export of sensitive technical data, or the Export Administration Regulation (EAR), 15 CFR Parts 730-774, which controls dual use items. Offerors must disclose any proposed use of foreign nationals (FNs), their country(ies) of origin, the type of visa or work permit possessed, and the proposed tasks intended for accomplishment by the FN(s) in accordance with section 5.4.c.(8) of the Announcement and within the AF Component-specific instructions. Offerors are advised foreign nationals proposed to perform on this topic may be restricted due to the technical data under US Export Control Laws. Please direct questions to the Air Force SBIR/STTR HelpDesk: usaf.team@afsbirsttr.us

OBJECTIVE: The Air Force Nuclear Weapons Center (AFNWC) is seeking technologies and solutions that support the mission of its execution and functional directorates. Our twenty-three technological areas of interest include: Advanced Automated Analysis Methods for Critical System Evaluations, Advanced Parts Management System, Alternative to GPS-Based Navigation, AR/VR Technologies, Artificial Intelligence for Counterfeit Parts, Digital Engineering Technologies, Digital Environment Tools Development, Digital Solutions for Supply Chain Risk Management (SCRM), Digital Transformation for Air Delivered Capabilities, Digitization and Management of Authoritative Resources, Hybrid Ceramic Throats for High-Temperature Propellants, Kubernetes Day 1/Day 2 Service Improvement at the Tactical Edge, Missile Field Real-Time "Health Of Fleet" Capability, Novel Utility Corridor Trenching/Trenchless Methods, Nuclear Protection of Carbon-Carbon Composites, Robotics, Scale-Up And Testing of Hardened Aeroshells to Thermo-Mechanical Effects, Sea-Based Platform System for Testing, Software Bill of Material (SBOM) Integration with DOD Platform One, Stakeholder Concern-Directed Modeling, Strategic Radiation Hardened (Rad-Hard)

Microelectronics (ME), Technology Database, and Telemetry Package (Receiver) for Tracking and Terminal Scoring.

DESCRIPTION: The Air Force Nuclear Weapons Center (AFNWC) consists of several functional directorates and five major execution directorates - Air Delivered Capabilities; Ground Based Strategic Deterrent Systems; Minuteman III Systems; Nuclear Command, Control and Communications (NC3) Integration; and Nuclear Technology and Integration. The AFNWC commander is dual-hatted as the Air Force Program Executive Officer (PEO) for Strategic Systems, and the NC3 Integration director is dual-hatted as the Air Force PEO for NC3.

ADVANCED AUTOMATED ANALYSIS METHODS FOR CRITICAL SYSTEM EVALUATIONS - Develop a capability to automatically import, process, and assess system states that lead to a user defined end-state. Output digital state diagrams that lead to user defined system end state conditions and identify common/singular nodes that are critical to achieve user defined end-state.

ADVANCED PARTS MANAGEMENT SYSTEM - AFNWC is seeking a parts management tool that can predict demand and obsolescence problems and optimize inventory levels to ensure availability of parts to improve weapon system readiness.

ALTERNATIVE TO GPS-BASED NAVIGATION - A low size, weight, and power (SWAP) navigational solution is needed that can provide accurate navigational data in the absence of GPS.

AR/VR TECHNOLOGIES - Current VR solutions are non-user friendly, unsafe, or awkward to use. VR objects and environments are currently unrealistic, and lack a “real-world” feel. A realistic omnidirectional locomotion system is needed that can support user training needs.

ARTIFICIAL INTELLIGENCE FOR COUNTERFEIT PARTS - We need an AI solution to aid in identifying potential military counterfeit parts.

DIGITAL ENGINEERING TECHNOLOGIES - We are seeking digital engineering solutions (methods, processes, and tools) to transform the engineering, research, requirements, acquisition, test, cost, and sustainment communities. Examples include code inspection, business tools, modeling/simulation/analysis, and data analysis/validation/visualization tools to facilitate cyber security and nuclear surety certification activities.

DIGITAL ENVIRONMENT TOOLS DEVELOPMENT - Minuteman III (MMIII) uses outdated tools incapable of consolidating technical data across disciplines and associated supporting organizations. MMIII requires updated digital tools to manage weapon system technical data and transfer years of MMIII data to the replacement of the weapon system.

DIGITAL SOLUTIONS FOR SUPPLY CHAIN RISK MANAGEMENT (SCRM) - We are interested in a digital tool for managing supply chain risk by identifying susceptibilities, vulnerabilities and threats throughout DoD’s “supply chain” and developing mitigation strategies to combat those threats whether presented by the supplier, the supplied product and its

subcomponents, or the supply chain (e.g., initial production, packaging, handling, storage, transport, mission operation, and disposal). Proposed software tool must integrate data, enable data visualization, provide data analytic functions, and have the ability to share information between various government organizations, agencies, and contractors. Enterprise-wide solution must allow individual users to access all appropriate and relevant data in order to make data-driven decisions based on their individual role/function.

DIGITAL TRANSFORMATION FOR AIR DELIVERED CAPABILITIES - We seek a method to incorporate digital engineering tools into our sustainment programs. Using SysML and common digital engineering tools, we need a digital environment that can be used across the spectrum of our sustainment portfolio.

DIGITIZATION AND MANAGEMENT OF AUTHORITATIVE RESOURCES - Many documents developed during the procurement of Air Force systems are not in digital format and provide technical and operational instructions/policies that evolve throughout time. In some cases, it is difficult to determine which document is authoritative (the most current policy/guide). We need a tool to establish digitization and management of authoritative resources as we transition to a digital engineering environment.

HYBRID CERAMIC THROATS FOR HIGH-TEMPERATURE PROPELLANTS - Technology for hybrid ceramic throats needs to be developed and matured to enhance range, speed, and size, weight, and power (SWAP) efficiency of missile systems.

KUBERNETES DAY 1/DAY 2 SERVICE IMPROVEMENT AT THE TACTICAL EDGE - We need a service that enables an operator with minimal training to manage Day 1/Day 2 operations for Platform One Kubernetes based mission applications and Kubernetes environments for disconnected clusters/at the tactical edge.

