

**National Aeronautics and Space  
Administration  
Small Business  
Innovation Research (SBIR)  
Phase II  
Program Year 2023 Solicitation**

**Completed Proposal Package Due Date and Time:  
February 2, 2024 - 5:00 p.m. ET**

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## Executive Summary

This notice identifies the objectives for the Small Business Innovation Research (SBIR) Program Phase II projects, deadlines, funding information, eligibility criteria for projects and offerors, and instructions to submit a complete proposal package.

The NASA SBIR program focuses on transforming scientific discovery into products and services through innovations that have the potential for infusion into NASA programs and missions, the potential for commercialization into commercial markets, and a societal benefit. Unlike fundamental research, the NASA SBIR program supports small businesses in the creation of innovative, disruptive technologies and enables the application of research advancements from conception into the market.

Different from most other investors, the NASA SBIR Program funds early or "seed" stage research and development that has commercial potential. The program provides equity-free funding at the earliest stages of company and technology development.

NASA requests small businesses to submit a complete proposal package for the SBIR Program Phase II as follow-on work that originally started and will be completed under the fiscal year (FY) 2023 SBIR Phase I solicitation. **Only small businesses that had an FY2023 NASA SBIR Phase I award are allowed to submit a proposal for Phase II under this solicitation.**

**The 2023 Phase II solicitation period for submission of proposal packages begins on December 18, 2023, and ends at 5 p.m. Eastern Time on February 2, 2024.**

**Note: If an offeror has received a no-cost extension on their Phase I contract, the original period of performance date of the contract applies as the deadline. Therefore, the new period of performance date is only an extension for Phase I deliverables and does not apply and cannot be used as the deadline to submit a Phase II Proposal.**

NASA uses an electronic submission system called the Electronic Handbook (EHB) which can be found at <https://sbir.gsfc.nasa.gov/submissions/login>. All offerors must use the EHB for submitting their proposal package. The EHB guides firms through the steps for submitting a complete proposal package. All submissions are through a secure connection and most communication between NASA and the firm is through either the EHB or email via the helpdesk at [agency-sbir@mail.nasa.gov](mailto:agency-sbir@mail.nasa.gov). For more information see section 3.

The SBIR and STTR Extension Act of 2022 (<https://www.congress.gov/bill/117th-congress/senate-bill/4900/text>) reauthorizes through FY2025 and modifies the Small Business Innovation Research (SBIR) program, the Small Business Technology Transfer (STTR) program, and related pilot programs.

The bill requires agencies with an SBIR or STTR program to assess the security risks presented by offerors with financial ties or obligations to certain foreign countries. The programs may not make awards to businesses with certain connections to foreign entities. See sections 1.1.1 Due Diligence Program to Assess Security Risks and 2.3.1 Disclosures of Foreign Affiliation or Relationships to Foreign Countries for additional details.

## 1. Program Description

### 1.1 Legislative Authority and Background

The SBIR and STTR Extension Act of 2022 (Pub. L. 117-183.) amended the Small Business Act (15 U.S.C. 638) to extend the SBIR/STTR programs until September 30, 2025. Policy is provided by the Small Business Administration (SBA) through the combined Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs [Policy Directive](#). The main purpose of the legislation is to stimulate technological innovation in the federal research/research and development (R/R&D) sector and increase private sector commercialization in both the SBIR and STTR programs. Accordingly, the NASA SBIR program is in a unique position to meet both goals by transforming scientific discovery and innovation to be used in NASA programs and missions as well as emphasizing private sector commercialization.

The SBIR program is Congressionally mandated and intended to support scientific excellence and technological innovation through the investment of Federal research funds to build a strong national economy by stimulating technological innovation in the private sector; strengthening the role of small businesses in meeting federal research and development needs; increasing the commercial application of federally supported research results; and fostering and encouraging participation by socially and economically disadvantaged and women-owned small businesses.

#### 1.1.1 Due Diligence Program to Assess Security Risks

The SBIR and STTR Extension Act of 2022 requires NASA, in coordination with the SBA, to establish and implement a due diligence program to assess security risks presented by offerors seeking a Federally funded award. As noted above, the NASA SBIR/STTR Programs follow the policies and practices of the SBA SBIR/STTR Policy Directive. Revisions to the Policy Directive are in effect as of May 3, 2023 and the Federal Register Notice is available at: <https://www.federalregister.gov/documents/2023/04/03/2023-06870/small-business-innovation-researchprogram-and-small-business-technology-transfer-program-policy>. This revision is incorporated into this solicitation, including Appendix III, "Disclosures of Foreign Affiliations or Relationships to Foreign Countries" as reflected in the Disclosures of Foreign Affiliations or Relationships to Foreign Countries form (see section 2.3.1).

In accordance with Section 4 of the SBIR and STTR Extension Act of 2022, NASA will review all proposals submitted in response to this solicitation to assess security risks presented by offerors seeking an SBIR or STTR award. NASA will use the information provided by the offeror in response to the Disclosures of Foreign Affiliations or Relationships to Foreign Countries form and the proposal to conduct a risk-based due diligence review on the cybersecurity practices, patent analysis, employee analysis, and foreign ownership of a small business concern, including the financial ties and obligations (which shall include surety, equity, and debt obligations) of the offeror and its employees to a foreign country, foreign person, or foreign entity. NASA will also assess proposals utilizing open-source analysis and analytical tools, for the nondisclosures of the information set forth in 15 U.S.C. § 638 (9)(g)(17).

### 1.2 Purpose and Priorities

The purpose of Phase II is to continue the R/R&D developed under Phase I with a goal to commercialize and bring the innovation to either Federal or commercial markets, or both, as the Phase II project is completed. Phase II will require a more comprehensive proposal, outlining the effort in detail and the commercialization strategy for the effort. NASA recognizes that Phase II awards may not be sufficient in either dollars or time for the firm to complete the total R/R&D and the commercialization activities required to bring the project results to the marketplace.

Therefore, completion of the research under these circumstances may have to be carried into Post Phase II opportunities or Phase III.

This solicitation includes instructions for small business concerns (SBCs) to submit a complete Phase II proposal package to the NASA SBIR program. Furthermore, program background information, eligibility requirements for participants, and information on the three program phases are contained herein. **The 2023 Phase II solicitation period for submission of complete proposal packages begins on December 18, 2023, and ends at 5 p.m. Eastern Time on February 2, 2024.**

The Space Technology Mission Directorate (STMD) provides overall policy direction for the implementation of the NASA SBIR program. The NASA SBIR/STTR Program Management Office (PMO), hosted at the NASA Ames Research Center, operates the program in conjunction with NASA mission directorates and centers. Additionally, the NASA Shared Services Center (NSSC) provides the overall procurement management for the programs.

For this Phase II solicitation, NASA research and technology areas that were solicited at Phase I serve as the basis for the Phase II proposal. Under this solicitation, there will not be a listing of research topics/subtopics. Offerors are expected to provide proposals that are follow-on work from their 2023 Phase I award and should reference Chapter 9 of the Fiscal Year 2023 SBIR Phase I Solicitation for original subtopic information at <https://sbir.nasa.gov/solicit-detail/97360>.

### 1.3 Three-Phase Program

The NASA SBIR program is carried out in three separate phases. Only Phase II and future opportunities are described below as offerors will have already completed Phase I to submit under this solicitation. The three phases are described in detail on the NASA SBIR/STTR website: <http://sbir.nasa.gov/content/nasa-sbirsttr-basics>.

#### Phase II

Phase II proposals continue the R/R&D developed under Phase I to bring the innovation closer to transition into a NASA program or mission and/or commercialization of the innovation in the marketplace. Phase II will require a more comprehensive proposal, outlining the proposed effort in detail and the commercialization strategy for the effort. Only firms with FY2023 Phase I awards are eligible to submit a Phase II proposal at the conclusion of that Phase I contract.

Phase II Contracts	SBIR
Maximum Contract Value	\$850,000
Maximum Period of Performance	24 months

#### Post-Phase II Opportunities for Continued Technology Development

NASA recognizes that Phase I and II awards may not be sufficient in either dollars or time for the firm to complete the total R/R&D and the commercialization activities required to make the project ready for transition into NASA or the commercial marketplace. Therefore, NASA has several initiatives for supporting its small business partners beyond their Phase I and Phase II awards.

Please refer to <http://sbir.nasa.gov/content/post-phase-ii-initiatives> for Post Phase II eligibility, application deadlines, matching requirements, and further information.

**Phase III**

Phase III is the commercialization of innovative technologies, products, and services resulting from either a Phase I or Phase II contract. This includes further development of technologies for transition into NASA programs, other Government agencies, or the private sector. Phase III contracts are funded from sources other than the SBIR program and may be awarded without further competition.

Please refer to <https://sbir.nasa.gov/content/post-phase-ii-initiatives#Phase-III> for Phase III information.

**1.4 Availability of Funds**

There is no commitment by NASA to fund any proposal or to make a specific number of awards and NASA may elect to make several or no awards in any specific research subtopic. The number of awards will be based on the level of appropriated funding provided to the program in FY 2024. Since this solicitation may be released prior to the passage of an appropriations act for FY 2024, enactment of continuing resolutions or an appropriations act may affect the availability or level of funding for this program and may delay the start date of Phase II contracts or impact the maximum contract value levels.

**1.5 Eligibility Requirements****1.5.1 Small Business Concern (SBC)**

Each Phase II offeror must submit a certification stating that it meets the size, ownership, and other requirements of the SBIR program at the time of proposal package submission, award, and at any other time set forth in SBA's regulations at [13 CFR §§ 121.701-121.705](#).

**1.5.2 SBC Size**

A Phase II offeror, combined with its affiliates, must not have more than 500 employees.

**1.5.3 SBIR Restrictions on Level of Small Business Participation**

The SBC must be the primary performer of the proposed Phase II research effort. To be awarded an SBIR Phase II contract, a minimum of 50% of the research or analytical effort must be carried out by the offeror during Phase II; correspondingly, a maximum of 50% of the effort may be performed by an outside party such as consultants or subcontractors. Involvement of university, government, or other outside personnel in the planning and research stages of the project as consultants or through subcontracting arrangements is permitted and may be particularly helpful to small businesses.

**1.5.4 Place of Performance and American-made Products and Equipment**

**All work shall be performed in the United States.** When purchasing equipment or a product under the SBIR/STTR contract, purchase only American-made items whenever possible. On rare occasions or for a unique circumstance (for example, if a supply, material, or other item or project requirement is not available in the United States), NASA may allow a particular portion of the research or work to be performed or obtained in a country outside of the United States.

Proposal packages must clearly indicate if any work will be performed outside the United States, including subcontractor performance, and justification must be provided by downloading and completing the "Request to Use a Foreign Vendor/Purchase of Items from a Foreign Vendor" form found at <https://sbir.gsfc.nasa.gov/submissions/learning-support/firm-templates> and while completing the budget under section 3.4. Prior to award, approval by the Contracting Officer for such specific condition(s) must be in writing.

**Note: NASA will not approve purchases from or work with countries that appear on the list of Designated Countries. For reference, please see <https://www.nasa.gov/oir/export-control>.**

**1.5.5 Principal Investigator (PI) Employment Requirement**

<b>Requirements</b>	<b>SBIR</b>
<b>Primary Employment</b>	PI shall be primarily employed with the SBC.
<b>Employment Certification</b>	The offeror must certify in the proposal package that the primary employment of the PI will be with the SBC at the time of award and during the execution of the project and they will spend more than one-half of their time as an employee of the awardee or that they have requested and received a written deviation from this requirement from the Contracting Officer.
<b>Co-PIs</b>	Not allowed.
<b>Deviation Request</b>	Any deviation requests will be reviewed during the negotiation of the award and either approved or declined before the final award by the Contracting Officer.
<b>Misrepresentation of Qualifications</b>	This shall result in the proposal package being declined or the contract terminated.
<b>Substitution of PIs</b>	Requires prior approval from NASA during negotiations or after award.

**Note: NASA considers full-time employment to include salaried employees and employees who regularly work a 40-hour workweek. NASA considers a 19.9-hour or more workweek elsewhere to conflict with this requirement. In rare occasions, minor deviations from this requirement may be necessary; however, any minor deviation must be approved in writing prior to the award by the Contracting Officer after consultation with the NASA SBIR/STTR Program Manager.**

**1.5.6 Restrictions on Venture-Capital-Owned Businesses**

At the current time, small businesses owned in majority part by multiple venture capital operating companies, hedge funds, or private equity firms are not eligible to submit a proposal package under this NASA SBIR Phase II solicitation.

**1.5.7 Joint Ventures or Limited Partnerships**

Both joint ventures and limited partnerships are permitted, provided the entity created qualifies as an SBC in accordance with the definition of an SBC here: <http://sbir.nasa.gov/content/nasa-sbirsttr-program-definitions>. A statement of how the workload will be distributed, managed, and charged should be included in the proposal package. See definitions for Joint Ventures along with examples at [13 CFR 121.103\(h\)](https://www.ecfr.gov/current/title-49/chapter-I/subchapter-B/part-121/subpart-103/section-121.103(h)).

A copy or comprehensive summary of the joint venture agreement or partnership agreement should be included with the proposal package.

**1.6 NASA Technology Available (TAV) for SBIR Use**

Offerors that proposed to use technology developed by NASA (Technology Available (TAV)) under their Phase II project should plan to continue to move the technology towards commercialization after Phase II. For more information on the NASA Technology Transfer program go to <http://technology.nasa.gov>. Whether or not a firm proposes the use of a NASA patent or computer software within its proposed effort will not in any way be a factor in the selection for the award.

### 1.6.1 Use of NASA Software

If an offeror intends to use NASA software, a Software Usage Agreement (SUA), on a nonexclusive, royalty-free basis, is necessary, and the clause at 48 C.F.R. 1852.227-88, Government-Furnished Computer Software and Related Technical Data, will apply to the contract. The SUA shall be requested from the appropriate NASA Center Software Release Authority (SRA), after the contract award.

### 1.6.2 Use of NASA Patent

All offerors submitting a proposal package that includes the use of a NASA patent must apply for a nonexclusive, royalty-free evaluation license. After firms have identified a patent to license in the NASA patent portfolio (<http://technology.nasa.gov>), a link on the patent webpage (“Apply Now to License this Technology”) will direct them to NASA’s Automated Licensing System (ATLAS) to finalize their license with the appropriate field center technology transfer office. The completed evaluation license application must be provided with the proposal following the directions in section 3.4. Such grant of nonexclusive evaluation license will be set forth in the successful offeror’s SBIR contract. The evaluation license will automatically terminate at the end of the SBIR contract. License applications will be treated in accordance with Federal patent licensing regulations as provided in 37 CFR Part 404.

In addition to an evaluation license, if the proposed work includes the making, using, or selling of products or services incorporating a NASA patent, successful awardees will be given the opportunity to negotiate a nonexclusive commercialization license or, if available, an exclusive commercialization license to the NASA patent. Commercialization licenses are also provided in accordance with 37 CFR Part 404.

An SBIR awardee who has been granted a nonexclusive, royalty-free evaluation license to use a NASA patent under the SBIR award may, if available and on a noninterference basis, also have access to NASA personnel knowledgeable about the NASA patent. Licensing Executives located at the appropriate NASA field center will be available to assist awardees requesting information about a patent that was identified in the SBIR contract and, if available and on a noninterference basis, provide access to the inventor or surrogate for the purpose of knowledge transfer. Access to the inventor for the purpose of knowledge transfer will require the requestor to enter into a Non-Disclosure Agreement (NDA) or other agreement, such as a Space Act Agreement. The awardee may be required to reimburse NASA for knowledge transfer activities.

## 1.7 Technical and Business Assistance (TABAs)

In accordance with the [Small Business Act 15 U.S.C. 631, Section 9 \(q\) Discretionary Technical and Business Assistance](#) (TABAs), NASA may authorize the recipient of a NASA Phase II SBIR award to purchase (up to \$50,000) technical and business assistance services through one or more outside vendors. These services may, as determined appropriate, include access to a network of non-NASA scientists and engineers engaged in a wide range of technologies, assistance with product sales, intellectual property protections, market research, market validation, and development of regulatory plans and manufacturing plans, or access to technical and business literature available through online databases, for the purpose of assisting such concerns in:

1. Making better technical decisions concerning such projects.
2. Solving technical problems that arise during the conduct of such projects.
3. Minimizing technical risks associated with such projects; or,
4. Commercializing new commercial products and processes resulting from such projects, including intellectual property protections.

TABA may be obtained from entities such as public or private organizations, including an entity established or funded by a U.S. state that facilitates or accelerates the commercialization of technologies or assists in the creation and growth of private enterprises that are commercializing technology.

For information on how to request TABA at Phase II, please see Section 3.4.15, Phase II Request for Use of Technical and Business Assistance Funds. Technical and business assistance does not count toward the maximum award amount of your Phase II contract. Approval of technical and business assistance is not guaranteed and is subject to review by the Contracting Officer and the SBIR/STTR Program Management Office. A description of any technical and business assistance obtained under this section, Section 3.4.15, and the benefits and results of the technical or business assistance provided will be a required deliverable of your contract.

### **1.8 Phase II Intern Diversity Supplement (IDS) Program**

Offerors that are successful in receiving a Phase II award are eligible to apply for an intern diversity supplement to be effective only in the summer months of the second year of their Phase II project period. Instructions for requesting a diversity supplement will be provided directly to Phase II awardees prior to the application period.