- Day 1: Tasks required to deploy
- Day 2: Tasks required to operate and maintain

MISSILE FIELD REAL-TIME “HEALTH OF FLEET” CAPABILITY - Watchtower, the MFs’ current Real-Time Common Operating Picture framework, fuses and visualizes missile field data, but lacks a tool/application for Real-Time “Health of the Fleet” assessment. This topic seeks the innovative power of small businesses to develop, demonstrate, and deliver tools/applications that are suitable for integration, and operational use for agilely and reliably assessing ICBM fleet health and informing resource optimization for fleet health risk management.

NOVEL UTILITY CORRIDOR TRENCHING/TRENCHLESS METHODS - Current traditional trenching/trenchless methods for installing fiber optic cables at depths of up to 8 feet are significantly limited by soil types and environmental/real estate constraints. An economical trenching/trenchless method is needed for installing fiber optics at depths of up to 8 feet with minimal environmental and real estate impacts.

NUCLEAR PROTECTION OF CARBON-CARBON COMPOSITES - We need to develop innovative processing trials and techniques to enhance nuclear protection of carbon-carbon aeroshells and motor components for future systems.

ROBOTICS - Develop a robotic application that can approach the challenges of general maintenance of nuclear facilities, project test preparation and such applications of value to nuclear weapon systems or infrastructure that can improve performance or overcome challenges.

SCALE-UP AND TESTING OF HARDENED AEROSHELLS TO THERMO-MECHANICAL EFFECTS - We need to characterize, scale-up, and test hardened aeroshell material technologies to enable system level enhancements to future missiles and subsystems.

SEA-BASED PLATFORM SYSTEM FOR TESTING - ICBM test launches verify the accuracy and reliability of the weapon system and provide valuable data to ensure a continued safe, secure and effective nuclear deterrent. However, current flight test tracking and scoring systems have limited capabilities are hard to sustain. A replacement sea-based scoring platform is needed.

- See https://www.afnwc.af.mil/News/Article/2398073/afnwc-team-supports-icbm-test-launch/ for background info.

SOFTWARE BILL OF MATERIAL (SBOM) INTEGRATION WITH DOD PLATFORM ONE - Establish a consistent approach for DOD Platform One tooling to produce a Software Bill of Material (SBOM).

STAKEHOLDER CONCERN-DIRECTED MODELING - We need improved modeling practices to allow Stakeholders to dynamically query requirements or architectural models in order to satisfy their concerns over the system(s) being defined by those models.

STRATEGIC RADIATION HARDENED (RAD-HARD) MICROELECTRONICS (ME) - The nuclear enterprise requires a trusted supply of advanced strategic radiation-hardened microelectronics (Rad-Hard ME). Radiation effects modeling tools, Rad-Hard ME design rules, enabling technologies, hardness assurance test methods and hardness surveillance protocols are needed to support current AFNWC systems and future needs.

TECHNOLOGY DATABASE - The driving pace and competition for leading-edge technology across the Air Force and industry has outpaced our ability to track innovation and technology opportunities across the varied industry sectors. We need a centralized repository that is able to identify and track technology development efforts across the AFNWC, industry and academia.

TELEMETRY PACKAGE (RECEIVER) FOR TRACKING AND TERMINAL SCORING - ICBM test launches verify the accuracy and reliability of the weapon system and provide valuable data to ensure a continued safe, secure and effective nuclear deterrent. However, current flight test tracking and scoring systems have limited capabilities are hard to sustain. A telemetry package (operating in S or L band) is needed to receive telemetry data and send encrypted data to land-based control station.

- See https://www.afnwc.af.mil/News/Article/2398073/afnwc-team-supports-icbm-test-launch/ for background info.

Proposals for technologies and solutions not previously considered and which may not fit directly within one of the twenty-three areas are also welcomed.

PHASE I-LIKE EFFORT: This topic is intended for technology proven ready to move directly into a Phase II. The offeror is required to provide detail and documentation in the Direct to Phase II proposal which demonstrates accomplishment of a "Phase I-like" effort, including a feasibility study (Volume 2). This includes determining, insofar as possible, the scientific and technical merit and feasibility of ideas appearing to have commercial potential. It must have validated the product-market fit between the proposed solution and a potential AF stakeholder. The offeror should have defined a clear, immediately actionable plan with the proposed solution and the AF customer. The feasibility study should have:
-Identified the prime potential AF end user(s) for the non-Defense commercial offering to solve the AF need, i.e., how it has been modified;
-Described integration cost and feasibility with current mission-specific products;
-Described if/how the demonstration can be used by other DoD or Governmental customers.

PHASE II: Eligibility for D2P2 is predicated on the offeror having performed a "Phase I-like" effort at least in part separate from the SBIR Programs. Under the phase II effort, the offeror shall sufficiently develop the technical approach, product, or process in order to conduct a small number of advanced manufacturing and/or sustainment relevant demonstrations. Identification of manufacturing/production issues and or business model modifications required to further improve product or process relevance to improved sustainment costs, availability, or safety, should be documented. Air Force sustainment stakeholder engagement is paramount to successful validation of the technical approach. These Phase II awards are intended to provide a path to commercialization, not the final step for the proposed solution.

PHASE III DUAL USE APPLICATIONS: Phase III efforts will focus on transitioning the developed technology to a working commercial or warfighter solution.

SPECIFIC X222-PDCSO1 DIRECT TO PHASE II (D2P2) PROPOSAL PREPARATION - Maximum SBIR funding per award will be $1.5M. Maximum performance period will not exceed 27 months, including 24 months for technical effort and 3 months for reporting. Proposals exceeding this amount or period will not be considered.

Offerors shall follow Section 5, "Direct to Phase II Proposal Instructions" when preparing proposals along with these specific X222-PDCSO1 proposal preparation instructions.

Topic-Specific Volume 5, Supporting Documents:

A Customer Memorandum is NOT required under this topic, but may be provided.