#### PURPOSE

The purpose of a Phase II intern diversity supplement is to improve the diversity of the research workforce by recruiting and supporting undergraduate and graduate students from groups that have been shown to be underrepresented in the U.S. science and engineering workforce.

Fostering diversity by encouraging the participation of individuals from nationally underrepresented groups in the scientific and engineering research workforce is a longstanding interest of Congress, and a key component of the NASA SBIR/STTR outreach strategy to identify, develop, support, and maintain the quality of its scientific and engineering workforce. Similarly, fostering and encouraging participation from women, socially and economically disadvantaged individuals, and other individuals in nationally underrepresented groups in the science and engineering workforce are equally critical to the success of the SBIR and STTR programs. Scientists, engineers, and entrepreneurs from underrepresented backgrounds and life experiences bring different perspectives, creativity, and individual enterprise to address complex scientific problems.

This diversity supplement is designed to provide support for research and entrepreneurial experiences for candidates whose participation will improve the SBIR/STTR program by promoting diversity in the small business community throughout the continuum from undergraduate to graduate level. Continuation of this program in the future will depend on evaluation of the career outcomes of the supported individuals as well as continuing assessments of the diversity of the small business programs by the U.S. Small Business Administration and the National Academies.

In all cases, the proposed research experience must be an integral part of the approved ongoing research of the eligible NASA Phase II award and must have the potential to contribute to the research and entrepreneurial career development of the candidates.

#### CANDIDATES

SBCs are encouraged to identify women, individuals from nationally underrepresented groups, individuals with a commitment to diversifying the science and engineering workforce, and/or individuals meeting the SBA definition of socially and economically disadvantaged.

Members of socially disadvantaged groups as defined by Executive Order on Advancing Racial Equity and Support for Underserved Communities Through the Federal Government dated January 20, 2021, are:

- Black, Latino, Indigenous, and Native American persons, Asian Americans and Pacific Islanders and other persons of color; members of religious minorities; lesbian, gay, bisexual, transgender, and queer (LGBTQ+) persons; persons with disabilities; persons who live in rural areas; and persons otherwise adversely affected by persistent poverty or inequality Black Americans.

An economically disadvantaged individual candidate for a diversity supplement must have:

- a net worth less than \$750,000 (not including his or her primary residence and the value of the individual's ownership interest in a socially and economically disadvantaged SBC, if any),
- an average adjusted gross income of \$350,000 or less for the preceding three years, and
- the fair market value of all his or her assets (including his or her primary residence and the value of the individual's ownership interest in a socially and economically disadvantaged SBC, if any) does not exceed \$6 million.

For purposes of the diversity supplement, the definitions above apply to the individual candidates, not the SBC Phase II offeror applying for the supplement.

As part of this supplement program, Undergraduate, Baccalaureate, and Master's Degree and Graduate students who have a demonstrated interest in or desire to pursue science, technology, engineering, or math (STEM) training and entrepreneurship, may participate in a Phase II research project during the summer months. This experience is separate from any requirement of the regular academic program.

The duration of the program is normally 10 weeks but could be extended with a no-cost extension request and approval from the Contracting Officer. This supplement program is limited to citizens or non-citizen nationals of the United States or individuals who have been lawfully admitted for permanent residence in the United States.

### **1.9 Small Business Administration (SBA) Applicant Resources**

The SBA oversees the Federal SBIR and STTR programs. The SBA has resources that small businesses can take advantage of in learning about each of the programs and obtaining help in developing a completed proposal package to submit to a Federal SBIR/STTR program. Offerors are encouraged to review the information that is provided at the following links: [www.sbir.gov](http://www.sbir.gov), <https://www.sba.gov/local-assistance>, and <https://www.sbir.gov/resources>.

### **1.10 NASA Mentor-Protégé Program (MPP)**

The purpose of the NASA Mentor-Protégé Program (MPP) is to provide incentives to NASA contractors, performing under at least one active approved subcontracting plan negotiated with NASA, to assist protégés in enhancing their capabilities to satisfy NASA and other contract and subcontract requirements. The NASA MPP established under the authority of Title 42, United States Code (U.S.C.) 2473(c)(1) and managed by the Office of Small Business Programs (OSBP), includes an Award Fee Pilot Program. Under the Award Fee Pilot Program, a mentor is eligible to receive an award fee at the end of the agreement period based upon the mentor's performance of providing developmental assistance to an active SBIR Phase II contractor in a NASA Mentor-Protégé agreement (MPA). For more information on the Mentor-Protégé Program, please visit <https://www.nasa.gov/osbp/mentor-protége-program>.

### 1.11 Fraud, Waste and Abuse and False Statements

Fraud is described as “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.” The Federal Government reserves the right to decline any proposal packages that include plagiarism and false claims.

***Note: Knowingly and willfully making any false, fictitious, or fraudulent statements or representations may be a felony under the Federal Criminal False Statement Act (18 U.S.C., section 1001), punishable by a fine and imprisonment of up to 5 years in prison. The Office of the Inspector General (OIG) has full access to all proposal packages submitted to NASA.***

Pursuant to NASA policy, any company representative who observes crime, fraud, waste, abuse, or mismanagement or receives an allegation of crime, fraud, waste, abuse, or mismanagement from a federal employee, contractor, grantee, or any other source will report such observation or allegation to the Office of Inspector General (OIG). NASA contractor employees and other individuals are also encouraged to report crime, fraud, waste, and mismanagement in NASA's programs to the OIG. The OIG offers several ways to report a complaint:

**NASA OIG Hotline:** 1-800-424-9183 (TDD: 1-800-535-8134)

**NASA OIG Cyber Hotline:** <https://oig.nasa.gov/cyberhotline.html>

**Or by mail:**

NASA Office of Inspector General  
P.O. Box 23089  
L'Enfant Plaza Station  
Washington, DC 20026

### 1.12 NASA Procurement Ombudsman Program

The NASA Procurement Ombudsman Program is available under this solicitation as a procedure for addressing concerns and disagreements concerning the terms of the solicitation, the processes used for the evaluation of completed proposal packages, or any other aspect of the SBIR procurement. The clause at NASA Federal Acquisition Regulation (FAR) Supplement (NFS) 1852.215-84 (“Ombudsman”) is incorporated into this solicitation.

The cognizant ombudsman is:

Marvin Horne, Procurement Ombudsman Office of Procurement  
NASA Headquarters  
Washington, DC 20546-0001  
Telephone: 202-358-4483  
Fax: 202-358-3082  
Email: [agency-procurementombudsman@nasa.gov](mailto:agency-procurementombudsman@nasa.gov)

Offerors are advised that, in accordance with NFS 1852.215-84, the ombudsman does not participate in any way in the evaluation of proposal packages, the source selection process, or the adjudication of formal contract disputes. Therefore, before consulting with the ombudsman, offerors must first address their concerns, issues, disagreements, and/or recommendations to the Contracting Officer for resolution. Offerors are further advised

that the process set forth in this solicitation provision (and described at NFS 1852.215-84) does not augment their right to file a bid protest or otherwise toll or elongate the period in which to timely file such a protest.

### **1.13 General Information**

#### **1.13.1 Questions About This Solicitation and Means of Contacting NASA SBIR Program**

To ensure fairness, questions relating to the intent and/or content of research subtopics in this solicitation cannot be addressed during the open solicitation period. Only questions requesting clarification of the completed proposal package instructions and administrative matters will be addressed.

**The cutoff date and time for receipt of Phase II solicitation questions requesting clarification of proposal package instructions and administrative matters is February 2, 2023, at 12:00 p.m. ET.**

Offerors that have questions requesting clarification of proposal package instructions and administrative matters should refer to the NASA SBIR/STTR website or contact the NASA SBIR/STTR helpdesk.

1. NASA SBIR/STTR website: <http://sbir.nasa.gov>
2. Help Desk: The NASA SBIR/STTR Help Desk can answer any questions regarding clarification of completed proposal package instructions and any administrative matters. The Help Desk may be contacted by e-mail at: [agency-sbir@mail.nasa.gov](mailto:agency-sbir@mail.nasa.gov).
  - a. The requestor must provide the name and telephone number of the person to contact, the organization name and address, and the specific questions or requests.

### **1.14 Definitions**

A comprehensive list of definitions related to the programs is available at <http://sbir.nasa.gov/content/nasa-sbirsttr-program-definitions>. These definitions include those from the SBA SBIR/STTR programs Policy Directive as well as terms specific to NASA. Offerors are strongly encouraged to review these prior to submitting a completed proposal package.

## 2. Registrations, Certifications and Other Completed Proposal Package Information

### 2.1 Small Business Administration (SBA) Company Registry

All SBCs that are applying to any SBIR solicitation are required to register with the SBIR Company Registry which is managed by the SBA. In addition, all SBCs must update their commercialization status through the SBIR Company Registry. Information related to the steps necessary to register with the SBIR Company Registry can be found at <https://www.sbir.gov/registration>.

After an SBC registers with SBA and/or updates their commercialization information, the offeror needs to obtain a portable document format (PDF) copy of the SBC registration. In addition, the SBC must provide their unique SBC Control ID (assigned by SBA upon completion of the Company Registry registration) and must upload the PDF copy of the SBC registration in the Firm Certifications form in the EHB and will be provided instructions on how to complete it at time of submission. Firm Certifications are applicable across all proposal packages submitted by an SBC for the specific solicitation and only need to be completed once per solicitation.

### 2.2 System for Award Management (SAM) Registration

Offerors are required to register with SAM prior to submitting a proposal package. To be eligible for SBIR awards, firms must be registered under the applicable North American Industry Classification System (NAICS) codes for the SBIR Phase II awards (codes 541713 or 541715). It is recommended to list the Purpose of Registration as “All Awards” on your SAM Registration.

Offerors without an active SAM registration by the due date for a proposal package will be ineligible for award. Offerors who started the registration process but did not complete the registration by the due date for a proposal package will be ineligible for award. **Offerors who are not registered should consider applying for registration immediately upon receipt of this solicitation. Typically, SAM registration and updates to SAM registration have required a processing period of several weeks.**

SAM, maintained by the GSA’s Federal Acquisition Service, is the primary repository for contractor information required to conduct business with NASA. To be registered in SAM, all mandatory information, including the Unique Entity Identifier (UEI) and a Commercial and Government Entity (CAGE) code, must be validated in SAM. Offerors and contractors may obtain information on SAM registration and annual confirmation requirements at <https://www.sam.gov/SAM/pages/public/index.jsf> or by calling 866-606-8220.

### 2.3 Certifications

Offerors must complete the Firm and Proposal Certifications section in the Electronic Handbook (EHB), answering “Yes” or “No” to certifications as applicable. Firms should carefully read each of the certification statements. The Federal Government relies on the information to determine whether the business is eligible for an SBIR program award. A similar certification will be used to ensure continued compliance with specific program requirements at the time of award and during the life of the contract. The definitions for the terms used in these certifications are set forth in the Small Business Act, SBA regulations (13 CFR Part 121), the SBIR/STTR programs [Policy Directive](#), and any statutory and regulatory provisions referenced in those authorities.

All SBIR Phase II contractors shall complete the life cycle certifications at the midpoint and at the end of the

contract period of performance. The certifications shall be completed by the contractor via the EHB unless otherwise authorized or directed by the Contracting Officer.

If the Contracting Officer believes that the business may not meet certain eligibility requirements at the time of award, the business is required to file a size protest with the SBA, who will determine eligibility. At that time, SBA will request further clarification and supporting documentation to assist in the eligibility determination. Additionally, the Contracting Officer may request further clarification and supporting documentation regarding eligibility to determine whether a referral to SBA is required.

### **2.3.1 Disclosures of Foreign Affiliation or Relationships to Foreign Countries**

Each offeror is required to complete the “Disclosures of Foreign Affiliations or Relationships to Foreign Countries” form as part of their proposal submission. Please note that even if you do not have any foreign relationships, you must complete this form to represent that such relationships do not exist. Failure to submit this form will result in the declination of your proposal during the administrative screening process and your proposal will not be evaluated. The disclosure of information related to foreign involvement or investment is required and does not independently disqualify an offeror but failing to disclose such affiliations or relationships may result in denial of an award.

The disclosures require the following information:

- (A) the identity of all owners and covered individuals of the small business concern who are a party to any foreign talent recruitment program of any foreign country of concern, including the People’s Republic of China;
- (B) the existence of any joint venture or subsidiary of the small business concern that is based in, funded by, or has a foreign affiliation with any foreign country of concern, including the People’s Republic of China;
- (C) any current or pending contractual or financial obligation or other agreement specific to a business arrangement, or joint venture-like arrangement with an enterprise owned by a foreign state or any foreign entity;
- (D) whether the small business concern is wholly owned in the People’s Republic of China or another foreign country of concern;
- (E) the percentage, if any, of venture capital or institutional investment by an entity that has a general partner or individual holding a leadership role in such entity who has a foreign affiliation with any foreign country of concern, including the People’s Republic of China;
- (F) any technology licensing or intellectual property sales to a foreign country of concern, including the People’s Republic of China, during the five-year period preceding submission of the proposal; and
- (G) any foreign entity, offshore entity, or entity outside the United States related to the small business concern.

After reviewing the above-listed disclosures of the offeror, and if determined appropriate by NASA, the program may ask the offeror to provide true copies of any contractual or financial obligation or other agreement specific to a business arrangement or joint venture-like arrangement with an enterprise owned by a foreign state or any foreign entity in effect during the five-year period preceding submission of the proposal with respect to which the offeror made the disclosures.

Throughout the duration of the award, the awardee will be required to regularly report to NASA any changes to a required disclosure.

## 2.4 Federal Acquisition Regulation (FAR) and NASA Certifications and Clauses

SAM contains required certifications that offerors may access at <https://www.acquisition.gov/browsefar> as part of the required registration (see FAR 4.1102). Offerors must complete these certifications to be eligible for an award.

Offerors should be aware that SAM requires all offerors to provide representations and certifications electronically via the website and to update the representations and certifications as necessary, but at least annually, to keep them current, accurate, and complete. NASA will not enter into any contract wherein the contractor is not compliant with the requirements stipulated herein.

In addition, there are clauses that offerors will need to be aware of if selected for a contract. For a complete list of FAR and NASA clauses see Appendix C.

## 2.5 Software Development Standards

Offerors proposing projects involving the development of software may be required to comply with the requirements of NASA Procedural Requirements (NPR) 7150.2A, NASA Software Engineering Requirements, available online at [https://nodis3.gsfc.nasa.gov/npg\\_img/N\\_PR\\_7150\\_002C\\_/N\\_PR\\_7150\\_002C\\_.pdf](https://nodis3.gsfc.nasa.gov/npg_img/N_PR_7150_002C_/N_PR_7150_002C_.pdf).

## 2.6 Human and/or Animal Subject

Offerors should be aware of the requirement that an approved protocol by a NASA review board is required if the proposed work includes human or animal subjects. An approved protocol shall be provided to the Contracting Officer prior to the initiation of any human and/or animal subject research. Offerors shall identify the use of human or animal subjects in the Proposal Certifications form. For additional information, contact the NASA SBIR/STTR Program Support Office at [agency-sbir@mail.nasa.gov](mailto:agency-sbir@mail.nasa.gov). Reference 14 CFR 1230 and 1232.

## 2.7 Flight Safety Standards

If you are proposing projects involving the delivery of a spacecraft, you must comply with NASA Procedural Requirements (NPR) 8079.1, NASA Spacecraft Conjunction Analysis and Collision Avoidance for Space Environment Protection, available online at <https://nodis3.gsfc.nasa.gov/displayDir.cfm?t=NPR&c=8079&s=1>.

## 2.8 Homeland Security Presidential Directive 12 (HSPD-12)

Offerors that require access to Federally controlled facilities or access to a Federal information system (Federally controlled facilities and Federal information systems are defined in FAR 2.101(b)(2)) for 6 consecutive months or more must adhere to Homeland Security Presidential Directive 12 (HSPD-12), Policy for a Common Identification Standard for Federal Employees and Contractors, and Federal Information Processing Standards Publication (FIPS PUB) Number 201, Personal Identity Verification (PIV) of Federal Employees and Contractors, which require agencies to establish and implement procedures to create and use a Government-wide secure and reliable form of identification no later than October 27, 2005. See <https://nvlpubs.nist.gov/nistpubs/FIPS/NIST.FIPS.201-2.pdf>.

This is in accordance with FAR clause 52.204-9, Personal Identity Verification of Contractor Personnel, which states in part that the contractor shall comply with the requirements of this clause and shall ensure that individuals needing such access shall provide the personal background and biographical information requested by NASA.

**Note: Additional information regarding PIV credentials can be found at <https://csrc.nist.gov/Projects/PIV>.**

### 3. Phase II Proposal Preparation Instructions and Requirements

#### 3.1 Phase II Proposal

The Phase II proposal is to continue the R/R&D developed under Phase I with a goal to commercialize and bring the innovation to Federal and commercial markets as the Phase II project is completed. Phase II will require a more comprehensive proposal, outlining the proposed effort in detail and the commercialization strategy for the effort. NASA recognizes that Phase II awards may not be sufficient in either dollars or time for the firm to complete the total R/R&D and the commercialization activities required to bring the project results to the marketplace. Therefore, completion of the research under these circumstances may have to be carried into NASA Post-Phase II or Phase III opportunities.