A DRAFT slide deck IS required in Volume 2 for proposals submitted under this topic. The slide deck is considered DRAFT as those offerors that are invited to Pitch Day will have the opportunity to address Government-posed clarifications in a FINAL version as further explained below. Slide decks shall consist of no more than 15 slides. All slides shall be numbered consecutively, and each slide shall contain the company name, topic number, and proposal

number assigned by DSIP. A sample slide deck is provided at Attachment 5. Offerors may, but are not required to, utilize this sample as a template. Failure to provide a DRAFT slide deck within Volume 2 will be cause for rejection of the proposal without evaluation.

Offerors are encouraged to identify the applicable technical area above in the proposal's title or subtitle.

This Pitch Day topic will utilize a three step evaluation/selection process, labeled below as Initial Peer Review, Clarifications, and Pitch Day.

Initial Peer Review: Proposals that conform to the requirements within this CSO will be peer reviewed on the following criteria, listed in descending order of importance:

The appropriateness and relevance in fulfilling a need of the Air Force Nuclear Weapons Center (AFNWC). An account of how the proposal meets an AFNWC technical area indicates appropriateness and relevance. While not required, a signed customer memorandum and/or letter of support from other Government personnel may be indicators of appropriateness and relevance.

Technical approach. The technical approach soundness, technical merit, and innovation of the proposed technical approach, as well as its differentiation from current customer alternatives. Includes the proposed Principal Investigators'/Project Managers', supporting staff, and consultants' qualifications to execute the proposed approach.

The potential for Government or private sector commercialization and benefits expected to accrue from commercialization. The SBC's record of commercializing SBIR or other research, the existence of Phase II follow-on commitments for the subject research, and matching funding, whether from Government or private sources, are evidence of commercialization potential.

Based on the outcome of this evaluation and funds availability, technically acceptable proposals will be invited to participate in Pitch Day. Offerors will be advised via electronic correspondence.

Clarifications: This step consists of limited interactions between the Government and offerors invited to Pitch Day to allow the Government to streamline award issuance following Pitch Day. After notice of invitation but prior to Pitch Day, offerors may be contacted by the awarding Contracting Office to gain clarification on proposal elements to include, but not limited to, data rights assertions and cost volume elements. This contact should not be construed to mean award is assured. Additionally, during this step, Offerors may be provided with questions from the Government regarding technical approach. Said questions will be asked to gain further insight into the approach proposed and can be addressed within the FINAL slide deck to be presented on at Pitch Day; proposal revisions will not be allowed and responses to posed clarifications shall be included as part of the FINAL slide deck. No proposal elimination is conducted during this step.

Pitch Day: Those offerors invited to Pitch Day will receive event information, e.g. date/time, via electronic correspondence. Offerors must attend the Pitch Day either virtually or in-person to be

considered for award. No award preference will be given to those who attend in-person. Please note, the Pitch Day may be held virtually in its entirety for all offerors.

On Pitch Day offerors will present their FINAL slide deck. The FINAL slide deck shall reflect the technical approach presented for the Initial Peer Review; no material changes to the technical approach are allowed. The slide limit and formatting information enforced for the DRAFT applies to the FINAL slide deck. FINAL slide decks must be submitted to the Government prior to Pitch Day. Information regarding submission of the FINAL slide deck will be provided via electronic correspondence during the Clarifications step. Failure to provide a FINAL slide deck by the required deadline will result in disqualification from Pitch Day and award.

Pitch Day presentations will be used to validate the Initial Peer Review. A Pitch Day presentation could provide additional clarification or insight on the ability to fulfill Air Force Nuclear Weapons Center needs, technical approach, and/or potential for commercialization, serving as a basis to elevate the proposal in priority for funding. Selection for award will be based upon importance to agency programs and funds availability in accordance with DAR ~~2018-O0016~~ 2022-O0007, Class Deviation – Defense Commercial Solutions Opening Pilot Program.

REFERENCES:

1. For more information on the Air Force Nuclear Weapon Center and its overarching technical need areas, please visit our website – https://www.afnwc.af.mil/Innovation/;

2. AFNWC will host an Industry Collider on 27 April, during the pre-solicitation phase. This virtual event will provide companies with the opportunity to hear from AFNWC subject matter experts as they discuss the Center's technical need areas. ;

3. Snyder, Don, Shrrill Lingel, Feorge Nacouzi, Brian Dolan, Jake McKeon, John Speed Meyers, Kurt Klein, and Thomas Hamilton, Managing Nuclear Modernization Challenges for the U.S. Air Force A Mission-Centric Approach, Santa Monica, Calif. RAND Corporation,RR-3178-AF, 2019.

KEYWORDS: Aeroshell Material; Artificial Intelligence; Data Management; Digital Engineering; Missile Technology; Modeling and Simulation; Radiation Hardening; Robotics; Sensors; Supply Chain

9. Appendices

9.1. Appendix A – ~~Supporting~~ Technical Volume Slide Deck Instructions

The Technical ~~(Supporting)~~ Volume should contain a MAXIMUM of 15 slides, although fewer is permissible. Brevity and clarity are important when communicating complex topics.

There are **7 required slides** and **6 additional slides that are required <u>only if applicable</u>** to the proposal. The remaining slide count may be utilized to split a required slide into 2 or more slides OR may be used at the applicants' discretion. Proposals without the required slides <u>will not be considered</u>.

The Slide Deck should cover the following items <u>in the order given below</u>. A sample Slide Deck is available at Attachment 1. While the notes in the template are suggestions, the items described below are required. Additionally, offerors are not required to use the template's style/format.

REQUIRED SLIDES

1. **Overall Summary Slide -** Including Company Name and Overview of Proposal

2. **Technical Merit Summary** – Clearly communicate the scientific merit of the solutions central and/or enabling technological concepts, including the most effective points that demonstrate the technical merit of your solution. Identify the current scientific and/or technical baseline, referencing relevant scientific and technical literature, and describe the RDT&E effort's advancement of this baseline.

3. **Concept and Significance of Problem/Opportunity** – Define the specific technical problem and/or opportunity addressed and its importance to your prospective customers. Describe how your solution is better than the customers' current alternative. Communicate if and how the private sector variant of the proposed solutions is different from the DoD-variant. Work proposed to the SBIR program MUST be RDT&E. Non-RDT&E procurement of commercially-available solutions is not appropriate for the SBIR program.

4. **Team's Ability to Perform Research and Commercialize the Solution**: Identify the team and highlight relevant education, experience, and/or capabilities demonstrating the ability to develop the solution AND adapt it to prospective AF customer needs. Full resumes, including a publications list, for the PI and other key technical personnel shall be included n Volume 5: Supplemental Documents.

5. **AFNWC Need** – Demonstrate knowledge of prospective AF End-User(s)/Customer(s) and their most reasonable use-case for your solution.

Explore differentiation from current customer alternatives, and incremental progress toward fulfilling the identified Defense need. Highlight previous DoD funding for the solution or underlying technology. Include a description of the proposed solution and how it compares to the user's current alternative. If applicable, reference a technological area of interest, as described in Section 8.

6. **Transition Plan:** Describe your plan to transition your solution into the Air Force. Describe *briefly* how your proposed solution could integrate with the existing efforts of your proposed Air Force customer.

9.2. Appendix B – Certification Questions and Coversheet Supplement

Certification/Eligibility Check

The online coversheet asks many questions and, depending on the answers, more information may be needed. The list of the questions is reflected below along with any additional information needed; required additional information should be provided in Volume 5, Supporting Documents. Consolidate all required items below (including the question that triggered the requirement) into a single .pdf file with the title "Coversheet Supplement".

1. Do you allow for the release of contact information to Economic Development Organizations? Either answer is awardable.

2. Are you a small business as described in section 3.22 of this CSO, with no more than 500 employees including affiliates?

    - If your firm is NOT an eligible small business, your proposal will be disqualified.

3. Does your business concern meet the ownership and control requirements in 13 CFR 121.702?

    - If your firm does NOT meet the ownership and control requirements, your proposal will be disqualified.

4. Is 50% or more of your firm owned or managed by a corporate entity?

    - **(If YES, additional information required in Volume 5)** If YES, and the corporate entity is also a small business as described in section 3.22 of this CSO, please include in this section a description of the corporate relationship, including other affiliates of the owning corporate entity.

    - If the firm is 50% or more owned or managed by a corporate entity that is not a small business, the proposal will be disqualified.

5. At a minimum, will two-thirds (for Phase I) or half (for Phase II)] the research and/or analytical work be carried out by your small business as described in section 4.2 of this CSO?

    - If your firm will NOT perform the prescribed percentage of the research and/or analytical work, your proposal will be disqualified.

6. Is primary employment of the principal investigator with your firm as described in section 4.2 of this CSO?

- If primary employment of the Principal Investigator for this project is NOT with the firm at award and throughout performance, the proposal will be disqualified.

7. Has your firm been convicted of a fraud-related crime involving SBIR and/or STTR funds or found civilly liable for a fraud-related violation involving Federal funds?

    - If your firm has been convicted of a fraud-related crime involved SBIR and/or STTR funds, your proposal will be disqualified.

8. Has your firm's Principal Investigator (PI) or Corporate Official (CO), or owner been convicted of a fraud-related crime involving SBIR and/or STTR funds or found civilly liable for a fraud-related violation involving Federal funds?

    - If the Principal Investigator or Corporate Official has been convicted of a fraud-related crime involved SBIR and/or STTR funds, your proposal will be disqualified.

9. Has your firm met the performance benchmarks in section 3.1 of this CSO and listed by the SBA on their website as eligible to participate? Either answer is awardable.

10. Is your firm registered in the SBA's venture capital database as majority-owned by venture capital operating companies, hedge funds, or private equity firms?

    - **(If YES, additional information required in Volume 5)** If YES, please state whether the VCOC, hedge fund, or private equity firm is also a small business as defined by the SBA. If so, then the VCOC, hedge fund, or private equity firm may count as an 'affiliate' and their employee numbers will need to be added to your employee total.

    - If your firm is majority-owned by venture capital operating companies, hedge funds, or private equity firms, your proposal will be disqualified.

11. Is your firm more than 50% owned by a single Venture Capital Owned Company (VCOC), hedge fund, or private equity firm?

    - **(If YES, additional information required in Volume 5)** If YES, please state whether the VCOC, hedge fund, or private equity firm is also a small business as defined by the SBA. If so, then the

VCOC, hedge fund, or private equity firm may count as an 'affiliate' and their employee numbers will need to be added to your employee total.

- If your firm is more than 50% owned by a single venture capital operating company, hedge fund, or private equity firm, your proposal will be disqualified.

12. Is your firm more than 50% owned by multiple business concerns that are VCOCs, hedge funds, or private equity firms?

    - If your firm is more than 50% owned by multiple venture capital operating companies, hedge funds, or private equity firms, your proposal will be disqualified.

NOTE (applies to questions 10, 11, and 12): If questions 10 or 11 are answered 'YES', then explain the ownership structure of the firm and its investors. If the VCs, hedge funds or PE firms owning equity in the company are themselves small businesses as defined by the SBA, the proposal may be still eligible for award. More information can be found here: https://www.jhuapl.edu/vendorforms/forms/data_rights_assertion_table.pdf.

13. Number of employees including all affiliates (average for preceding 12 months):

    - If your firm and affiliates have employed, on average over the last 12 months, more than 500 employees, your proposal will be disqualified.

14. Is your firm affiliated as set forth in 13 CFR 121.103?

    - **(If YES, additional information required in Volume 5)** If yes, then please detail your affiliations as described at https://www.sba.gov/document/support--affiliation-guide-size-standards.

    - Note: This may include investors, i.e., VCs, hedge funds or PE firms, and their other controlled entities, if they own a controlling share of the company.

NOTE (applies to questions 13 and 14): A business that is wholly or substantially owned by investment companies or development companies licensed or qualified under the Small Business Investment Act of 1958 (SBIA), they are not considered affiliates of those investment companies or development companies.

15. As defined by SBA: All answers may be "yes" or "no" without impacting

eligibility.

a. Are you a socially or economically disadvantaged small business?
b. Are you a Woman-Owned small business (WOSB)?
c. Are you a certified HUBZone small business concern?
d. Are you a Service-Disabled Veteran-Owned small business (SDVOSB)?