#### 3.2 Proprietary Information in the Proposal Submission

Information contained in unsuccessful proposals will remain the property of the applicant. The Federal Government may, however, retain copies of all proposals. Public release of information in any proposal submitted will be subject to existing statutory and regulatory requirements. If proprietary information is provided by an applicant in a proposal that constitutes a trade secret, commercial, or financial information, it will be treated in confidence, to the extent permitted by law, provided that the proposal is clearly marked by the applicant as follows:

- (A) The following “italicized” legend must appear on the title page of the proposal:

*This proposal contains information that shall not be disclosed outside the Federal Government and shall not be duplicated, used, or disclosed in whole or in part for any purpose other than evaluation of this proposal unless authorized by law. The Government shall have the right to duplicate, use, or disclose the data to the extent provided in the resulting contract if the award is made as a result of the submission of this proposal. The information subject to these restrictions is contained on all pages of the proposal except for pages [insert page numbers or other identification of pages that contain no restricted information].*

*(End of Legend);* and

- (B) The following legend must appear on each page of the proposal that contains information the applicant wishes to protect:

*Use or disclosure of information contained on this sheet is subject to the restriction on the title page of this proposal.*

#### 3.3 Release of Certain Proposal Information

In submitting a proposal, the offeror agrees to permit the Government to disclose publicly the information contained in the Contact Information form, Proposal Summary form which includes the technical abstract, and Briefing Chart. Other proposal data is considered to be the property of the offeror, and NASA will protect it from public disclosure to the extent permitted by law, including requests submitted under the Freedom of Information Act (FOIA).

#### 3.4 Requirements to Submit a Phase II Complete Proposal Package

##### 3.4.1 General Requirements

Phase II proposals are more comprehensive than those required for Phase I. Submission of a Phase II proposal is in accordance with Phase I contract requirements and is voluntary. NASA assumes no responsibility for any proposal preparation expenses.

Offerors may only submit one Phase II proposal per Phase I award and offerors are only allowed to submit a Phase II proposal at the end of the FY2023 Phase I contract period of performance for this solicitation. NASA will not accept Phase II proposals from prior Phase I awardees that did not submit a proposal at the end of the Phase I contract period of performance.

The proposal will provide the planning for a focused project that builds upon Phase I results and encompasses technical, market, financial, and business factors relating to the development and demonstration of the proposed innovation and its transition into products and services for NASA mission programs, other Government agencies (Federal and State), and non-Government markets.

### 3.4.2 Format Requirements

**Note:** *NASA administratively screens all proposals and reserves the right to decline any proposal that does not conform to the following formatting requirements.*

#### Page Limitations

A Phase II technical proposal must not exceed a total of 46 standard letter size (8.5 by 11 inch or 21.6 by 27.9 cm) pages. Proposals uploaded with more than 46 pages will prompt a warning that will prevent the completed proposal from being submitted. Each page must be numbered consecutively at the bottom. ***Technical proposal uploads with any page(s) going over the required page limit will not be accepted.*** The additional forms required for proposal submission will not count against the 46-page limit.

#### Margins

Margins must be 1.0 inch (2.5 cm).

#### Suggested Page Limits for Technical Proposal Parts

Section 3.4.4 gives suggested page limits for each part of the technical proposal. These are guidelines and are not strict requirements, **except for the minimum page requirement stated for Part 7: Commercialization and Business Plan.** Offerors are still required to meet the total page-limit proposal requirements as described above.

#### Type Size

No type size smaller than 10 points shall be used for text or tables, except as legends on reduced drawings. Proposals prepared with smaller font sizes may be declined without consideration.

#### Header/Footer Requirements

Headers shall include the firm name, proposal number, and project title. Footers must include the page number and proprietary markings if applicable. Margins can be used for header/footer information.

#### Classified Information

NASA does not accept proposals that contain classified information.

#### Embedded Animation, Video, and Further Reading

Embedded animation or video, as well as technical papers referenced for “further reading,” will not be considered for evaluation.

#### Project Title

The proposal project title shall be concise and descriptive of the proposed effort. The title should not use acronyms or words like "development of" or "study of." The NASA research topic title must not be used as the proposal title.

#### **A Complete Proposal Package Contains:**

Each complete proposal package submitted shall contain the following items:

1. Proposal Contact Information (Section 3.4.3.1)
2. Proposal Certifications (Section 3.4.3.2)
3. Proposal Summary – must not contain any proprietary data (Section 3.4.3.3)
4. Proposal Budget (Section 3.4.3.4)
  - a. Letters of commitment for Government resources and subcontractors/consultants (if applicable)
  - b. Foreign Vendor form (if applicable) – Note: NASA and the Office of Management and Budget (OMB) have issued a policy that requires a review of any request to purchase materials or supplies from foreign vendors.
5. Technical Proposal – To include all 10 Parts in the order specified in section 3.4.4, not to exceed 46 pages, including all graphics, and starting with a table of contents.
6. Briefing Chart - must not contain proprietary data (Section 3.4.5)
7. NASA Evaluation License Application, only if TAV is being proposed (Section 1.6)
8. Capital Commitments Addendum Supporting Phase II and Phase III (optional) (Section 3.4.6)
9. Technical and Business Assistance (TABA) Request, if applicable (Section 3.4.13)
10. Firm-Level Forms (completed once per offeror for all proposals submitted to a single solicitation)
  - a. Firm Certifications (Section 3.4.7)
  - b. Audit Information (Section 3.4.9)
  - c. Prior Awards Addendum (Section 3.4.10)
  - d. Commercialization Metrics Survey (CMS) (Section 3.4.11)
  - e. Disclosures of Foreign Affiliations or Relationships to Foreign Countries (Section 3.4.8)
11. Electronic Endorsement in the EHB by the Small Business Official and Principal Investigator (PI)

Previews of forms and certifications are available via the NASA SBIR/STTR Resources website, located at [http://sbir.gsfc.nasa.gov/sbir/firm\\_library/index.html](http://sbir.gsfc.nasa.gov/sbir/firm_library/index.html).

***Note: Letters expressing general technical interest are not required or desired and will not be considered during the review process. However, if submitted, such letter(s) will count against the page limit. Letters of funding support commitments are allowable for Phase II proposals but will only be considered under Factor 4: Commercial Potential and Feasibility. Letters of funding support commitments should be submitted as part of the Capital Commitments Addendum as described under Part 7: Commercialization and Business Plan.***

***Note: The EHB will not allow the upload of relevant technical papers, product samples, videotapes, slides, or other ancillary items, and they will not be considered during the review process.***

#### **3.4.3 Forms**

All form submissions shall be done electronically and do not count toward the 46-page limit. Samples of forms can be found on the NASA SBIR/STTR Resources website: [http://sbir.gsfc.nasa.gov/sbir/firm\\_library/index.html](http://sbir.gsfc.nasa.gov/sbir/firm_library/index.html).

##### **3.4.3.1 Contact Information**

The offeror must provide complete information for each designated contact person and submit the form as required in section 6. ***Contact Information is public information and may be disclosed.***

### 3.4.3.2 Proposal Certifications

The offeror must provide complete information for each item and submit the form as required in section 6.

### 3.4.3.3 Proposal Summary

The offeror shall provide complete information for each item and submit the form as required in section 6. ***The Proposal Summary, including the Technical Abstract, is public information and may be disclosed. Do not include proprietary information in this form.***

### 3.4.3.4 Proposal Budget

The offeror must complete the Budget form following the contextual help provided on the electronic budget form in the EHB. The total requested funding for the Phase II technical effort shall not exceed \$850,000. If requesting TABA, offerors are allowed to request up to \$50,000 over the \$850,000 for the technical effort. Information shall be submitted to explain the offeror's plans for the use of the requested funds to enable NASA to determine whether the proposed price is fair and reasonable.

In addition, the following documents and information as directed by the EHB must be submitted with the Proposal Budget form, as applicable:

#### **Proposal Requirements for Use of Government Resources**

In cases where an offeror seeks to use NASA or another Federal department or agency laboratory services, equipment, or facilities (collectively, "resources"), the offeror shall provide the following:

1. Statement, signed by the appropriate Government official at the affected Federal department or agency laboratory, verifying that the resources should be available during the proposed period of performance. Offerors must upload this letter in the Proposal Budget form.
2. A signed letter on company letterhead from the contractor's Small Business Official explaining why the SBIR research project requires the use of Government resources, including data that verifies the absence of non-Federal facilities or personnel capable of supporting the research effort, and the associated cost estimate. Offerors must upload this letter in the Proposal Budget form.

See Part 8 of the Technical Proposal instructions for additional information on the use of Government Resources.

#### **Use of Subcontractors and Consultants**

Subject to the restrictions set forth below, the offeror may establish business arrangements with other entities or individuals to participate in the performance of the proposed R/R&D effort. Subcontractors' and consultants' work have the same place-of-performance restrictions as stated in section 1.5.4.

1. Offerors should list consultants by name and specify, for each, the number of hours and hourly costs.
2. The breakdown of the subcontractor budget should mirror the offeror's own breakdown in the Proposal Budget form and include breakdowns of direct labor, other direct costs, and profit, as well as indirect rate agreements.
3. A signed letter of commitment is required for each subcontractor and/or consultant. For educational institutions that will serve as a subcontractor, the letter must be from the institution's office of sponsored programs.

The following restrictions apply to the use of subcontractors/consultants, and the formula below must be used in preparing budgets with subcontractors/consultants. For Phase II SBIR, the proposed subcontracted business

arrangements, including consultants, must not exceed 50 percent of the research and/or analytical work [as determined by the total cost of the proposed subcontracting effort (to include the appropriate overhead (OH) and general and administrative expense (G&A) in comparison to the total effort (total contract price including cost sharing, if any, less profit, if any)]. Occasionally, deviations from these SBIR requirements may occur and must be approved in writing by the Contracting Officer after consultation with the agency SBIR/STTR Program Manager.

Example:	Total price to include profit	\$850,000
	Profit	\$21,750
	Total price less profit	$\$850,000 - \$21,750 = \$828,250$
	Subcontractor cost	\$250,000
	G&A	5%
	G&A on subcontractor cost	$\$250,000 \times 5\% = \$12,500$
	<u>Subcontractor cost plus G&amp;A</u>	<u><math>\\$250,000 + \\$12,500 = \\$262,500</math></u>
	<b>Percentage of subcontracting effort*</b>	<b><math>\\$262,500/\\$828,250 = 31.6\%</math></b>
	<b>*Subcontractor cost plus G&amp;A/total price less profit</b>	

For an SBIR Phase II, this is acceptable because it is below the subcontracting limitation of 50 percent.

See Part 9 of the Technical Proposal for additional information on the use of subcontractors and consultants.

**Milestone Plan**

For Phase II, offerors shall submit a proposed quarterly milestone plan with the Proposal Budget form. The milestone plan shall be in accordance with the proposed work plan, outlining the work to be accomplished each quarter and the cost proposed associated with each of the quarterly milestones. The cost breakdown shall be similar to the Proposal Budget form for each of the proposed quarterly milestones (i.e., each milestone should include the labor, supplies, travel, and profit associated with those tasks to be accomplished that quarter). The proposed cost associated with each quarterly milestone must be realistic for the work to be accomplished but is not required to be equally distributed across each quarter.

***Note: The Government is not responsible for any monies expended by the firm before the award of any contract. Successful offerors are responsible for reimbursing NASA for resources utilized in the performance of the effort, and the cost of such resources will be included in their contract values (not to exceed capped amounts).***

**3.4.4 Technical Proposal**

This part of the submission shall not contain any budget data and must include all 10 parts listed below in the given order. **All 10 parts of the technical proposal should be numbered and titled. Parts that are not applicable should be included by title and marked “Not applicable.”** The table of contents is provided below:

**Phase II Table of Contents**

Part 1:	Table of Contents.....	Page X
Part 2:	Identification and Significance of the Innovation and Results of the Phase I Proposal.....	Page X
Part 3:	Technical Objectives.....	Page X
Part 4:	Work Plan.....	Page X
Part 5:	Related R/R&D .....	Page X
Part 6:	Key Personnel and Bibliography of Directly Related Work.....	Page X

Part 7: Commercialization and Business Plan.....Page X  
 Part 8: Facilities/Equipment.....Page X  
 Part 9: Subcontractors and Consultants.....Page X  
 Part 10: Related, Essentially Equivalent, and Duplicate Proposals and Awards.....Page X

**Part 1: Table of Contents** *(Suggested page limit – 0.5 page)*

The technical proposal should begin with a brief table of contents indicating the page numbers of each of the parts of the proposal (see above).

**Part 2: Identification and Significance of the Innovation and Results of the Phase I Award** *(Suggested page limit – 15 pages)*

Provide a summary of your Phase I results and, building on those results, succinctly describe the Phase II proposed work, including

- The proposed innovation,
- The relevance and significance of the proposed innovation to an interest, need, or needs within the subtopic that aligned with the completed Phase I work, and
- The proposed innovation is relative to the state of the market, the state of the art, and its feasibility.

Please be advised that the evaluators may review the Phase I final technical report to verify the accuracy of this summary. However, offerors should not rely on this and should include relevant results in the Phase II proposal.

**Part 3: Technical Objectives** *(Suggested page limit – 2 pages)*

State the specific objectives of the Phase II effort as it relates to the problem statement(s) posed in the original subtopic description for Phase I.

**Proposed Deliverables:** Indicate the proposed deliverables at the end of the Phase II effort and how they match up to the subtopic.

All offerors who are planning to use NASA Intellectual Property (IP) must describe their planned developments with the IP. The NASA Evaluation License Application should be added as an attachment under Proposal Certifications (see section 1.6).

**Part 4: Work Plan** *(Suggested page limit – 10 pages)*

Include a detailed description of the Phase II R/R&D plan to meet the technical objectives. The plan should indicate what will be done, where it will be done, and how the R/R&D will be carried out. Discuss in detail the methods planned to achieve each task or objective. Task descriptions, schedules, resource allocations, estimated task hours for each key personnel, and planned accomplishments, including project milestones, shall be included. Offerors should ensure that the estimated task hours provided in the work plan for key personnel are consistent with the hours reported in the Proposal Budget form. If the offeror is a joint venture or limited partnership, a statement of how the workload will be distributed, managed, and charged should be included in the proposal.

**Part 5: Related R/R&D** *(Suggested page limit – 1 page)*

Describe significant current and/or previous R/R&D that is directly related to the proposal, including any conducted by the PI or by the offeror. Describe how it relates to the proposed effort and any planned coordination with outside sources. The offeror must persuade reviewers of his or her awareness of the state-of-the-art and key recent R/R&D conducted by others in the specific subject area.

**Part 6: Key Personnel and Bibliography of Directly Related Work** (*Suggested page limit – 5 pages*)

Identify all key personnel involved in Phase II activities whose expertise and functions are essential to the success of the project. Provide biographical information, including directly related education and experience. Where resume/vitae are extensive, summaries that focus on the most relevant experience or publications are desired and may be necessary to meet proposal size limitations.

The PI is considered key to the success of the effort and must make a substantial commitment to the project. ***If the Phase II PI is different than the PI proposed under Phase I, please provide a rationale for the change.***

The following requirements are applicable:

**Functions:** The functions of the PI are planning and directing the project, leading it technically and making substantial personal contributions during its implementation, serving as the primary contact with NASA on the project, and ensuring that the work proceeds according to contract agreements. The Phase II proposal shall describe the nature of the PI's activities and the amount of time that the PI will personally apply to the project. The amount of time the PI proposes to spend on the project must be acceptable to the Contracting Officer. Competent management of PI functions is essential to project success.

**Qualifications:** The qualifications and capabilities of the proposed PI and the basis for PI selection are to be clearly presented in the proposal. NASA has the sole right to accept or decline a PI based on factors such as education, experience, demonstrated ability and competence, and any other evidence related to the specific assignment.

**Eligibility:** This part shall also establish and confirm the eligibility of the PI and shall indicate the extent to which existing projects and other proposals recently submitted or planned for submission in the year commit the time of the PI concurrently with this proposed activity. Any attempt to circumvent the restriction on PIs working more than half-time for an academic or a nonprofit organization by substituting an ineligible PI will result in a decline of the proposal.

**Part 7: Commercialization and Business Plan** (***Required minimum of 2 pages; suggested page limit - 8 pages***)

***NASA requires Phase II offeror to provide commercialization and business planning information in the proposal and is enforcing a requirement that firms provide a minimum amount of information as required by page length. Firms that do not meet this requirement may be considered nonresponsive to this requirement and the proposal may not receive a score under Section 4.4.2: Factor 4: Commercialization and Business Planning, which could result in an overall lower score for the proposal.***

The Commercialization Plan should provide the following information to communicate and validate that the firm has the knowledge and ability to commercialize the innovation being proposed.

1. Market Feasibility and Competition Strategy: Describe (a) the target market(s) of the innovation and the associated product or service; (b) the competitive advantage(s) of the product or service; (c) key potential customers and applications, including NASA mission programs, prime contractors, and non-NASA commercial customers as applicable; (d) projected market size (NASA, other Government and/or non-Government); (e) the projected time to market and estimated market share within five years from market-entry; and (f) anticipated competition from alternative technologies, products and services and/or competing domestic or foreign entities.