16. Has the Defense Contracting Audit Agency (DCAA) or other agreed upon agency, performed a review of the firm's accounts or records in connection with Government contracts or subcontracts within the past 12 months? Either answer is awardable.

17. Does the proposed cost include Technical and Business Assistance (TABA)? The AF does not allow for TABA.

18. Has a proposal for essentially equivalent work (Section 3.4 of this CSO) been submitted to other US government agencies or DOD components?

    - **(If YES, additional information required in Volume 5)** If a proposal submitted in response to this CSO is substantially the same as another proposal that was funded, is now being funded, or is pending with another Federal Agency, or another or the same DoD Component, you must reveal this on the Proposal Cover Sheet (Volume 1) and provide the following information in the Coversheet Supplement:

Name of Federal Agency to which the Proposal was submitted, or from which an award is expected or has been received	Date of proposal submission or date of award	Title of Proposal (if SBIR/STTR, include Proposal Number and SBIR/STTR topic number)	Name and Title of Principal Investigator for each proposal submitted or award received	Was awarded? If so, include contract number
(LIST)	(LIST)	(LIST)	(LIST)	(LIST)

19. Has a contract been awarded for any of the proposals listed above?

    - If your firm has been awarded a contract from the US Government for essentially equivalent work, your proposal will be disqualified.

20. Are you submitting assertions in accordance with DFARS 252.227-7017 "Identification and assertions use, release, or disclosure restriction"?

    - **(If YES, additional information required in Volume 5)** If you answered 'yes' to this question, you must include the table in Volume 5 of your proposal, which can be found at: https://www.jhuapl.edu/vendorforms/forms/data_rights_assertion_table.pdf

        - The contract cannot be awarded until assertions have been approved.

    - If claiming data rights assertions without including a Data Rights Assertions Table, the proposal will be disqualified.

    NOTE - Rights in technical data, including software, developed under the terms of any contract resulting from proposals submitted in response to this CSO generally remain with the contractor, except that the Government obtains a royalty-free license to use such technical data only for Government purposes during the period commencing with contract award and ending 20 years later. This data should be marked with the restrictive legend specified in DFARS 252.227-7018. Upon expiration of the 20 year restrictive license, the Government has Government Purpose Rights in the SBIR data. During the license period, the Government may not release or disclose SBIR data to any person other than its support services contractors except: (1) For evaluation purposes; (2) As expressly permitted by the contractor; or (3) A use, release, or disclosure that is necessary for emergency repair or overhaul of items operated by the Government. See DFARS clause 252.227-7018, "Rights in Noncommercial Technical Data and Computer Software – Small Business Innovation Research (SBIR) Program."

21. Is the firm proposing research utilizing human/animal subjects or recombinant DNA as described in section 3.17, 3.18, and 3.19 of the solicitation?

    a. **(If YES, additional information required in Volume 5)** If the firm intends to perform research involving 1) human subjects, 2) animal subjects, or 3) recombinant DNA molecules, please include the following information (add attachments as needed):

        a. For 1) please provide a current Federal Assurance of Compliance with Federal regulation for human subject protection and evidence of completed appropriate training in human subject protection for all involved personnel from your firm;

b. for 2) documentation verifying review and approval for the research from the Institutional Animal Care and Use Committee; and

c. for 3) evidence of approval by the Institutional Biosafety Committee.

b. Until such documents are provided, the firm cannot perform any work involving associated activities. This could lead to disqualification, depending on the effort's schedule.

22. Are teaming partners or subcontractors proposed?

a. **(If YES, additional information required in Volume 5)** If yes, be sure to include this information in the proposal Coversheet (Volume 1), Cost Volume (Volume 3) and Supplemental Cost Information (Volume 5).

23. Is the firm proposing to use foreign nationals as defined in section 3.7 of the solicitation for work under the proposed effort?

a. **(If YES, additional information required in Volume 5)** If yes, identify any foreign citizens or individuals holding dual citizenship expected to be involved on this project as a direct employee, subcontractor, or consultant. For these individuals, please specify their countries of origin, the type of visas or work permits under which they are performing, and the tasks they are anticipated to perform for this project, if awarded. The firm may be asked to provide additional information during negotiations r to verify the foreign citizen's eligibility to participate the SBIR effort. Supplemental information provided in response to this paragraph will be protected in accordance with the Privacy Act (5 U.S.C. 552a), if applicable, and the Freedom of Information Act (5 U.S.C. 552(b) (6)). Proposals including the involvement of foreign nationals should include this table:

Full Name	Foreign National (Yes or No)	Country of Origin	Type of Visa or Work Permit Held	Description of Involvement (specific task(s) in the work plan)
(LIST)	(LIST)	(LIST)	(LIST)	(LIST)

b. If the cognizant Government Program Manager does not concur with the individuals' involvement or the information is not received by the specified date/time, the proposal maybe disqualified.

24. What percentage of the principal investigator's total time will be on the project?

    a. Any non-zero answer is awardable.

    b. **(If less than 25%, additional information required in Volume 5.)** If the answer is below 25%, please describe the principal investigator's other roles.

25. Is the principal investigator a woman? Either answer is awardable. This information is required for the SBA's Award Information Database.

26. Is the principal investigator socially/economically disadvantaged? Either answer is awardable. This information is required for the SBA's Award Information Database.

AF X22.2 SBIR PHASE II 25ATTACHMENTS

Attachment 1 – AF X22.2 SBIR D2P2 Lifecycle Certifications (Required)

Attachment 2 – AF X22.2 SBIR CSO D2P2 AF SBIR/STTR Environment, Safety and Occupational Health (ESOH) Questionnaire (Required)

Attachment 3 – AF X22.2 SBIR CSO D2P2 DoD SBIR/STTR Programs Contractor Certification Regarding Provision of Prohibited Video Surveillance and Telecommunications Services and Equipment (Required)

Attachment 4 – AF X22.2 SBIR CSO D2P2 DoD SBIR/STTR Programs Disclosure of Offeror's Ownership or Control by a Foreign Government (Required, if applicable)

Attachment 5- X22.2 Sample Slide Deck (can be accessed at: ~~https://rt.cto.mil/rtlsmall-business-resources/sbir-sttr/~~ https://media.defense.gov/2022/May/12/2002995801/-1/-1/1/X222-DCSO1_SAMPLE_SLIDE_DECK.PPTX)

ATTACHMENT 1 - X22.2 SBIR PHASE II
D2P2 LIFECYCLE CERTIFICATIONS

These certifications must be completed and submitted with all D2P2 proposals. All questions must be answered and an authorized officer of the company must sign and date prior to submission. The document is found at https://www.afsbirsttr.af.mil/Program/Phase-I-and-II/ under "Phase I and II Certification – Life Cycle Submissions". Include completed certifications in the proposal under Volume 5, Other Documents.

ATTACHMENT 2 - AF X22.2 SBIR D2P2 ENVIRONMENT, SAFETY AND OCCUPATIONAL HEALTH (ESOH) QUESTIONNAIRE

Include a completed SBIR/STTR Environment, Safety, and Occupational Health (ESOH) Questionnaire in Volume 5, Supporting Documents, "Other" section. Form can be found at https://www.afsbirsttr.af.mil/Portals/60/Pages/Phase%20I-II/SBIR_Ph_II_ESOH_Questionaire.pdf.

ATTACHMENT 3 – X22.2 SBIR CSO D2P2
DoD SBIR/STTR Contractor Certification Regarding Provision of Prohibited Video Surveillance and Telecommunications Services and Equipment

10.

Contractor's Name	
Company Name	
Office Tel #	
Mobile #	
Email	

Name of person authorized to sign:

Signature of person authorized:

Date:

The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

FAR CLAUSES INCORPORATED IN FULL TEXT:

52.204-24 REPRESENTATION REGARDING CERTAIN TELECOMMUNICATIONS AND VIDEOSURVEILLANCE SERVICES OR EQUIPMENT (AUG 2020)

The Offeror shall not complete the representation at paragraph (d)(1) of this provision if theOfferor has represented that it "does not provide covered telecommunications equipment or services as a part of its offered products or services to the Government in the performance of anycontract, subcontract, or other contractual instrument" in the provision at 52.204-26, Covered Telecommunications Equipment or Services—Representation, or in paragraph (v) of the provision at 52.212-3, Offeror Representations and Certifications-Commercial Items.

(a) *Definitions.* As used in this provision-

Backhaul, covered telecommunications equipment or services, critical technology, interconnection arrangements, reasonable inquiry, roaming, and substantial or essential component have the meanings provided in the clause 52.204-25, Prohibition on Contracting forCertain Telecommunications and Video Surveillance Services or Equipment.

(b) *Prohibition.* (1) Section 889(a)(1)(A) of the John S. McCain National Defense

Authorization Act for Fiscal Year 2019 (Pub. L. 115-232) prohibits the head of an executive agency on or after August 13, 2019, from procuring or obtaining, or extending or renewing a contract to procure or obtain, any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system,or as critical technology as part of any system. Nothing in the prohibition shall be construed to—

(i) Prohibit the head of an executive agency from procuring with an entity to provide aservice that connects to the facilities of a third-party, such as backhaul, roaming, or interconnection arrangements; or

(ii) Cover telecommunications equipment that cannot route or redirect user data traffic or cannot permit visibility into any user data or packets that such equipment transmits or otherwisehandles.

(2) Section 889(a)(1)(B) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Pub. L. 115-232) prohibits the head of an executive agency on or after August 13, 2020, from entering into a contract or extending or renewing a contract with an entity that uses any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part ofany system. This prohibition applies to the use of covered telecommunications equipment or services, regardless of whether that use is in performance of work under a Federal contract. Nothing in the prohibition shall be construed to—

(i) Prohibit the head of an executive agency from procuring with an entity to provide aservice that connects to the facilities of a third-party, such as backhaul, roaming, or interconnection arrangements; or

(ii) Cover telecommunications equipment that cannot route or redirect user data traffic or cannot permit visibility into any user data or packets that such equipment transmits or otherwisehandles.

(c) \ *Procedures.* The Offeror shall review the list of excluded parties in the System for Award Management (SAM) (*https://www.sam.gov*) for entities excluded from receiving federal awards for "covered telecommunications equipment or services."

(d) *Representations.* The Offeror represents that—

(1) It ☐**will**, ☐**will not** provide covered telecommunications equipment or services to theGovernment in the performance of any contract, subcontract or other contractual instrument resulting from this solicitation. The Offeror shall provide the additional disclosure information required at paragraph (e)(1) of this section if the Offeror responds "will" in paragraph (d)(1) of this section; and

(2) After conducting a reasonable inquiry, for purposes of this representation, the Offerorrepresents that—

It ☐**does**, ☐**does not** use covered telecommunications equipment or services, or use any equipment, system, or service that uses covered telecommunications equipment or services. TheOfferor shall provide the additional disclosure information required at paragraph (e)(2) of this section if the Offeror responds “does” in paragraph (d)(2) of this section.

(e) *Disclosures.* (1) Disclosure for the representation in paragraph (d)(1) of this provision. Ifthe Offeror has responded “will” in the representation in paragraph (d)(1) of this provision, the Offeror shall provide the following information as part of the offer:

(i) For covered equipment—

(A) The entity that produced the covered telecommunications equipment (include entity name, unique entity identifier, CAGE code, and whether the entity was the original equipmentmanufacturer (OEM) or a distributor, if known);

(B) A description of all covered telecommunications equipment offered (include brand;model number, such as OEM number, manufacturer part number, or wholesaler number; anditem description, as applicable); and

(C) Explanation of the proposed use of covered telecommunications equipment and anyfactors relevant to determining if such use would be permissible under the prohibition in paragraph (b)(1) of this provision.