2. **Commercialization Strategy:** Present the commercialization strategy for the innovation and associated product or service and its relationship to the offeror's business plans for the next five years. Describe experience and record in technology commercialization, and any existing and projected commitments (e.g., Government Phase III funding, Industry Investment, etc.).
3. **Financial Strategy:** Delineate private financial resources committed to the development and transition of innovation into market-ready products or services. Describe current investment, sales, licensing, and other indicators of commercial potential and feasibility. Describe the projected financial requirements and the expected or committed capital and funding sources necessary to support the planned commercialization of the innovation. Provide evidence of current financial condition (e.g., standard financial statements including a current cash flow statement).
4. **Intellectual Property:** Describe plans and current status of efforts to secure intellectual property rights (e.g., patents, copyrights, trade secrets) necessary to obtain investment, attain at least a temporary competitive advantage, and achieve planned commercialization.
5. **Assistance and Mentoring:** Describe the plans for securing needed technical or business assistance through mentoring, partnering, or through arrangements with state assistance programs, Small Business Development Centers (SBDCs), Federally funded research laboratories, Manufacturing Extension Partnership Centers, Federal programs, or other assistance providers. Identify if any assistance and mentoring are being requested under TABA and provide details in this section of the Commercialization Plan. *The TABA needs assessment is reviewed separately from the Commercialization Plan.*

**Note: Letters of funding support commitments should be submitted as part of the Capital Commitments Addendum found in section 3.4.5 and will be considered only under Factor 4: Commercial Potential and Feasibility (section 4). Any formal letters of commitment or intent submitted in the Capital Commitments Addendum will not count toward the page limits of the proposal.**

**Part 8: Facilities/Equipment** (*Suggested page limit – 2 pages*)

The offeror should describe the facilities/equipment available to complete the proposed work plan. If an offeror requests to use Government-furnished laboratory equipment, facilities, or services (collectively, "Government resources") the offeror shall describe in this part why the use of such Government resources is necessary and not reasonably available from the private sector. See sections 3.4.3.4 and 5.14 for additional requirements when proposing the use of such Government resources. The narrative description of resources should support the proposed approach and documentation in the Proposal Budget form.

**Part 9: Subcontractors and Consultants** (*Suggested page limit – 2 pages*)

The offeror must describe all subcontracting or other business arrangements and identify the relevant organizations and/or individuals with whom arrangements are planned. The expertise to be provided by the entities must be described in detail, as well as the functions, services, number of hours, and labor rates. Offerors are responsible for ensuring that all organizations and individuals proposed to be utilized are actually available for the time periods proposed. Subcontract costs shall be documented in the Subcontractors/Consultants section of the Proposal Budget form and supporting documentation should be uploaded for each (appropriate documentation is specified in the form). The narrative description of subcontractors and consultants in the technical proposal should support the proposed approach and documentation in the Proposal Budget form.

**Part 10: Related, Essentially Equivalent, and Duplicate Proposals and Awards** (*Suggested page limit – 0.5 page*)

WARNING: While it is permissible with proper notification to submit identical proposals or proposals containing a significant amount of essentially equivalent work for consideration under numerous Federal program solicitations, it is unlawful to enter into funding agreements requiring essentially equivalent work.

If an offeror elects to submit identical proposals or proposals containing a significant amount of essentially equivalent work under other Federal program solicitations, a statement must be included in each such proposal indicating the following:

1. The name and address of the agencies to which proposals were submitted or from which awards were received.
2. Date of proposal submission or date of award.
3. Title, number, and date of solicitations under which proposals were submitted or awards received.
4. The specific applicable research topics for each proposal submitted for award received.
5. Titles of research projects.
6. Name and title of principal investigator or project manager for each proposal submitted or award received.

Offerors are at risk for submitting essentially equivalent proposals and therefore are strongly encouraged to disclose these issues to the soliciting agency to resolve the matter prior to award. A summary of essentially equivalent work information, as well as related research and development on proposals and awards, is also required on the Proposal Certifications form (if applicable).

### 3.4.5 Briefing Chart

A one-page briefing chart is required to assist in the ranking and advocacy of proposals prior to selection and contains the following sections:

- Identification and Significance of Innovation
- Technical Objectives
- Proposed Deliverables
- NASA Applications
- Non-NASA Applications
- Graphic

The briefing chart shall not contain any proprietary data or International Traffic in Arms Regulation (ITAR)-restricted data. An electronic form will be provided during the submission process. ***The briefing chart is public information and may be disclosed. Do not include proprietary information in this form.***

### 3.4.6 Capital Commitments Addendum

Letters of capital commitment act as an indication of market validation for the proposed innovation and add significant credibility to the proposed effort. Although NASA can be a future stakeholder/buyer and could possibly issue a Phase III contract for the innovation to be infused in a future mission or program, NASA's goal under the SBIR program is for small businesses to commercialize innovations in markets that are larger than just NASA. Letters of capital commitment should demonstrate that the company has initiated dialogue with relevant stakeholders in the commercial market(s) for the proposed innovation and that a legitimate business opportunity may exist should the innovation prove feasible outside of NASA. The letter(s) must not exceed 2 pages in length; should come directly from potential customers, end users, strategic partners, investors, etc.; and must contain affiliation information and contact information for the signatory stakeholder. Letters and supporting documents that only support the development of the innovation with no capital funding commitment as described above will

not be reviewed. Letters and supporting documents from state, local, and Congressional representatives are NOT considered letters of capital commitment. They should not be submitted as part of the application and will not be reviewed.

If letters of capital commitment are not appropriate for this stage of innovation due to business considerations, then the offeror must clearly justify why letters of capital commitment are not being included in the proposal. The justification should relate to the technical and commercial considerations of the innovation proposed in the application.

### 3.4.7 Firm Certifications

Firm certifications that are applicable across all proposal submissions submitted to this solicitation must be completed via the Firm Certifications section of the Proposal Submissions EHB. The offeror shall answer "Yes" or "No" as applicable. ***The designated firm administrator, typically the first person to register your firm, is the only individual authorized to update the certifications.***

### 3.4.8 Disclosures of Foreign Affiliation or Relationships to Foreign Countries

Each offeror is required to complete the Disclosures of Foreign Affiliations or Relationships to Foreign Countries form. See section 2.5 for additional information on these disclosures. The offeror shall answer "Yes" or "No" as applicable and provide the requested information related to each "yes" response. ***The designated firm administrator, typically the first person to register your firm, is the only individual authorized to update the disclosures.***

Please note that even if you do not have any foreign relationships, you must complete the "Disclosures of Foreign Affiliations or Relationships to Foreign Countries form" to represent that such relationships do not exist. Failure to complete and include this form will result in the declination of your application during the administrative screening.

### 3.4.9 Audit Information

Although firms are not required to have an approved accounting system, the knowledge that a firm has an approved accounting system facilitates NASA's determination that rates are fair and reasonable. The Contracting Officer will use this audit information to assist with negotiations if the proposal is selected for an award. The Contracting Officer will advise offerors on what is required to determine reasonable costs and/or rates in the event the Audit Information is not adequate to support the necessary determination of rates. The offeror shall complete the questions in the Audit Information form regarding the firm's rates and upload the Federal agency audit report or related information that is available from the last audit. There is a separate Audit Information section in the Proposal Budget form that shall also be completed. If your firm has never been audited by a federal agency, then answer "No" to the first question and you do not need to complete the remainder of the form. ***The designated firm administrator, typically the first person to register your firm, is the only individual authorized to update the audit information.***

### 3.4.10 Prior Awards Addendum

If the offeror has received more than 15 Phase II awards in the prior 5 fiscal years, submit the name of the awarding agency, solicitation year, phase, date of award, funding agreement/contract number, and topic or subtopic title for each Phase II. If your firm has received any SBIR or STTR Phase II awards, even if it has received fewer than 15 in the last 5 years, it is still recommended that you complete this form for those Phase II awards your firm did receive. This information will be useful when completing the Commercialization Metrics Survey

(CMS) and in tracking the overall success of the SBIR and STTR programs. Any NASA Phase II awards your firm has received will be automatically populated in the electronic form, as are any Phase II awards previously entered by the SBC during prior submissions (you may update the information for these awards). ***The designated firm administrator, typically the first person to register your firm, is the only individual authorized to update the addendum information.***

### 3.4.11 Commercial Metrics Survey (CMS)

NASA has instituted a comprehensive commercialization survey/data-gathering process for firms with prior NASA SBIR/STTR awards. If the SBC has received any Phase III awards resulting from work on any NASA SBIR or STTR awards, provide the related Phase I or Phase II contract number, name of Phase III awarding agency, date of award, Funding Agreement number, amount, project title, and period of performance. The survey will also ask for firm financial, sales, and ownership information, as well as any commercialization success the firm has had as a result of SBIR or STTR awards. This information must be updated annually during proposal submission via the EHB. This information will allow firms to demonstrate their ability to carry SBIR/STTR research through to achieve commercial success and allow agencies to track the overall commercialization success of their SBIR and STTR programs. The survey should be limited to the information requested above.

The CMS is a required part of the proposal submissions process and must be completed via the Proposal Submissions EHB. Companies with no SBIR/STTR awards or only recent SBIR/STTR awards will not be penalized under past performance for the lack of past SBIR/STTR commercialization. ***Information received from SBIR/STTR awardees completing the survey is kept confidential and will not be made public except in broad aggregate, with no firm-specific attribution.***

### 3.4.12 Contractor Responsibility Information

No later than 10 business days after the notification of selection for negotiations, the offeror shall provide a signed statement from the firm's financial institution(s), on the financial institution's letterhead, stating whether or not the firm is in good standing and how long the firm has been with the institution.

### 3.4.13 Phase II Request for Use of Technical and Business Assistance (TABAs) Funds

Offerors are not required to request TABA at Phase II, and there is no prerequisite that an offeror must request and use TABA during Phase I to obtain TABA under a Phase II award. If an offeror chooses to request up to \$50,000 for TABA at Phase II, the offeror will be required to provide a TABA plan and coordinate with the selected vendors to obtain the vendor qualification statement(s) and submit these via the Electronic Handbook (EHB). Below is an example of the type of information that will be requested under each.

#### TABA Plan

- Name, contact information, website, and company information including Sam.gov Unique Entity Identifier (UEI) for TABA vendor(s) that will provide the TABA services.
  - All TABA vendors must be legal business in the United States, and NASA will review the U.S. Government-wide System for Award Management (SAM) excluded parties list to ensure the proposed TABA vendor can receive Federal funds. NASA will consider TABA requests that are missing any requested TABA information (e.g., Vendor Qualification Statements, etc.) as incomplete and will not review the TABA request or provide TABA approval under the award.
- Description of TABA vendor(s) expertise and knowledge of providing technical and business assistance services.
- An itemized list of services and costs.
- Expected metric and outcome for each service to be provided.

- Plan to submit a deliverable summarizing the outcome of the TABA services with expected supporting information.
- TABA costs are reflected in the budget forms.

**Vendor Qualification Statement(s)**—A qualification statement for each of the selected vendors(s) that provides the following:

- Statement on the selected vendor(s) letterhead and signed by an authorizing entity within the vendors' organization that can attest to the services being provided.
- Documentation that the vendor is a legal business in the United States.
- A capabilities statement that
  - Indicates the qualifications, expertise, and knowledge to provide the TABA services requested by the offeror.
  - Indicates the level of expertise and knowledge of the Federal SBIR/STTR program and specifically any prior support provided to Phase I or II awardees.
  - Describes the overall metrics of success for the services requested by the offeror.
  - Describe the plans to report to the offeror so the offeror can report back to NASA as a deliverable on the outcomes and success of the TABA services and what information will be provided to validate the results.

NASA reserves the right to withhold funds requested for TABA until a formal review and approval of the requested vendor(s) is completed. If the project is selected for award and the offeror demonstrates this requirement sufficiently as determined by the Government, NASA will permit the awardee to acquire the requested assistance, in an amount up to \$50,000 for the Phase II project, as an allowable cost of the SBIR/STTR award. Approval or denial of TABA funding will be provided during the contract negotiation period and before the award. **The amount will be in addition to the Phase II award value, is not subject to any profit or fee by the requesting firm, and cannot be used in the calculation of indirect cost rates or General and Administrative Expenses (G&A).** The amount is based on the original period of performance. Requests for TABA funding outside of the Phase II period of performance will not be considered.

**Schedule of Deliverables and Payments for TABA**—Offerors that are approved to receive TABA under a Phase II award will be reimbursed for TABA expenses. Firms may request TABA reimbursement at the midpoint of the contract when submitting the midterm report and/or at the end of the contract when submitting the final report. Awardees requesting reimbursement will be required to submit invoices for services received when submitting the contract reports.

Requests for TABA funding are not reviewed under the technical evaluation of the proposal, and the request for TABA will not be part of the decision to make a Phase II award. All TABA requests will be reviewed after a proposal is selected for award and during the contract negotiation process.

#### **3.4.14 Phase II Request for the Intern Diversity Supplement (IDS) Program**

Offerors that are successful in receiving a Phase II award are eligible to apply for a diversity supplement to be effective only in the summer months of the second year of their Phase II project period. Instructions for requesting a diversity supplement will be provided directly to Phase II awardees prior to the application period.

#### **ANTICIPATED CONTENT FOR APPLICATION**

##### **SALARY, BUDGET, TERMS AND CONDITIONS**

All NASA diversity supplements are subject to the terms and conditions, cost principles, and other considerations described in the NASA SBIR/STTR Specific Terms and Conditions that accompany every Phase II award. Application budgets are limited to no more than \$11,000 (up to \$10,000 for the cost of the intern and \$1,000 for supplies and travel). The budget must reflect the actual needs of the proposed project. NASA will consider whether the budget and the requested period of support are fully justified and reasonable in relation to the proposed Phase II research. If approved, the request will be provided as a supplement above the Phase II award amount. This program does not require cost sharing. **The amount will be in addition to the Phase II award value, is not subject to any profit or fee by the requesting firm, and cannot be used in the calculation of indirect cost rates or General and Administrative Expenses (G&A).**

The duration of the program is normally 10 weeks but could be extended with a no-cost extension request and approval from the Contracting Officer.

*Undergraduate Students, Baccalaureate and Master's Degree Holders, and Graduate (Predoctoral) Students:* The salary for a student should be consistent with SBC salary policies. Students are expected to devote the equivalent of at least 10 weeks of full-time effort to the research project and related activities during the period of performance for the award. Exceptions to these requirements will be considered, depending on the circumstances of the Phase II award circumstances warranting the specific request.

An IDS application may consist of the following information:

- A header with Proposal Title and Number, Company Name, Business Official Name, and PI Name.
- Internship candidate's full name
- Address of Primary Site where the proposed supplement activities will be performed.
  - The supplemental activities must principally take place at the awardees' place of business. Applications that request supplemental funding for activities that occur principally at a subrecipient location will be declined. If a portion of the proposed supplement activities will be performed at any other sites, identify all locations.
- Diversity Justification:
  - Address the six (6) review criteria listed in section 1.8 in two (2) pages or fewer and provide evidence to support a focus on the enhancement of the research and entrepreneurial capability of the underrepresented intern and how that experience is intended to provide opportunities for development as a productive researcher or future small business leader.
- Research and Mentoring Plan:
  - In two (2) pages, please include a research and mentoring plan for the candidate intern to interact with other individuals on the Phase II award, to contribute intellectually to the research, and to enhance his/her research skills and knowledge regarding the selected area of R&D along with business and entrepreneurship.
- Budget:
  - Please provide a budget and a budget justification showing the amount requested and how the funds will be used.
- Intern resume (should not exceed one page) that includes:
  - Evidence of STEM achievement and entrepreneurial interest
  - A statement from the intern candidate that confirms their availability and commitment to participate in the internship
  - Any source(s) of current and pending funding for research or projects that the intern is working on
  - A statement from the candidate outlining his/her research objectives and career goals

**Schedule of Deliverables and Payments for IDS**—Awardees that are approved to receive IDS under a Phase II award will be reimbursed for IDS expenses (**not to exceed \$10,000 for the cost of the intern and \$1,000 for supplies and travel**). Firms may request IDS reimbursement at the end of the contract when submitting the final report. Awardees requesting reimbursement will be required to submit documentation in the final report on intern performance and how the awardee has provided the intern support.

## 4. Phase II Selection Process and Evaluation Criteria

### 4.1 Selection Process

All Phase II proposals will be evaluated on a competitive basis. Proposals will be initially screened to determine responsiveness using a two-stage review process:

1. All proposal packages received by the published deadline will undergo an administrative review to determine if the proposal meets the requirements found in section 3, Proposal Preparation Instructions and Requirements. Proposals that are found to be noncompliant with the requirements in section 3 will be eliminated from consideration. NASA will notify the offeror that their proposal has been eliminated and will provide the reason.
2. Proposals determined to be responsive to the administrative requirements will be evaluated.

Proposals passing this initial screening will be moved forward to be evaluated and ranked on a competitive basis. Proposals shall provide all information needed for a complete evaluation. Evaluators will not seek additional information. Proposals will be technically evaluated by subject matter experts to determine the most promising technical and scientific approaches. The commercialization and business plan will be evaluated by a panel of 3rd party commercialization reviewers who are experts in determining commercial potential. Also, qualified experts outside of NASA (including industry, academia, and other Government agencies) may assist in performing evaluations as required to determine or verify the merit of a proposal. Offerors should not assume that evaluators are acquainted with the offeror, key individuals, or with any experiments or other information. Any pertinent references or publications should be noted in Part 5 of the technical proposal.

Each proposal will be evaluated on its own merit. NASA is under no obligation to fund any proposal or any specific number of proposals on a given topic. It also may elect to fund several or none of the proposed approaches to the same topic or subtopic.

#### 4.1.1 Non-NASA Reviewers

In addition to utilizing Government personnel in the review process, NASA, at its discretion and in accordance with NASA FAR Supplement (NFS) section 1815.207-71, may utilize individuals from outside the Government with highly specialized expertise not found in the Government. Qualified experts outside of NASA (including industry, academia, and other Government agencies) may assist in performing evaluations as required to determine or verify the merit of a proposal package. Any decision to obtain an outside evaluation shall take into consideration requirements for the avoidance of organizational or personal conflicts of interest and any competitive relationship between the prospective contractor or subcontractor(s) and the prospective outside evaluator. Any such evaluation will be under agreement with the evaluator that the information (data) contained in the complete proposal package will be used only for evaluation purposes and will not be further disclosed.

#### 4.1.2 Non-NASA Access to Confidential Business Information

In the conduct of processing proposal packages and potential contract administration, the Agency may find it necessary to provide access to the proposal package to other NASA contractors and subcontractor personnel. NASA will provide access to such data only under contracts that contain an appropriate NFS 1852.237-72 Access to Sensitive Information clause that requires the contractors to fully protect the information from unauthorized use or disclosure and where the contractor has implemented the appropriate processes and procedures to protect the information.

#### 4.2 Phase II Evaluation Criteria

NASA intends to select for award those proposals that offer the most advantageous R/R&D and deliver technological innovations that contribute to NASA's missions, provide societal benefit, and grow the U.S. economy. NASA will give primary consideration to the scientific and technical merit and feasibility of the proposal and its benefit to NASA interests. Each proposal will be evaluated using the factors described below:

***Note: Past performance is not a separate evaluation factor but will be assessed under Factors 1 and 4 (as applicable) below.***

##### **Factor 1: Scientific/Technical Merit and Feasibility**

The proposed R/R&D effort will be evaluated on its originality, the feasibility of the innovation, and potential technical value. In addition, past performance of Phase I will be evaluated to determine the degree to which Phase I objectives were met, and whether the Phase I results indicate a Phase II project is appropriate. The evaluators may review the Phase I final technical report to verify the Phase I results.

##### **Factor 2: Experience, Qualifications, and Facilities**

The technical capabilities and experience of the PI or project manager, key personnel, staff, consultants, and subcontractors, if any, are evaluated for consistency with the research effort, their degree of commitment, and availability. The necessary instrumentation or facilities required must be shown to be adequate and reliance on external sources, such as Government-furnished equipment or facilities, must be addressed (section 3.4.4, Part 8).

##### **Factor 3: Effectiveness of the Proposed Work Plan**

The work plan will be reviewed for its comprehensiveness, effective use of available resources, labor distribution, and the proposed schedule for meeting the Phase II objectives. The methods planned to achieve each objective or task should be discussed in detail. The proposed path beyond Phase II for further development and infusion into a NASA mission or program will also be reviewed.

**Factor 4: Commercialization and Business Planning:** The proposal will be evaluated for the commercial potential and feasibility of the proposed innovation and associated products and services as described in Part 7. Evaluation of the commercialization and business plan will include consideration of the following areas:

1. **Commercial Potential—Quantitative Market Analysis:** This includes an assessment of
  - a. The market segmentation and the commercial Total Addressable Market (TAM).
  - b. The proposed innovation in terms of target customers (e.g., NASA, other Federal agencies, commercial enterprise).
  - c. The competitive landscape, by identifying potential competitors.
2. **Commercial Intent—Value Proposition:** This includes assessing

- a. The commercial development plan provides a development timeline to bring the innovation to market.
  - b. The applicable business model (spin-out, license, OEM, etc.) the offeror would use to bring innovation to market.
  - c. The risks to the commercial development plan and what mitigations, if any, can be taken over a reasonable period of time to lessen the risks.
3. **Commercial Capability—Pro Forma Financial Projections:** This includes an assessment of
    - a. The current and future company capitalization efforts.
    - b. As applicable, the description of the approach, path to market, and revenues from past commercialization(s) resulting from SBIR/STTR awards are disclosed in the CMS.
  4. **Intellectual Property (IP):** This includes the assessment of
    - a. How the offeror will protect the IP that results from the innovation?
  5. **Assistance and Mentoring:** This includes assessment of
    - a. The existing and future business relationships in terms of any formal partnerships, joint ventures, or licensing agreements with other companies/organizations.
    - b. The plans for securing needed technical or business assistance through mentoring, partnering, or through arrangements with state assistance programs, Small Business Development Centers (SBDCs), Federally funded research laboratories, Manufacturing Extension Partnership Centers, Federal programs, or other assistance providers.
  6. **Capital Commitments Addendum:** This includes an assessment of
    - a. Any letters of commitment describing follow-on funding, product sales, or matching funding to be provided for a future post-Phase II opportunity application.
    - b. Letter of intent or evidence of negotiations to provide funding should the Phase II project be successful, and the market need still exists.
    - c. A specific plan to secure Phase III funding.

**Factor 5: Price Reasonableness**

The offeror’s cost proposal will be evaluated for price reasonableness based on the information provided in the Proposal Budget form. NASA will comply with the FAR and NASA FAR Supplement (NFS) to evaluate the proposed price/cost to be fair and reasonable.

**Scoring and Weight of Factors, Ranking, and Programmatic Balancing**

Factors 1, 2, 3, and 4 will be scored numerically, with Factor 1 worth 45 percent, Factors 2 and 3 each worth 25 percent, and Factor 4 worth five percent. The sum of the scores for Factors 1, 2, 3, and 4 will constitute the Technical Merit score. After ranking proposals using the Technical Merit score, the agency may consider additional programmatic balance factors such as portfolio balance across NASA programs, centers, and mission directorates, available funding, first-time awardees/participants, historically underrepresented communities, and geographic distribution, to recommend proposals to the Source Selection Official (SSO).

Factor 5 will be evaluated as part of the negotiation’s decision, i.e., NASA will only make an award when the price is fair and reasonable.

**4.3 Selection**

The SSO has the final authority for choosing the specific proposals for contract negotiation. In making such a selection determination, the SSO, at their discretion may also consider the additional programmatic balance factors such as portfolio balance across NASA programs, centers, and mission directorates, available funding, first-time awardees/participants, historically underrepresented communities, and geographic distribution.

After the SSO selection has been finalized, the list of proposals selected for negotiation will be posted on the NASA SBIR/STTR website (<http://sbir.nasa.gov>). All firms selected by the SSO will receive a formal notification letter. Each proposal selected for negotiation will be evaluated for cost/price reasonableness. After completion of evaluation for cost/price reasonableness and a determination of responsibility, the Contracting Officer will negotiate and award an appropriate contract to be signed by both parties before work begins. The Government may request the offeror to submit certain organizational, management, personnel, and financial information to establish the responsibility of the offeror. Contractor responsibility includes all resources required for contractor performance (e.g., financial capability, workforce, and facilities).

#### **4.4 Technical and Business Assistance (TABA)**

NASA conducts a separate review of all requests for TABA after the SSO makes the final selection of projects to enter into negotiation for a Phase II contract. This process consists of the SBIR/STTR Program conducting the initial evaluation of the TABA request to determine if the request meets the requirements found in section 3.4.12 and the statute. The Contracting Officer makes the final determination to allow TABA funding to be used under the contract.

The review of Phase II TABA requests will include the following:

- A review to determine if the awardee provided an adequate description of the specific services being requested.
- A review of the vendor(s) expertise and knowledge of providing technical and business assistance services as described in the request and the vendor qualification statements.
  - A review of the vendor information including name, contact information, website, and company information including Sam.gov UEI to validate the ability of the vendor to provide services.
- A review of the costs to be provided to the TABA vendor(s).
- Proposed plans to submit the two required deliverables summarizing the outcome of the TABA services with expected supporting information.
- Verification that TABA costs are reflected in the budget forms.

#### **4.5 Intern Diversity Supplement (IDS) Program**

NASA conducts a separate request for applications during the Phase II period of performance and then reviews all requests for IDS at that time. This process consists of the SBIR/STTR Program conducting the initial evaluation of the IDS request to determine merit with respect to the overall impact on diversity and entrepreneurship and if the request meets the requirements found in section 3.4.13. The SBIR/STTR Program makes the final determination to allow funding to be used and informs the Contracting Officer to issue the funding under the contract.

The review of Phase II IDS requests includes the following:

- The description of how the internship will promote diversity in the small business and promote entrepreneurship opportunities for the intern.
- The resume of the intern indicates career goals, prior research training, research potential, and any relevant experience.
- The awardee indicates that the proposed experience will expand and foster the research and entrepreneurial

capabilities, knowledge, and/or skills of the intern, that the activities of the intern will be an integral part of the project, and that the intern will receive research and entrepreneurial career mentoring.

- The awardee provides a plan and timeline for the proposed research and career development experiences in the supplemental request and its relationship to the Phase II award.

#### 4.6 Notification and Feedback to Unsuccessful Offerors

After Phase II selections for negotiation have been announced, a notification will be sent to the Small Business Official designated in the proposal according to the processes described below.

***Note: Due to the competitive nature of the program and limited funding, recommendations to fund or not fund a proposal will be final. Applicants are encouraged to use the written feedback to understand the outcome of their proposal review and to develop plans to strengthen future proposals.***

Unsuccessful Phase II offerors cannot resubmit their unsuccessful Phase II proposal to a future Phase II solicitation and if planning to apply for a new Phase I, the Phase I proposal must be different and cannot duplicate the prior Phase I work.

##### 4.6.1 Phase II Feedback

For Phase II, NASA uses a two-stage process to notify offerors of the outcome of their proposal.

1. At the time of the public selection announcement, the Small Business Official will receive an email indicating the outcome of the proposal.
2. Per the requirements in the email notification and this solicitation, offerors must send a feedback request via email to the NASA SBIR/STTR Program Support Office at [agency-sbir@mail.nasa.gov](mailto:agency-sbir@mail.nasa.gov) within 60 days after the selection announcement. ***Late requests will not be honored.***

## 5. Considerations

### 5.1 Requirement for Contracting

Upon award of a contract, the awardee will be required to make certain legal commitments through acceptance of numerous clauses in the Phase II contract. The outline that follows is illustrative of the types of clauses to which the contractor would be committed. This list is not a complete list of clauses to be included in Phase II contracts and is not the specific wording of such clauses. Copies of the complete terms and conditions are available by following the links in Appendix C.

- (1) Standards of Work. Work performed under the Funding Agreement must conform to high professional standards.
- (2) Inspection. Work performed under the Funding Agreement is subject to Government inspection and evaluation at all times.
- (3) Examination of Records. The Comptroller General (or a duly authorized representative) must have the right to examine any pertinent records of the Awardee involving transactions related to this Funding Agreement.
- (4) Default. The Federal Government may terminate the Funding Agreement if the contractor fails to perform the work contracted.

- (5) Termination for Convenience. The Funding Agreement may be terminated at any time by the Federal Government if it deems termination to be in its best interest, in which case the Awardee will be compensated for work performed and for reasonable termination costs.
- (6) Disputes. Any dispute concerning the Funding Agreement that cannot be resolved by agreement must be decided by the contracting officer with the right of appeal.
- (7) Contract Work Hours. The Awardee may not require an employee to work more than 8 hours a day or 40 hours a week unless the employee is compensated accordingly (for example, overtime pay).
- (8) Equal Opportunity. The Awardee will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin.
- (9) Equal Opportunity for Veterans. The Awardee will not discriminate against any employee or application for employment because he or she is a disabled veteran or veteran of the Vietnam era.
- (10) Equal Opportunity for People with Disabilities. The Awardee will not discriminate against any employee or applicant for employment because he or she is physically or intellectually disabled.
- (11) Officials Not to Benefit. No Federal Government official may benefit personally from the SBIR Funding Agreement.
- (12) Covenant Against Contingent Fees. No person or agency has been employed to solicit or secure the Funding Agreement upon an understanding for compensation except bona fide employees or commercial agencies maintained by the Awardee for the purpose of securing business.
- (13) Gratuities. The Funding Agreement may be terminated by the Federal Government if any gratuities have been offered to any representative of the Government to secure the award.
- (14) Patent Infringement. The Awardee must report each notice or claim of patent infringement based on the performance of the Funding Agreement.
- (15) American-Made Equipment and Products. When purchasing equipment or a product under the SBIR Funding Agreement, purchase only American-made items whenever possible.

To simplify making contract awards and to reduce processing time, all contractors selected for Phase II contracts will ensure that:

1. All information in your proposal package is current (e.g., your address has not changed, the proposed PI is the same, etc.). If changes have occurred since the submittal of your proposal package, notify the Contracting Officer immediately.
2. Your firm is registered with the System for Award Management (SAM) (section 2.2).
3. Your firm complies with the FAR 52.222-37 Employment Reports on Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans (VETS-4212) requirement (See Appendix C). Confirmation that a VETS-4212 report has been submitted to the Department of Labor, and is current, shall be provided to the Contracting Officer within 10 business days of the notification of selection for negotiation.
4. Your firm HAS NOT proposed a Co-Principal Investigator.
5. Your firm will provide timely responses to all communications from the NSSC Contracting Officer.
6. All proposed costs are supported with documentation, such as a quote, previous purchase order, published price lists, etc. All letters of commitment are dated and signed by the appropriate person with contact information. If a university is proposed as a subcontractor or an RI, the signed letter shall be on the university letterhead from the Office of Sponsored Programs. If an independent consultant is proposed, the signed letter should not be on a university letterhead. If the use of Government facilities or equipment is proposed, your firm shall submit a signed letter from the Government facility authorizing the use of the facility and stating the availability and the cost, if any, together with a signed letter from your firm justifying the need to use the facility.

From the time of notification of selection for negotiation until the award of a contract, all communications shall be submitted electronically to [NSSC-SBIR-STTR@nasa.gov](mailto:NSSC-SBIR-STTR@nasa.gov).

**Note: Costs incurred prior to and in anticipation of the award of a contract are entirely the risk of the contractor if a contract is not subsequently awarded. Notification of selection for negotiation is not to be misconstrued as an award notification to commence work.**

## 5.2 Awards

### 5.2.1 Anticipated number of Awards

NASA does not estimate the exact number of anticipated Phase II contract awards; however, the table below reflects the historical information for the program.

Year	Number of SBIR Phase II Proposals Reviewed	Number of SBIR Phase II Awards	Percentage of SBIR Phase II Awards
2022	265	112	42.2%
2021	288	123	42.7%
2020	322	142	44.0%

### 5.2.2 Award Conditions

NASA awards are electronically signed by a NASA Contracting Officer and transmitted electronically to the organization via email. NSSC will distribute the NASA SBIR award with the following items.

Phase II:

- SF26—Contract Cover Sheet
- Contract Terms and Conditions—to include reference to the proposal and budget
- Attachment 1: Contract Distribution List
- Attachment 2: Final Summary Chart and Instructions
- Attachment 3: IT Security Management Plan
- Attachment 4: Applicable Documents List
- Phase II Frequently Asked Questions (FAQs)

### 5.2.3 Type of Contract

NASA SBIR Phase II awards are made as firm-fixed-price contracts.

### 5.2.4 Model Contracts

Examples of the NASA SBIR contracts can be found on the NASA SBIR/STTR Resources website: [http://sbir.gsfc.nasa.gov/sbir/firm\\_library/index.html](http://sbir.gsfc.nasa.gov/sbir/firm_library/index.html). **Model contracts are subject to change.**

## 5.3 Reporting and Required Deliverables

An IT Security Management Plan is required at the beginning of the contract. Contractors interested in doing business with NASA and/or providing IT services or solutions to NASA should use the list found on the website of the Office of the Chief Information Officer (OCIO) as a reference for information security requirements: <https://www.nasa.gov/content/security-requirements-policies>. An example of an IT Security Management Plan can

be found in the NASA SBIR/STTR Resources website: [http://sbir.gsfc.nasa.gov/sbir/firm\\_library/index.html](http://sbir.gsfc.nasa.gov/sbir/firm_library/index.html). For more information, see NASA FAR Supplement clause 1852.204-76

All contracts shall require the delivery of technical reports that present (1) the work and results accomplished; (2) the scientific, technical, and commercial merit and feasibility of the proposed innovation and project results; (3) the proposed innovation's relevance and significance to one or more NASA interests (section 9); and (4) the strategy for development and transition of the proposed innovation and project results into products and services for NASA mission programs and other potential customers. Deliverables may also include the demonstration of the proposed innovation and/or the delivery of a prototype or test unit, product, or service for NASA testing and utilization if requested under Phase II.

The technical reports and other deliverables are required as described in the contract and are to be provided to NASA. These reports shall document progress made on the project and activities required for completion. Periodic certification for payment will be required as stated in the contract. A final report must be submitted to NASA upon completion of the Phase II R/R&D effort in accordance with applicable contract provisions.

A final New Technology Summary Report (NTSR) is due at the end of the contract, and New Technology Report(s) (NTR) are required if technology(ies) is/are developed under the award prior to submission of the final invoice. For additional information on NTSR and NTR requirements and definitions, see section 5.9.

If TABA is requested, Phase II contracts will require TABA deliverables that summarize the outcome of the TABA services with expected supporting information.