(ii) For covered services—

(A) If the service is related to item maintenance: A description of all covered telecommunications services offered (include on the item being maintained: Brand; model number, such as OEM number, manufacturer part number, or wholesaler number; and itemdescription, as applicable); or

(B) If not associated with maintenance, the Product Service Code (PSC) of the service beingprovided; and explanation of the proposed use of covered telecommunications services and any factors relevant to determining if such use would be permissible under the prohibition in paragraph (b)(1) of this provision.

(2) Disclosure for the representation in paragraph (d)(2) of this provision. If the Offeror hasresponded “does” in the representation in paragraph (d)(2) of this provision, the Offeror shall provide the following information as part of the offer:

(i) For covered equipment—

(A) The entity that produced the covered telecommunications equipment (include entity name, unique entity identifier, CAGE code, and whether the entity was the OEM

or a distributor,if known);

(B) A description of all covered telecommunications equipment offered (include brand;model number, such as OEM number, manufacturer part number, or wholesaler number; anditem description, as applicable); and

(C) Explanation of the proposed use of covered telecommunications equipment and anyfactors relevant to determining if such use would be permissible under the prohibition in paragraph (b)(2) of this provision.

(ii) For covered services—

(D) If the service is related to item maintenance: A description of all covered telecommunications services offered (include on the item being maintained: Brand; model number, such as OEM number, manufacturer part number, or wholesaler number; and itemdescription, as applicable); or

(E) If not associated with maintenance, the PSC of the service being provided; and explanation of the proposed use of covered telecommunications services and any factors relevantto determining if such use would be permissible under the prohibition in paragraph (b)(2) of this provision.

(End of provision)

52.204-25 PROHIBITION ON CONTRACTING FOR CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT (AUG 2020)

- *Definitions.* As used in this clause—

Backhaul means intermediate links between the core network, or backbone network, and thesmall subnetworks at the edge of the network (*e.g.*, connecting cell phones/towers to the core telephone network). Backhaul can be wireless (*e.g.*, microwave) or wired (*e.g.*, fiber optic, coaxial cable, Ethernet).

Covered foreign country means The People's Republic of China.

Covered telecommunications equipment or services means—

(1) Telecommunications equipment produced by Huawei Technologies Company or ZTECorporation (or any subsidiary or affiliate of such entities);

(2) For the purpose of public safety, security of Government facilities, physical securitysurveillance of critical infrastructure, and other national security purposes, video surveillanceand telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or anysubsidiary or affiliate of such entities);

(3) Telecommunications or video surveillance services provided by such entities or usingsuch equipment; or

(4) Telecommunications or video surveillance equipment or services produced or providedby an entity that the Secretary of Defense, in consultation with the Director of National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be anentity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

Critical technology means—

(1) Defense articles or defense services included on the United States Munitions List set forth in the International Traffic in Arms Regulations under subchapter M of chapter I of title 22,Code of Federal Regulations;

(2) Items included on the Commerce Control List set forth in Supplement No. 1 to part 774of the Export Administration Regulations under subchapter C of chapter VII of title 15, Code ofFederal Regulations, and controlled—

(i) Pursuant to multilateral regimes, including for reasons relating to national security, chemical and biological weapons proliferation, nuclear nonproliferation, or missile technology;or

(ii) For reasons relating to regional stability or surreptitious listening;

(3) Specially designed and prepared nuclear equipment, parts and components, materials, software, and technology covered by part 810 of title 10, Code of Federal Regulations (relatingto assistance to foreign atomic energy activities);

(4) Nuclear facilities, equipment, and material covered by part 110 of title 10, Code ofFederal Regulations (relating to export and import of nuclear equipment and material);

(5) Select agents and toxins covered by part 331 of title 7, Code of Federal Regulations, part121 of title 9 of such Code, or part 73 of title 42 of such Code; or

(6) Emerging and foundational technologies controlled pursuant to section 1758 of theExport Control Reform Act of 2018 (50 U.S.C. 4817).

Interconnection arrangements means arrangements governing the physical connection oftwo or more networks to allow the use of another's network to hand off traffic where it is ultimately delivered (*e.g.*, connection of a customer of telephone provider A to a customer of telephone company B) or sharing data and other information resources.

Reasonable inquiry means an inquiry designed to uncover any information in the entity'spossession about the identity of the producer or provider of covered telecommunications equipment or services used by the entity that excludes the need to include an internal or third-party audit.

Roaming means cellular communications services (*e.g.*, voice, video, data) received from avisited network when unable to connect to the facilities of the home network either because signal coverage is too weak or because traffic is too high.

Substantial or essential component means any component necessary for the proper functionor performance of a piece of equipment, system, or service.

(1) *Prohibition.* Section 889(a)(1)(A) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Pub. L. 115-232) prohibits the head of an executive agency on or after August 13, 2019, from procuring or obtaining, or extending or renewing a contract to procure or obtain, any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system,or as critical technology as part of any system. The Contractor is prohibited from providing to the Government any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system, unless an exception at paragraph (c) of this clause applies or the covered telecommunication equipment or services are covered by a waiver described in FAR4.2104.

(2) Section 889(a)(1)(B) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Pub. L. 115-232) prohibits the head of an executive agency on or after August 13, 2020, from entering into a contract, or extending or renewing a contract, with an entity that uses any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part ofany system, unless an exception at paragraph (c) of this clause applies or the covered telecommunication equipment or services are covered by a waiver described in FAR 4.2104. This prohibition applies to the use of covered telecommunications equipment or services, regardless of whether that use is in performance of work under a Federal contract.

- *Exceptions.* This clause does not prohibit contractors from providing—
  - A service that connects to the facilities of a third-party, such as backhaul, roaming, orinterconnection arrangements; or
  - Telecommunications equipment that cannot route or redirect user data traffic or permitvisibility into any user data or packets that such equipment transmits or otherwise handles.
  - *Reporting requirements.*

(1) In the event the Contractor identifies covered telecommunications equipment or

services used as a substantial or essential component of anysystem, or as critical technology as part of any system, during contract performance, or the Contractor is notified of such by a subcontractor at any tier or by any other source, the Contractor shall report the information in paragraph (d)(2) of this clause to the Contracting Officer, unless elsewhere in this contract are established procedures for reporting the information; in the case of the Department of Defense, the Contractor shall report to the websiteat *https://dibnet.dod.mil.* For indefinite delivery contracts, the Contractor shall report to the Contracting Officer for the indefinite delivery contract and the Contracting Officer(s) for any affected order or, in the case of the Department of Defense, identify both the indefinite deliverycontract and any affected orders in the report provided at *https://dibnet.dod.mil*.