Report deliverables shall be submitted electronically via the EHB. For any reports that require an upload, NASA requests the submission in PDF or Microsoft Word format.

***Note: To access contract management in the EHB, you will be required to have an identity in the NASA Access Management System (NAMS). This is the Agency's centralized system for requesting and maintaining accounts for NASA IT systems and applications. The system contains user account information, access requests, and account maintenance processes for NASA employees, contractors, and remote users such as educators and foreign users. A basic background check and completion of NASA IT Security Training and Export Control Training are required for this account. Instructions to create an identity in NAMS will be provided during contract negotiations. It is recommended that you begin this process immediately upon notification, as this access will be required to submit deliverables and invoices.***

#### **5.4 Payment Schedule**

All NASA SBIR contracts are firm fixed-price contracts. The exact payment terms will be included in the contract.

Although invoices are submitted electronically through the Department of Treasury's Invoice Processing Platform (IPP), as a condition for payment, invoice certifications shall be completed in the EHB for each individual invoice. The certification is preset in the EHB, and it shall be completed before uploading each invoice in IPP. Upon completion of the certification, a link to IPP is automatically provided in the EHB.

If TABA is requested, Phase II awardees will be required to submit TABA vendor invoices for reimbursement per the payment schedule in section 3.4.13.

## 5.5 Profit or Fee

Contracts may include a reasonable profit. The reasonableness of the proposed profit is determined by the Contracting Officer during contract negotiations. Reference [FAR 15.404-4](#).

## 5.6 Cost Sharing

Cost sharing is permitted for completed proposal packages under this program solicitation; however, cost sharing is not required. Cost sharing will not be an evaluation factor in consideration of your completed proposal package or will not be used in the determination of the percentage of Phase I work to be performed on the contract.

## 5.7 Rights in Data Developed Under SBIR Funding Agreements

The SBIR program provides specific rights for data developed under SBIR awards. Please review the full text at the following [FAR 52.227-20 Rights in Data-SBIR Program](#) and [PCD 21-02 FEDERAL ACQUISITION REGULATION \(FAR\) CLASS DEVIATION – PROTECTION OF DATA UNDER THE SMALL BUSINESS INNOVATIVE RESEARCH/SMALL TECHNOLOGY TRANSFER RESEARCH \(SBIR/STTR\) PROGRAM](#)

## 5.8 Copyrights

The contractor may copyright and publish (consistent with appropriate national security considerations, if any) material developed with NASA support. NASA receives a royalty-free license from the Federal Government and requires that each publication contain an appropriate acknowledgment and disclaimer statement.

## 5.9 Invention Reporting, Election of Title, Patent Application Filing, and Patents

Awardees under the SBIR program are required to provide New Technology Reports (NTR) for any new subject inventions, and the New Technology Summary Reports (NTSR) for the interim and final contract periods.

Please review the full data rights and protection period text at the following:

[https://www.sbir.gov/sites/default/files/SBA%20SBIR\\_STTR\\_POLICY\\_DIRECTIVE\\_May2023.pdf](https://www.sbir.gov/sites/default/files/SBA%20SBIR_STTR_POLICY_DIRECTIVE_May2023.pdf)

## 5.10 Export Control

The contractor shall comply with all U.S. export control laws including Export Administration Regulations (EAR) and International Traffic in Arms Regulations (ITAR). Offerors are responsible for ensuring that all employees who will work on this contract are eligible under export control laws, EAR, and ITAR. Any employee who is not a U.S. citizen or a permanent resident may be restricted from working on this contract if the technology is restricted under export control laws, ITAR, or EAR unless the prior approval of the Department of State or the Department of Commerce is obtained via a technical assistance agreement or an export license. Violations of these regulations can result in criminal or civil penalties.

For additional information on ITAR, please visit the Code of Federal Regulations at [https://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title22/22cfr120\\_main\\_02.tpl](https://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title22/22cfr120_main_02.tpl). For additional information on EAR, please visit <https://www.bis.doc.gov/index.php/regulations/export-administration-regulations-ear>. For additional training, refer to <https://www.sbir.gov/tutorials/itar/>.

### 5.11 Government-Furnished and Contractor-Acquired Property

In accordance with the SBIR/STTR Policy Directive, the Federal Government may transfer title to the property provided by the SBIR Participating Agency to the awardee or acquired by the awardee for the purpose of fulfilling the contract, where such transfer would be more cost-effective than recovery of the property.

### 5.12 Essentially Equivalent Awards and Prior Work

If an award is made pursuant to a proposal or completed proposal package submitted under an SBIR solicitation, the firm will be required to certify with every invoice that it has not previously been paid nor is currently being paid for essentially equivalent work by any agency of the Federal Government. **Failure to report essentially equivalent or duplicate efforts can lead to the termination of contracts and/or civil or criminal penalties.**

### 5.13 Precedence of Contract Over this Solicitation

This program solicitation reflects current planning. If there is any inconsistency between the information contained herein and the terms of any resulting SBIR contract, the terms of the contract take precedence over the solicitation.

### 5.14 Use of Government Resources

#### Federal Departments and Agencies

Use of SBIR funding for unique Federal/non-NASA resources from a Federal department or agency that does not meet the definition of a Federal laboratory as defined by U.S. law and in the SBA Policy Directive on the SBIR program requires a waiver from the SBA. Completed proposal packages requiring waivers must include an explanation of why the waiver is appropriate. NASA will provide the offeror's request, along with an explanation to SBA, during the negotiation process. NASA cannot guarantee that a waiver can be obtained from SBA. Specific instructions to request the use of Government Resources are in section 3.5 of the solicitation.

**Note: NASA facilities qualify as Federal laboratories.**

#### Support Agreements for the Use of Government Resources

All offerors selected for award who require the use of any Federal facility shall, within 20 business days of notification of selection for negotiations, provide to the NSSC Contracting Officer an agreement by and between the Contractor and the appropriate Federal facility/laboratory, executed by the Government official authorized to approve such use. The agreement must delineate the terms of use, associated costs, and facility responsibilities and liabilities. Having a signed agreement for the use of Government resources is a requirement for the award.

For the proposed use of NASA resources, a NASA SBIR/STTR Support Agreement template is available on the Resources website ([http://sbir.gsfc.nasa.gov/sbir/firm\\_library/index.html](http://sbir.gsfc.nasa.gov/sbir/firm_library/index.html)) and must be executed before a contractor can use NASA resources. Offerors shall only include a signed letter of commitment from an authorized NASA point of contact in the completed proposal packages. NASA expects selected offerors to finalize and execute their NASA SBIR Support Agreement during the negotiation period with the NSSC. All SBIR Support Agreements must be fully reimbursable, and the direction and guidance contained in NPR 9090.1B, Partnership Agreements-Financial Requirements and Administration applies unless otherwise expressly prohibited by federal law regarding limitation on advance payment for resources provided under the Support Agreements.

#### Contractor Responsibilities for Costs

In accordance with FAR Part 45, it is NASA's policy not to provide services, equipment, or facilities (resources) (capital equipment, tooling, test, computer facilities, etc.) for the performance of work under SBIR contracts. Generally, any contractor will furnish its own resources to perform the proposed work on the contract. In all cases, the contractor shall be responsible for any costs associated with services, equipment, or facilities provided by NASA or another Federal department or agency, and such costs shall result in no increase in the price of this contract.

#### **Contractor-Provided Testing Assistance Services**

In some instances, NASA may, at its own expense, test a deliverable item *after* the item has been delivered and accepted. This is separate from instances described above, in which the contractor seeks access to facilities to conduct its own testing. Rather, in such instances where NASA will conduct the testing on its own, NASA may require the contractor to provide services to assist with that testing. An example may include but is not limited to, assisting NASA personnel with properly mounting or configuring an item for NASA to conduct a wind-tunnel test. In such circumstances, where NASA has indicated that such testing assistance services will be required, the offeror *must* include such services in its proposal, to include price. **NOTE TO NASA CUSTOMERS AND OFFERORS:** if contractor-provided testing assistance services are not included in the Phase II proposal, and awarded under the Phase II contract, then such services are prohibited unless acquired or procured under a separate vehicle as may be authorized.

#### **5.15 Agency Recovery Authority and Ongoing Reporting**

In accordance with Section 5 of the SBIR and STTR Extension Act of 2022, NASA will –

- 1) require a small business concern receiving an award under its SBIR program to repay all amounts received from the Federal agency under the award if—
  - (A) the small business concern makes a material misstatement that the Federal agency determines poses a risk to national security; or
  - (B) there is a change in ownership, change to entity structure, or other substantial change in circumstances of the small business concern that the Federal agency determines poses a risk to national security; and
- 2) require a small business concern receiving an award under its SBIR program to regularly report to the Federal agency and the SBA throughout the duration of the award on—
  - (A) any change to a disclosure required under subparagraphs (A) through (G) of section 2.3.1 above;
  - (B) any material misstatement made under section 5.15 paragraph (A) above; and
  - (C) any change described in section 5.15 paragraph (B) above.

## 6. Submission of Proposals

### 6.1 How to Apply for SBIR Phase II

NASA uses electronically supported business processes for the SBIR program. An offeror must have internet access and an email address. Paper submissions are not accepted. To apply for a NASA SBIR Phase II contract all SBCs are required to follow the steps found below.

#### 6.1.1 Electronic Submission Requirements via the EHB

NASA uses an electronic submission system called the Electronic Handbook (EHB) and all offerors must use the EHB to submit a completed proposal package. The EHB guides firms through the steps for submitting a proposal package. All submissions are through a secure connection and most communication between NASA and the firm is through either the EHB or email. To access the EHB go to <https://sbir.gsfc.nasa.gov/submissions/login>.

New SBCs must register in the EHB to begin the submission process. Returning firms can use the same account they have used for previous submissions unless the business name has changed. Firms are encouraged to start the EHB registration process early to allow sufficient time to complete the submission process.

It is recommended that the designated Small Business Official, or an authorized representative designated by the designated Small Business Official, be the first person to register for the SBC. The SBC's Employer Identification Number (EIN)/Taxpayer Identification Number is required during registration. ***The designated Small Business Official, typically the first person to register your firm, will become the firm administrator and will be the only individual authorized to update and change the firm-level forms in the EHB.***

For successful proposal package submission, SBCs shall complete all forms online, upload their required documents in an acceptable format, and have the designated Small Business Official and Principal Investigator (PI) electronically endorse the proposal package within the EHB system.

#### 6.1.2 Deadline for Phase II Proposal Receipt

**A complete Phase II proposal package shall be received no later than 5:00 p.m. ET on February 2, 2024, which is the last day of the Phase I contract original period of performance.**

**Note: If an offeror has received a no-cost extension on their Phase I contract, the original period of performance date of the contract applies as the deadline. Therefore, the new period of performance date for the extension of contract deliverables does not apply and cannot be used as the deadline to submit a Phase II Proposal.**

**All submissions are via the NASA SBIR/STTR website (<http://sbir.nasa.gov>) under the Handbooks section.** The EHB will be available for submissions approximately 6 weeks prior to the completion date of Phase I contracts.

An offeror who waits to submit a proposal package near the deadline is at risk of not completing the required document uploads and EHB endorsements of their proposal. The EHB will terminate any active submissions at the published deadline of 5:00 p.m. ET on the last day of the Phase I original contract period of performance. This termination will result in the offeror receiving an error message, and any remaining parts of the proposal will not be uploaded. If a complete proposal package is not received by the 5:00 p.m. ET deadline, the proposal package will be determined to be incomplete and may not be evaluated.

As stated in section 4, NASA conducts a two-stage review process of all proposals to determine if the proposal can be evaluated and ranked on a competitive basis. Proposals that are found to be noncompliant with the

requirements in section 3 of this solicitation will be declined, and no further evaluations will occur. The offeror will be notified of NASA's decision to decline the proposal and that the decision is final.

### 6.1.3 Complete Proposal Package Submission

Firms will upload all components of a complete proposal package using the Proposal Submissions module in the EHB. Directions are found within the EHB to assist users. All transactions via the EHB are encrypted for security purposes.

**A complete proposal package consists of online forms and associated documentation that must be submitted in PDF format via the EHB. Below is what the completed proposal package includes. See section 3 for additional information on how to complete each of these sections.**

Each complete proposal package submitted shall contain the following items:

1. Proposal Contact Information
2. Proposal Certifications
3. Proposal Summary
4. Proposal Budget
  - a. Including letters of commitment for Government resources and subcontractors/consultants (if applicable)
  - b. Foreign Vendor form (if applicable) – Note: NASA and the Office of Management and Budget (OMB) have issued a policy that requires a review of any request to purchase materials or supplies from foreign vendors
5. Technical Proposal—10 Parts in the order specified in section 3.4.4, not to exceed 46 pages, including all graphics, and starting with a table of contents.
6. Briefing Chart (must not contain proprietary data)
7. NASA Evaluation License Application, only if TAV is being proposed
8. Capital Commitments Addendum Supporting Phase II and Phase III (optional)
9. Technical and Business Assistance (TABAs) Request (if applicable)
10. Firm-Level Forms (completed once for all proposals submitted to a single solicitation)
  - a. Firm Certifications
  - b. Audit Information
  - c. Prior Awards Addendum
  - d. Commercialization Metrics Survey (CMS)
  - e. Disclosures of Foreign Affiliations or Relationships to Foreign Countries Form
11. Electronic Endorsement in the EHB by the Small Business Official and Principal Investigator (PI)

**Firms cannot submit security/password-protected PDF files, as reviewers will not be able to open and read these files. Proposal packages containing security/password-protected PDF files may be declined and not considered.**

Offerors are responsible for virus-checking all files prior to submission. NASA may decline any completed proposal package that contains a file with a detected virus.

Before you can submit the final completed proposal package, the EHB will ask you to download the entire proposal package and certify that you have reviewed it to ensure that you have met the requirements in this solicitation and have uploaded the correct documentation. ***A proposal package that is missing the final endorsement in the EHB will be considered an incomplete proposal package and may be declined.***

You may upload a proposal package multiple times, with each new upload replacing the previous version, but only the final uploaded and electronically endorsed version will be considered for review. If you have already completed a prior upload and endorsed the proposal package, any new uploads will require a re-endorsement of the new proposal package.

**Note: Embedded animation or video, as well as reference technical papers for “further reading,” will not be considered for evaluation.**

#### **6.1.4 Acknowledgment of a Complete Proposal Package Receipt**

NASA will acknowledge receipt of the electronically submitted and complete proposal package upon endorsement in the EHB by the designated Small Business Official. NASA will send an email to the designated Small Business Official email address as provided on the completed proposal package cover sheet, as well as to the user who created the proposal package, if different. **If a completed proposal package acknowledgment is not received after submission, the offeror should immediately contact the NASA SBIR/STTR Program Support Office at [agency-sbir@mail.nasa.gov](mailto:agency-sbir@mail.nasa.gov).**

#### **6.1.5 Withdrawal of Completed Proposal Packages**

Prior to the close of submissions, completed proposal packages may be withdrawn via the Proposal Submissions module in the EHB. To withdraw a completed proposal package after the deadline, the designated Small Business Official must send written notification via email to [agency-sbir@mail.nasa.gov](mailto:agency-sbir@mail.nasa.gov).

#### **6.1.6 Service of Protests**

Protests, as defined in section [FAR 33.101](#) of the Federal Acquisition Regulation, that are filed directly with an agency, and copies of any protests that are filed with the Government Accountability Office (GAO), shall be served on the Contracting Officer (addressed as follows) by obtaining written and dated acknowledgment of receipt from:

Kenneth E. Albright  
NASA Shared Services Center  
Building 1111, Jerry Hlass Road  
Stennis Space Center, MS 39529  
[Agency-SBIR-STTRsolicitation@mail.nasa.gov](mailto:Agency-SBIR-STTRsolicitation@mail.nasa.gov)

A copy of any protest shall be received in the office designated above within one day of filing a protest with the GAO.

## 7. Proposal, Scientific and Technical Information Sources

### 7.1 NASA Organizational and Programmatic Information

General sources relating to organizational and programmatic information at NASA are available via the following websites:

NASA Budget Documents, Strategic Plans, and Performance Reports:

<http://www.nasa.gov/about/budget/index.html>

NASA Organizational Structure: <http://www.nasa.gov/centers/hq/organization/index.html>

NASA SBIR/STTR Programs: <http://sbir.nasa.gov>

Information regarding the 2020 NASA Technology Taxonomy and the NASA Strategic Integration Framework can be obtained at the following websites:

Office of the Chief Technologist	
2020 NASA Technology Taxonomy	<a href="https://www.nasa.gov/offices/oct/taxonomy/index.html">https://www.nasa.gov/offices/oct/taxonomy/index.html</a>

NASA Mission Directorates	
Aeronautics Research	<a href="http://www.aeronautics.nasa.gov/">http://www.aeronautics.nasa.gov/</a>
Exploration Systems Development	<a href="https://www.nasa.gov/directorates/exploration-systems-development">https://www.nasa.gov/directorates/exploration-systems-development</a>
Space Operations	<a href="https://www.nasa.gov/directorates/space-operations-mission-directorate">https://www.nasa.gov/directorates/space-operations-mission-directorate</a>
Science	<a href="http://nasascience.nasa.gov">http://nasascience.nasa.gov</a>
Space Technology	<a href="http://www.nasa.gov/directorates/spacetech/home/index.html">http://www.nasa.gov/directorates/spacetech/home/index.html</a>

NASA Centers	
Ames Research Center (ARC)	<a href="http://www.nasa.gov/centers/ames/home/index.html">http://www.nasa.gov/centers/ames/home/index.html</a>
Armstrong Flight Research Center (AFRC)	<a href="http://www.nasa.gov/centers/armstrong/home/index.html">http://www.nasa.gov/centers/armstrong/home/index.html</a>
Glenn Research Center (GRC)	<a href="http://www.nasa.gov/centers/glenn/home/index.html">http://www.nasa.gov/centers/glenn/home/index.html</a>
Goddard Space Flight Center (GSFC)	<a href="http://www.nasa.gov/centers/goddard/home/index.html">http://www.nasa.gov/centers/goddard/home/index.html</a>
Jet Propulsion Laboratory (JPL)	<a href="http://www.nasa.gov/centers/jpl/home/index.html">http://www.nasa.gov/centers/jpl/home/index.html</a>
Johnson Space Center (JSC)	<a href="http://www.nasa.gov/centers/johnson/home/index.html">http://www.nasa.gov/centers/johnson/home/index.html</a>
Kennedy Space Center (KSC)	<a href="http://www.nasa.gov/centers/kennedy/home/index.html">http://www.nasa.gov/centers/kennedy/home/index.html</a>
Langley Research Center (LaRC)	<a href="http://www.nasa.gov/centers/langley/home/index.html">http://www.nasa.gov/centers/langley/home/index.html</a>
Marshall Space Flight Center (MSFC)	<a href="http://www.nasa.gov/centers/marshall/home/index.html">http://www.nasa.gov/centers/marshall/home/index.html</a>
Stennis Space Center (SSC)	<a href="http://www.nasa.gov/centers/stennis/home/index.html">http://www.nasa.gov/centers/stennis/home/index.html</a>
NASA Shared Services Center (NSSC)	<a href="https://www.nssc.nasa.gov/">https://www.nssc.nasa.gov/</a>

### 7.2 United States Small Business Administration (SBA)

The SBA oversees the Federal SBIR and STTR programs. The SBA has resources that small businesses can take advantage of in learning about the program and obtaining help in developing a proposal or a completed proposal package for a Federal SBIR/STTR program. Offerors are encouraged to review the information that is provided at the following links: [www.sbir.gov](http://www.sbir.gov), <https://www.sba.gov/local-assistance>, and <https://www.sbir.gov/resources>.

The SBA issues an SBIR/STTR Policy Directive which provides guidance to all Federal Agencies that have an SBIR/STTR program. The Policy Directives for the SBIR/STTR programs may be obtained from the SBA at [www.sbir.gov](http://www.sbir.gov) or at the following address:

U.S. Small Business Administration  
Office of Technology – Mail Code 6470  
409 Third Street, S.W.  
Washington, DC 20416  
Phone: 202-205-6450

### **7.3 National Technical Information Service**

The National Technical Information Service (NTIS) is an agency of the Department of Commerce and is the Federal Government's largest central resource for Government-funded scientific, technical, engineering, and business-related information. For information regarding various NTIS services and fees, call or write:

National Technical Information Service  
5285 Port Royal Road  
Springfield, VA 22161  
Phone: 703-605-6000  
URL: <http://www.ntis.gov>

## 8. Submission Forms

*Note: Previews of all forms and certifications are available via the NASA SBIR/STTR Resources website, located at [http://sbir.gsfc.nasa.gov/sbir/firm\\_library/index.html](http://sbir.gsfc.nasa.gov/sbir/firm_library/index.html).*

### 8.1 SBIR Phase II Checklist

For assistance in completing your Phase II proposal, use the following checklist to ensure your submission is complete.

1. The proposal and innovation are submitted for one subtopic only (section 3.1).
2. The entire proposal package is submitted consistently with the requirements outlined in section 3.4.
  - a. Proposal Contact Information
  - b. Proposal Certifications
  - c. Proposal Summary
  - d. Proposal Budget
    - i. Including letters of commitment for Government resources and subcontractors/consultants (if applicable)
    - ii. Foreign Vendor form (if applicable) – Note: NASA and the Office of Management and Budget (OMB) have issued a policy that requires a review of any request to purchase materials or supplies from foreign vendors
  - e. Technical Proposal—10 Parts in the order specified in section 3.4.4, not to exceed 46 pages, including all graphics, and starting with a table of contents.
  - f. Briefing Chart (must not contain proprietary data)
  - g. NASA Evaluation License Application, only if TAV is being proposed
  - h. Capital Commitments Addendum Supporting Phase II and Phase III (optional)
  - i. Technical and Business Assistance (TABAs) Request, if applicable
  - j. Firm-Level Forms (completed once for all proposals submitted to a single solicitation)
    - i. Firm Certifications
    - ii. Audit Information
    - iii. Prior Awards Addendum
    - iv. Commercialization Metrics Survey (CMS)
    - v. Disclosures of Foreign Affiliations or Relationships to Foreign Countries
  - k. Electronic Endorsement by the Small Business Official and Principal Investigator (PI)
3. **The technical proposal shall not exceed a total of 46 8.5- by 11-inch pages and shall follow the format requirements (section 3.4.2).**
4. The technical proposal contains all 10 parts in order (section 3.4.4).
5. Any additional required letters/documentation.
  - a. A letter of commitment from the facility manager if the research or R/R&D effort requires the use of Federal facilities (section 3.4.4).
  - b. Letters of commitment from subcontractors/consultants.
  - c. Letters in support of Capital Commitments Addendum.
  - d. If the firm is an eligible joint venture or limited partnership, a copy or comprehensive summary of the joint venture agreement or partnership agreement is included.
  - e. NASA Evaluation License Application if proposing the use of NASA technology (TAV).
  - f. Supporting documentation of budgeted costs.

6. Proposed funding does not exceed \$850,000 (section 1.4), and if requesting TABA, the cost for TABA does not exceed \$50,000 (section 3.4.13).
7. The proposed project duration does not exceed 24 months (section 1.3).
8. The proposal package is electronically endorsed by the Small Business Official and the Principal Investigator (PI) at the required deadline.
9. **Complete Phase II proposal packages and all endorsements shall be received no later than 5 p.m. ET on the last day of the Phase I contract period of performance (section 6.1).**

## **9. Research Subtopics for SBIR**

Phase II proposals are follow-on work to the original Phase I award, therefore offerors are required to submit proposals that are in alignment with the original subtopic that Phase I was awarded under. Offerors are encouraged to review the subtopic and ensure the proposed effort meets the subtopic scope, goals, and Phase II deliverables. To review the subtopic that was solicited in Phase I, go to <https://sbir.nasa.gov/solicitations> and review section 9: Research Subtopics for SBIR in the 2023 Phase I solicitation.

## Appendices

### Appendix A: Technology Readiness Level (TRL) Descriptions

The Technology Readiness Level (TRL) describes the stage of maturity in the development process from observation of basic principles through final product operation. The exit criteria for each level document that principles, concepts, applications, or performance have been satisfactorily demonstrated in the appropriate environment required for that level. A relevant environment is a subset of the operational environment that is expected to have a dominant impact on operational performance. Thus, reduced gravity may be only one of the operational environments in which the technology must be demonstrated or validated in order to advance to the next TRL.

TRL	Definition	Hardware Description	Software Description	Exit Criteria
1	Basic principles observed and reported.	Scientific knowledge generated underpinning hardware technology concepts/applications.	Scientific knowledge generated underpinning basic properties of software architecture and mathematical formulation.	Peer-reviewed publication of research underlying the proposed concept/application.
2	Technology concept and/or application formulated.	Invention begins, practical application is identified but is speculative, and no experimental proof or detailed analysis is available to support the conjecture.	Practical application is identified but is speculative, no experimental proof or detailed analysis is available to support the conjecture. Basic properties of algorithms, representations, and concepts defined. Basic principles coded. Experiments performed with synthetic data.	Documented description of the application/concept that addresses feasibility and benefit.
3	Analytical and experimental critical function and/or characteristic proof of concept.	Analytical studies place the technology in an appropriate context and laboratory demonstrations, modeling and simulation validate analytical prediction.	Development of limited functionality to validate critical properties and predictions using non-integrated software components.	Documented analytical/experimental results validating predictions of key parameters.
4	Component and/or breadboard validation in a laboratory environment.	A low-fidelity system/component breadboard is built and operated to demonstrate basic functionality and critical test environments, and associated performance predictions are defined relative to the final operating environment.	Key, functionally critical, software components are integrated, and functionally validated, to establish interoperability and begin architecture development. Relevant Environments are defined and performance in these environments is predicted.	Documented test performance demonstrating agreement with analytical predictions. Documented definition of relevant environment.
5	Component and/or breadboard	A medium fidelity system/component breadboard is built and operated to	End-to-end software elements implemented and interfaced with existing	Documented test performance demonstrating

	validation in a relevant environment.	demonstrate overall performance in a simulated operational environment with realistic support elements that demonstrate overall performance in critical areas. Performance predictions are made for subsequent development phases.	systems/simulations conforming to the target environment. The end-to-end software system, tested in a relevant environment, meeting predicted performance. Operational environment performance predicted. Prototype implementations developed.	agreement with analytical predictions. Documented definition of scaling requirements.
6	System/sub-system model or prototype demonstration in a relevant environment.	A high-fidelity system/component prototype that adequately addresses all critical scaling issues is built and operated in a relevant environment to demonstrate operations under critical environmental conditions.	Prototype implementations of the software demonstrated on full-scale realistic problems. Partially integrated with existing hardware/software systems. Limited documentation is available. Engineering feasibility fully demonstrated.	Documented test performance demonstrating agreement with analytical predictions.
7	System prototype demonstration in an operational environment.	A high-fidelity engineering unit that adequately addresses all critical scaling issues is built and operated in a relevant environment to demonstrate performance in the actual operational environment and platform (ground, airborne, or space).	Prototype software exists having all key functionality available for demonstration and testing. Well integrated with operational hardware/software systems demonstrating operational feasibility. Most software bugs were removed. Limited documentation is available.	Documented test performance demonstrating agreement with analytical predictions.
8	The actual system was completed and "flight qualified" through test and demonstration.	The final product in its final configuration is successfully demonstrated through testing and analysis for its intended operational environment and platform (ground, airborne, or space).	All software has been thoroughly debugged and fully integrated with all operational hardware and software systems. All user documentation, training documentation, and maintenance documentation are completed. All functionality was successfully demonstrated in simulated operational scenarios. Verification and Validation (V&V) completed.	Documented test performance verifying analytical predictions.
9	Actual system flight proven through successful mission operations.	The final product is successfully operated in an actual mission.	All software has been thoroughly debugged and fully integrated with all operational hardware/software systems. All documentation has been completed. Sustaining software engineering support is in place. The system has been successfully operated in the operational environment.	Documented mission operational results.

## Definitions

**Brassboard:** A medium-fidelity functional unit that typically tries to make use of as much operational hardware/software as possible and begins to address scaling issues associated with the operational system. It does not have the engineering pedigree in all aspects but is structured to be able to operate in simulated operational environments in order to assess the performance of critical functions.

**Breadboard:** A low-fidelity unit that demonstrates function only, without respect to form or fit in the case of hardware, or platform in the case of software. It often uses commercial and/or ad hoc components and is not intended to provide definitive information regarding operational performance.

**Engineering Unit:** A high-fidelity unit that demonstrates critical aspects of the engineering processes involved in the development of the operational unit. Engineering test units are intended to closely resemble the final product (hardware/software) to the maximum extent possible and are built and tested so as to establish confidence that the design will function in the expected environments. In some cases, the engineering unit will become the final product, assuming proper traceability has been exercised over the components and hardware handling.

**Laboratory Environment:** An environment that does not address in any manner the environment to be encountered by the system, subsystem, or component (hardware or software) during its intended operation. Tests in a laboratory environment are solely for the purpose of demonstrating the underlying principles of technical performance (functions), without respect to the impact of the environment.

**Mission Configuration:** The final architecture/system design of the product that will be used in the operational environment. If the product is a subsystem/component, then it is embedded in the actual system in the actual configuration used in operation.

**Operational Environment:** The environment in which the final product will be operated. In the case of spaceflight hardware/software, it is space. In the case of ground-based or airborne systems that are not directed toward spaceflight, it will be the environments defined by the scope of operations. For software, the environment will be defined by the operational platform.

**Proof of Concept:** Analytical and experimental demonstration of hardware/software concepts that may or may not be incorporated into subsequent development and/or operational units.

**Prototype Unit:** The prototype unit demonstrates form, fit, and function at a scale deemed to be representative of the final product operating in its operational environment. A subscale test article provides fidelity sufficient to permit the validation of analytical models capable of predicting the behavior of full-scale systems in an operational environment

**Relevant Environment:** Not all systems, subsystems, and/or components need to be operated in the operational environment in order to satisfactorily address performance margin requirements. Consequently, the relevant environment is the specific subset of the operational environment that is required to demonstrate critical "at risk" aspects of the final product performance in an operational environment. It is an environment that focuses specifically on "stressing" the technology advance in question.

## **Appendix B: SBIR and the Technology Taxonomy**

NASA's technology development activities expand the frontiers of knowledge and capabilities in aeronautics, science, and space, creating opportunities, markets, and products for U.S. industry and academia. Technologies that support NASA's missions may also support science and exploration missions conducted by the commercial space industry and other Government agencies. In addition, NASA technology development results in applications for the general population, including devices that improve health, medicine, transportation, public safety, and consumer goods.

The 2020 NASA Technology Taxonomy is an evolution of the technology roadmaps developed in 2015. The 2020 NASA Technology Taxonomy provides a structure for articulating the technology development disciplines needed to enable future space missions and support commercial air travel. The 2020 revision is composed of 17 distinct technical-discipline-based taxonomies (TX) that provide a breakdown structure for each technology area. The taxonomy uses a three-level hierarchy for grouping and organizing technology types. Level 1 represents the technology area that is the title of that area. Level 2 is a list of the subareas in the taxonomy is a foundational element of NASA's technology management process. NASA's mission directorates reference the taxonomy to solicit proposals and to inform decisions on NASA's technology policy, prioritization, and strategic investments.

The 2020 NASA Technology Taxonomy can be found at:

[https://www.nasa.gov/sites/default/files/atoms/files/2020\\_nasa\\_technology\\_taxonomy\\_lowres.pdf](https://www.nasa.gov/sites/default/files/atoms/files/2020_nasa_technology_taxonomy_lowres.pdf).

The research and technology subtopics for the SBIR program are identified annually by mission directorates and center programs. The directorates identify high-priority research and technology needs for respective programs and projects.

The table on the following pages relates the current SBIR subtopics to the Technology Taxonomy.

2020 TX Mapping Level 1	2020 TA Mapping Level 2	SBIR Subtopic Number	Subtopic Title
TX01 - Propulsion Systems	TX01.1 - Chemical Space Propulsion	Z8.09	Small Spacecraft Transfer Stage Development
	TX01.2 - Electric Space Propulsion	Z10.04	Materials, Processes, and Technologies for Advancing In-Space Electric Propulsion Thrusters
	TX01.3 - Aero Propulsion	A1.02	Quiet Performance - Aircraft Propulsion Noise
		A1.03	Low Emissions/Clean Power - Environmentally Responsible Propulsion
		A1.04	Electrified Aircraft Propulsion
		A1.06	Vertical Lift Technology for Urban Air Mobility -Electric Motor Fault Mitigation Technology
		A1.08	Aeronautics Ground Test and Measurement Technologies
TX01.4 - Advanced Propulsion	Z10.05	Rotating Detonation Rocket Engines (RDRE)	
TX02 - Flight Computing and Avionics	TX02.1 - Avionics Component Technologies	S16.06	Command, Data Handling, and Electronics
	TX02.2 - Avionics Systems and Subsystems	Z2.03	Human Interfaces for Space Systems
		Z8.10	Modular Systems for Cost-Effective Spacecraft Missions
	TX02.X - Other Flight Computing and Avionics	Z2.02	High-Performance Space Computing Technology
TX03 - Aerospace Power and Energy Storage	TX03.1 - Power Generation and Energy Conservation	S16.01	Photovoltaic Power Generation and Conversion
	TX03.2 - Energy Storage	S13.07	Energy Storage for Extreme Environments
		Z1.08	Space-Rated Fuel Cell Technologies
	TX03.3 - Power Management and Distribution	Z1.05	Lunar and Planetary Surface Power Management and Distribution
		Z1.06	Radiation-Tolerant High-Voltage, High-Power Electronics
TX04 - Robotics Systems	TX04.2 - Mobility	S13.03	Extreme Environments Technology
		S16.04	Unpiloted Aerial Platforms and Technologies for NASA Science Missions
	TX04.3 - Manipulation	S13.01	Robotic Mobility, Manipulation and Sampling
		S13.02	Spacecraft Technology for Sample Return Missions
	TX04.6 - Robotics Integration	H10.02	Autonomous Operations Technologies for Ground and Launch Systems
	TX04.X - Other Robotic Systems	Z5.04	Intravehicular Robot (IVR) Technologies