(2) The Contractor shall report the following information pursuant to paragraph (d)(1) of this clause:

(i) Within one business day from the date of such identification or notifications: The contract number; the order number(s), if applicable; supplier name; supplier unique entity identifier (if known); supplier Commercial and Government Entity (CAGE) code (if known); brand; model number (original equipment manufacturer number, manufacturer part number, or wholesaler number); item description; and any readily available information about mitigation actions undertaken or recommended.

(ii) Within ten business days of submitting the information in paragraph (d)(2)(i) of this clause: Any further available information about mitigation actions undertaken or recommended.In addition, the Contractor shall describe the efforts it undertook to prevent use or submission ofcovered telecommunications equipment or services, and any additional efforts that will be incorporated to prevent future use or submission of covered telecommunications equipment or services.

- *Subcontractor*. The Contractor shall insert the substance of this clause, including this paragraph (e), in all subcontracts and other contractual instruments, including subcontracts forthe acquisition of commercial items.

(End of clause)

52.204-26 COVERED TELECOMMUNICATIONS EQUIPMENT OR SERVICES-REPRESENTATION(DEC 2019)

(a) *Definitions.* As used in this provision, "covered telecommunications equipment or services" has the meaning provided in the clause 52.204-25, Prohibition on Contracting for
Certain Telecommunications and Video Surveillance Services or Equipment.

(b) *Procedures*. The offeror shall review the List of Excluded Parties in SAM.gov for entities excluded from receiving federal awards for "covered telecommunications equipment or services".

(c) *Representation.* The Offeror represents that it ☐ **does**, ☐ **does not** provide covered telecommunications equipment or services as

a part of its offered products or services to the Government in the performance of any contract, subcontract, or other contractual instrument.

(End of provision)

OMB No. 0704-0187
OMB approval
expiresAugust 31,

ATTACHMENT 4 - AF X22.2 SBIR CSO D2P2

Department of Defense (DoD)
Small Business Innovation Research (SBIR) Program
Small Business Technology Transfer (STTR) Program

DISCLOSURE OF OFFEROR'S OWNERSHIP OR CONTROL BY A FOREIGN GOVERNMENT

In accordance with DFARS provision 252.209-7002, an offeror is required to disclose, by completing this form (and adding additional pages, as necessary), any interest a foreign government has in the offeror when that interest constitutes control by a foreign government, asdefined in DFARS provision 252.209-7002. If the offeror is a subsidiary, it is also required to disclose any reportable interest a foreign government has in any entity that owns or controls the subsidiary, including reportable interest concerning the offeror's immediate parent, intermediateparents, and the ultimate parent.

DISCLOSURE		
Offeror's Point of Contact for Questions about Disclosure	Name:	
	Phone Number:	
Offeror	Name:	
	Address:	
Entity Controlled by a Foreign Government	Name:	
	Address:	
Description of Foreign Government's Interest in the Offeror		
Foreign Government's Ownership Percentage in Offeror		
Identification of Foreign Government(s) with Ownership or Control		

DFARS 252.209-7002 Disclosure of Ownership or Control by a Foreign Government (JUN 2010)

(a) Definitions. As used in this provision—

(1) "Effectively owned or controlled" means that a foreign government or any entity controlled bya foreign government has the power, either directly or indirectly, whether exercised or exercisable, to control the election, appointment, or tenure of the Offeror's officers or a majority of the Offeror's board of directors by any means, e.g., ownership, contract, or operation of law (or equivalent power for unincorporated organizations).

(2) "Entity controlled by a foreign government"—

(i) Means—

(A) Any domestic or foreign organization or corporation that is effectively owned orcontrolled by a foreign government; or

(B) Any individual acting on behalf of a foreign government.

(ii) Does not include an organization or corporation that is owned, but is not controlled, either directly or indirectly, by a foreign government if the ownership of that organization or corporation by thatforeign government was effective before October 23, 1992.

(3) "Foreign government" includes the state and the government of any country (other than theUnited States and its outlying areas) as well as any political subdivision, agency, or instrumentality thereof.

(4) "Proscribed information" means—

(i) Top Secret information;

(ii) Communications security (COMSEC) material, excluding controlled cryptographic itemswhen unkeyed or utilized with unclassified keys;

(iii) Restricted Data as defined in the U.S. Atomic Energy Act of 1954, as amended;

(iv) Special Access Program (SAP) information; or

(v) Sensitive Compartmented Information (SCI).

(b) Prohibition on award. No contract under a national security program may be awarded to an entity controlled by a foreign government if that entity requires access to proscribed information to perform thecontract, unless the Secretary of Defense or a designee has waived application of 10 U.S.C. 2536(a).

(c) Disclosure. The Offeror shall disclose any interest a foreign government has in the Offeror when thatinterest constitutes control by a foreign government as defined in this provision. If the Offeror is a subsidiary, it shall also disclose any reportable interest a foreign government has in any entity that owns or controls the subsidiary, including reportable interest concerning the Offeror's immediate parent, intermediate parents, and the ultimate parent. Use separate paper as needed, and provide the informationin the following format:

Offeror's Point of Contact for Questions about Disclosure
(Name and Phone Number with Country Code, City Code and Area Code, as applicable)
Name and Address of Offeror
Name and Address of Entity Controlled by a Foreign Government
Description of Interest, Ownership Percentage, and Identification of Foreign Government

(End of provision)

Attachment 5 - X22.2 Sample Slide Deck can be accessed at: ~~https://rt.cto.mil/rtl-small-business-resources/sbir-sttr~~ https://media.defense.gov/2022/May/12/2002995801/-1/-1/1/X222-DCSO1_SAMPLE_SLIDE_DECK.PPTX).