TX05 - Communications, Navigation, and Orbital Debris Tracking and Characterization Systems	TX05.1 - Optical Communications	H9.01	Long-Range Optical Telecommunications
	TX05.5 - Revolutionary Communications Technologies	H9.07	Cognitive Communication
	TX05.X - Other Communications, Navigation, and Orbital Debris Tracking and Characterization Systems	Z8.02	Communications and Navigation for Distributed Small Spacecraft Beyond Low Earth Orbit (LEO)
TX06 - Human Health, Life Support, and Habitation Systems	TX06.1 - Environmental Control & Life Support Systems (ECLSS) and Habitation Systems	H3.08	Challenges in Carbon Dioxide Removal and Reduction: Carbon Particulate and Thermal Management
		H3.09	Human Accommodations
		Z13.04	Lunar Dust Filtration and Monitoring
	TX06.2 - Extravehicular Activity Systems	H4.06	Low-Power Multi-Gas Sensor for Spacesuits
		H4.07	Low Volume, Power and Mass CO2 and Humidity Control for xEMU
		Z13.03	Technologies for Spacesuits in Extreme Surface Environments
TX06.3 - Human Health and Performance	H12.07	Protective Pharmaceutical Packaging	
TX07 - Exploration Destination Systems	TX07.1 - In-Situ Resource Utilization	Z12.01	Extraction of Oxygen, Metal, and Water from Lunar Regolith
	TX07.2 - Mission Infrastructure, Sustainability, and Supportability	Z13.02	Mechanisms for Extreme Environments
	TX07.3 - Mission Operations and Safety	S13.04	Contamination Control and Planetary Protection
	TX07.X - Other Exploration Destination Systems	Z14.01	Lunar Surface Excavation
TX08 - Sensors and Instruments	TX08.1 - Remote Sensing Instruments/Sensors	S11.01	Lidar Remote-Sensing Technologies
		S11.02	Technologies for Active Microwave Remote Sensing
		S11.03	Technologies for Passive Microwave Remote Sensing
		S11.04	Sensor and Detector Technologies for Visible, Infrared (IR), Far-IR, and Submillimeter
		S12.06	Detector Technologies for Ultraviolet (UV), X-Ray, and Gamma-Ray Instruments
		S14.03	Remote Sensing Instrument Technologies for Heliophysics
	S16.07	Cryogenic Systems for Sensors and Detectors	
TX08.2 - Observatories	S12.01	Exoplanet Detection and Characterization Technologies	

		S12.03	Advanced Optical Systems and Fabrication/Testing/Control Technologies for Extended-Ultraviolet/Optical and Infrared Telescope
		S12.04	X-Ray Mirror Systems Technology, Coating Technology for X-Ray-UV-OIR, and Free-Form Optics
	TX08.3 - In-Situ Instruments/Sensor	A2.04	AERONAUTICAL INFORMATION SYSTEM SECURITY (AISS): Aircraft Systems
		S11.05	Suborbital Instruments and Sensor Systems for Earth Science Measurements
		S13.05	In Situ Instruments/Technologies for Lunar and Planetary Science
		S13.06	In Situ Instruments/Technologies and Plume Sampling Systems for Ocean Worlds Life Detection
		S15.01	Plant Research Capabilities in Space
		S16.08	Atomic Quantum Sensors and Clocks
	TX08.X - Other Sensors and Instruments	S14.02	Particle and Field Sensors and Instrument-Enabling Technologies
		Z4.05	Nondestructive Evaluation (NDE) Sensors, Modeling, and Analysis
TX09 - Entry, Descent, and Landing	TX09.1 - Aeroassist and Atmospheric Entry	Z7.03	Entry and Descent System Technologies
	TX09.3 - Landing	Z7.04	Landing Systems Technologies
	TX09.X - Other Entry, Descent, and Landing	Z7.01	Entry, Descent, and Landing Flight Sensors and Instrumentation
		Z8.13	Space Debris Prevention for Small Spacecraft
TX10 - Autonomous Systems	TX10.1 - Situational and Self Awareness	H6.22	Deep Neural Net and Neuromorphic Processors for In-Space Autonomy and Cognition
	TX10.2 - Reasoning and Acting	S17.03	Fault Management Technologies
	TX10.3 - Collaboration and Interaction	H6.23	Spacecraft Autonomous Agent Cognitive Architectures for Human Exploration
	TX10.X - Other Autonomous Systems	A2.02	Enabling Aircraft Autonomy
TX11 - Software, Modeling, Simulation, and Information Processing	TX11.2 - Modeling	S17.04	Application of Artificial Intelligence for Science Modeling and Instrumentation
	TX 11.X Other Software, Modeling, Simulation, and Information Processing	A2.03	Advanced Air Mobility (AAM) Integration
		S11.06	Earth Science Decision Support Tools Focused on the Mitigation of Climate Change Impacts
		S14.01	Space Weather Research-to-Operations/Operations-to-Research (R2O/O2R) Technology Development
		S17.02	Integrated Science Mission Modeling

TX12 - Materials, Structures, Mechanical Systems, and Manufacturing	TX12.1 - Materials	H5.02	<i>Hot Structure Technology for Aerospace Vehicles</i>
	TX12.2 - Structures	H5.01	Lunar Surface 50 kW-Class Solar Array Structures
		H5.05	Inflatable Softgoods for Next-Generation Habitation Systems
		S12.02	Precision Deployable Optical Structures and Metrology
	TX12.3 - Mechanical Systems	Z13.01	Active and Passive Dust Mitigation Surfaces
	TX12.4 - Manufacturing	H8.01	Low-Earth Orbit Platform and Microgravity Utilization for Terrestrial Applications
	TX12.X - Other Manufacturing, Materials, and Structures	Z4.07	Advanced Materials and Manufacturing for In-Space Operations
Z14.02		Extraterrestrial Surface Construction	
TX13 - Ground, Test, and Surface Systems	TX13.1 - Infrastructure Optimization	H10.01	Advanced Propulsion Systems Ground Test Technology
TX14 - Thermal Management Systems	TX14.1 - Cryogenic Systems	Z10.01	Cryogenic Fluid Management
	TX14.2 - Thermal Control Components and Systems	Z2.01	Spacecraft Thermal Management
	TX14.3 - Thermal Protection Components and Systems	S16.05	Thermal Control Systems
TX15 - Flight Vehicle Systems	TX15.1 - Aerosciences	A1.01	Aeroelasticity and Aeroservoelastic Control
		A1.05	Computational Tools and Methods
	TX15.2 - Flight Mechanics	A2.01	Flight Test and Measurement Technologies
		H9.03	Flight Dynamics and Navigation Technologies
TX16 - Air Traffic Management and Range Tracking Systems	TX16.1 - Safe All Vehicle Access	A3.03	Future Aviation Systems Safety
	TX16.3 - Traffic Management Concepts	A3.01	Advanced Air Traffic Management System Concepts
		A3.02	Increasing Autonomy in the National Airspace System (NAS)
		A3.04	Nontraditional Airspace Operations and Aerial Wildfire Response
TX17 - Guidance, Navigation, and Control (GN&C)	TX17.X - Other Guidance, Navigation, and Control	S16.03	Guidance, Navigation, and Control

## **Appendix C: List of NASA SBIR Phase II Clauses, Regulations, and Certifications**

### **Introduction**

Offerors who plan to submit a completed proposal package to this solicitation will be required to meet specific rules and regulations as part of the submission and if awarded a contract. Offerors should ensure that they understand these rules and requirements before submitting a completed proposal package to NASA.

Below are all the clauses, regulations, and certifications that apply to Phase II submissions and contracts. Each clause, regulation, and certification contains a hyperlink to the webpages from the NASA FAR Supplement, SBIR/STTR Policy Directive, and [www.acquisition.gov](http://www.acquisition.gov) where you can read about the requirements.

### **Federal Acquisition Regulations (FAR) Provisions and Clauses**

[52.203-19 PROHIBITION ON REQUIRING CERTAIN INTERNAL CONFIDENTIALITY AGREEMENTS OR STATEMENTS.](#)

[52.204-6 UNIQUE ENTITY IDENTIFIER.](#)

[52.204-7 SYSTEM FOR AWARD MANAGEMENT.](#)

[52.204-8 ANNUAL REPRESENTATIONS AND CERTIFICATIONS \(DEVIATION 20-02A\)](#)

[52.204-10 REPORTING EXECUTIVE COMPENSATION AND FIRST-TIER SUBCONTRACT AWARDS.](#)

[52.204-13 SYSTEM FOR AWARD MANAGEMENT MAINTENANCE.](#)

[52.204-16 COMMERCIAL AND GOVERNMENT ENTITY CODE REPORTING.](#)

[52.204-18 COMMERCIAL AND GOVERNMENT ENTITY CODE MAINTENANCE.](#)

[52.204-19 INCORPORATION BY REFERENCE OF REPRESENTATIONS AND CERTIFICATIONS.](#)

[52.204-22 ALTERNATIVE LINE ITEM PROPOSAL.](#)

[52.204-23 PROHIBITION ON CONTRACTING FOR HARDWARE, SOFTWARE, AND SERVICES DEVELOPED OR PROVIDED BY KASPERSKY LAB AND OTHER COVERED ENTITIES.](#)

[52.204-24 REPRESENTATION REGARDING CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT](#)

[52.204-25 PROHIBITION ON CONTRACTING FOR CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT.](#)

[52.204-26 COVERED TELECOMMUNICATIONS EQUIPMENT OR SERVICES - REPRESENTATION.](#)

[52.204-27 PROHIBITION ON A BYTEDANCE COVERED APPLICATION](#)

[52.209-6 PROTECTING THE GOVERNMENT'S INTEREST WHEN SUBCONTRACTING WITH CONTRACTORS DEBARRED, SUSPENDED, OR PROPOSED FOR DEBARMENT.](#)

[52.215-1 INSTRUCTIONS TO OFFERORS—COMPETITIVE ACQUISITION.](#)

[52.215-8 ORDER OF PRECEDENCE—UNIFORM CONTRACT FORMAT.](#)

[52.216-1 TYPE OF CONTRACT.](#)

[52.219-6 NOTICE OF TOTAL SMALL BUSINESS SET-ASIDE](#)

[52.219-28 POST-AWARD SMALL BUSINESS PROGRAM REPRESENTATION.](#)

[52.222-3 CONVICT LABOR.](#)

[52.222-21 PROHIBITION OF SEGREGATED FACILITIES.](#)

[52.222-26 EQUAL OPPORTUNITY.](#)

[52.222-36 EQUAL OPPORTUNITY FOR WORKERS WITH DISABILITIES.](#)

[52.222-37 EMPLOYMENT REPORTS ON VETERANS](#)

[52.222-50 COMBATING TRAFFICKING IN PERSONS.](#)

[52.223-6 DRUG-FREE WORKPLACE.](#)

[52.223-18 ENCOURAGING CONTRACTOR POLICIES TO BAN TEXT MESSAGING WHILE DRIVING.](#)

[52.223-99 ENSURING ADEQUATE COVID-19 SAFETY PROTOCOLS FOR FEDERAL CONTRACTORS \(DEVIATION 21-03\)](#)

[52.225-1 Buy American-Supplies \(NOV 2021\)](#)

[52.225-13 RESTRICTIONS ON CERTAIN FOREIGN PURCHASES.](#)

[52.227-1 AUTHORIZATION AND CONSENT.](#)

[52.227-11 PATENT RIGHTS—OWNERSHIP BY THE CONTRACTOR.](#)

[52.227-20 RIGHTS IN DATA—SBIR PROGRAM.](#)

[52.232-2 PAYMENTS UNDER FIXED-PRICE RESEARCH AND DEVELOPMENT CONTRACTS.](#)

[52.232-9 LIMITATION ON WITHHOLDING OF PAYMENTS.](#)

[52.232-12 ADVANCE PAYMENTS.](#)

[52.232-23 ASSIGNMENT OF CLAIMS.](#)

[52.232-25 PROMPT PAYMENT.](#)

[52.232-33 PAYMENT BY ELECTRONIC FUNDS TRANSFER—SYSTEM FOR AWARD MANAGEMENT.](#)

[52.232-39 UNENFORCEABILITY OF UNAUTHORIZED OBLIGATIONS.](#)

[52.232-40 PROVIDING ACCELERATED PAYMENTS TO SMALL BUSINESS SUBCONTRACTORS. \(DEVIATION 20-03A\)](#)

[52.233-1 DISPUTES.](#)

[52.233-3 PROTEST AFTER AWARD.](#)

[52.233-4 APPLICABLE LAW FOR BREACH OF CONTRACT CLAIM.](#)

[52.242-15 STOP-WORK ORDER.](#)

[52.243-1 CHANGES—FIXED PRICE.](#)

[52.246-7 INSPECTION OF RESEARCH AND DEVELOPMENT—FIXED PRICE.](#)

[52.246-16 RESPONSIBILITY FOR SUPPLIES.](#)

[52.244-6 SUBCONTRACTS FOR COMMERCIAL ITEMS. \(DEVIATION 20-03A\)](#)

[52.249-1 TERMINATION FOR CONVENIENCE OF THE GOVERNMENT \(FIXED-PRICE\) \(SHORT FORM\).](#)

[52.252-1 SOLICITATION PROVISIONS INCORPORATED BY REFERENCE.](#)

[52.252-5 AUTHORIZED DEVIATIONS IN PROVISIONS.](#)

[52.253-1 COMPUTER-GENERATED FORMS.](#)

[52.252-2 CLAUSES INCORPORATED BY REFERENCE.](#)

[52.252-6 AUTHORIZED DEVIATIONS IN CLAUSES.](#)

#### **NASA Provisions and Clauses**

[1852.216-78 FIRM FIXED PRICE.](#)

[1852.203-71 REQUIREMENT TO INFORM EMPLOYEES OF WHISTLEBLOWER RIGHTS](#)

[1852.204-76 SECURITY REQUIREMENTS FOR UNCLASSIFIED INFORMATION TECHNOLOGY RESOURCES.  
\(DEVIATION 21-01\)](#)

[1852.215-84 OMBUDSMAN.](#)

[1852.219-80 LIMITATION ON SUBCONTRACTING – SBIR PHASE I PROGRAM. \(OCT 2006\)](#)

[1852.219-83 LIMITATION OF THE PRINCIPAL INVESTIGATOR – SBIR PROGRAM. \(OCT 2006\)](#)

[1852.225-70 EXPORT LICENSES](#)

[1852.225-71 RESTRICTION ON FUNDING ACTIVITY WITH CHINA](#)

[1852.225-72 RESTRICTION ON FUNDING ACTIVITY WITH CHINA – REPRESENTATION. \(DEVIATION 12-01A\)](#)

[1852.215-81 PROPOSAL PAGE LIMITATIONS.](#)

[1852.227-72 DESIGNATION OF NEW TECHNOLOGY REPRESENTATIVE AND PATENT REPRESENTATIVE.](#)

[1852.232-80 SUBMISSION OF VOUCHERS FOR PAYMENT.](#)

[1852.233-70 PROTESTS TO NASA.](#)

[1852.235-70 CENTER FOR AEROSPACE INFORMATION.](#)

[1852.239-74 INFORMATION TECHNOLOGY SYSTEM SUPPLY CHAIN RISK ASSESSMENT. \(DEVIATION 15-03D\)](#)

[1852.235-73 FINAL SCIENTIFIC AND TECHNICAL REPORTS.](#)

[1852.235-74 ADDITIONAL REPORTS OF WORK - RESEARCH AND DEVELOPMENT.](#)

[1852.237-73 RELEASE OF SENSITIVE INFORMATION.](#)

[PCD 21-02 FEDERAL ACQUISITION REGULATION \(FAR\) CLASS DEVIATION – PROTECTION OF DATA UNDER THE SMALL BUSINESS INNOVATIVE RESEARCH/SMALL TECHNOLOGY TRANSFER RESEARCH \(SBIR/STTR\) PROGRAM](#)

[PCD 21-04A CLASS DEVIATION FROM THE FEDERAL ACQUISITION REGULATION \(FAR\) AND NASA FAR SUPPLEMENT \(NFS\) REGARDING REQUIREMENTS FOR NONAVAILABILITY DETERMINATIONS UNDER THE BUY AMERICAN STATUTE](#)

**Additional Regulations**

[SOFTWARE DEVELOPMENT STANDARDS](#)

[HUMAN AND/OR ANIMAL SUBJECT](#)

[HOMELAND SECURITY PRESIDENTIAL DIRECTIVE 12 \(HSPD-12\)](#)

[RIGHTS IN DATA DEVELOPED UNDER SBIR FUNDING AGREEMENT](#)

[INVENTION REPORTING, ELECTION OF TITLE, PATENT APPLICATION FILING, AND PATENTS](#)

**SBA Certifications required for Phase II**

[\(1\) CERTIFICATIONS.](#)

[\(2\) PERFORMANCE OF WORK REQUIREMENTS.](#)

[\(3\) EMPLOYMENT OF THE PRINCIPAL INVESTIGATOR/PROJECT MANAGER.](#)

[\(4\) LOCATION OF THE WORK.](#)

[\(5\) NOVATED/SUCCESSOR IN INTERESTED/REVISED FUNDING AGREEMENTS.](#)

[\(6\) MAJORITY-OWNED BY MULTIPLE VCOCS, HEDGE FUNDS, OR PRIVATE EQUITY FIRMS \[SBIR ONLY\].](#)

[\(7\) AGENCY BENCHMARKS FOR PROGRESS TOWARDS COMMERCIALIZATION.](#)

[\(8\) LIFE CYCLE CERTIFICATIONS](#)