

THE DEPARTMENT OF DEFENSE
SMALL BUSINESS INNOVATION RESEARCH (SBIR) PROGRAM
PROGRAM SOLICITATION FY07.1

Closing Date: January 10, 2007 at 6 a.m. EST

Participating DoD Components:

- Department of the Air Force
- Department of the Navy
- Office of Secretary of Defense (OSD)
- Chemical Biological Defense (CBD)
- Defense Threat Reduction Agency (DTRA)
- Special Operations Command (SOCOM)

IMPORTANT

Deadline for Receipt. Proposals must be **completely** submitted by **6 a.m.** EST, January 10, 2007

Classified proposals are not accepted under the DoD SBIR Program.

Solicitation Changes: Commercialization Pilot Program (CPP) (see [section 4.7](#)), Limitations on Length of Proposal (see [section 3.4](#)), Fast Track (see [section 4.5](#)), Phase II Enhancement Policy (see [section 4.6](#)), Cost proposal (see [section 3.5c\(6\)](#)), Company Commercialization Report (see [section 3.5d](#)), Evaluation Criteria – Phase I (see [section 4.2](#)), Evaluation Criteria – Phase II (see [section 4.3](#)), Assessing Commercial Potential of Proposals (see [section 4.4](#))

SBIR Updates and Notices. To be notified of SBIR opportunities and to receive e-mail updates on the DoD SBIR and STTR programs, you are invited to subscribe to the DoD SBIR/STTR ListServ by e-mailing sbirlist@listserv.dodsbir.net.

Help Desk. If you have questions about the Defense Department's SBIR or STTR programs, please call the SBIR/STTR Help Desk at 866-SBIRHLP (866-724-7457), or visit the DoD SBIR/STTR Web Site, at <http://www.acq.osd.mil/osbp/sbir/> or the DoD SBIR/STTR Resource Center at <http://www.dodsbir.net/>.

U.S. Department of Defense
SBIR Program Office
Washington, DC 20301

November 6, 2006: Solicitation issued for pre-release

December 6, 2006: DoD begins accepting proposals

January 10, 2007: Deadline for receipt of proposals at **6 a.m.** EST

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DoD PROGRAM SOLICITATION FOR SMALL BUSINESS INNOVATION RESEARCH

1.0 PROGRAM DESCRIPTION

1.1 Introduction

The Air Force, Navy, OSD, CBD, DTRA and SOCOM, hereafter referred to as DoD Components, invite small business firms to submit proposals under this solicitation for the Small Business Innovation Research (SBIR) program. Firms with the capability to conduct research and development (R&D) in any of the defense-related topic areas described in Section 8.0, and to commercialize the results of that R&D, are encouraged to participate.

Objectives of the DoD SBIR Program include stimulating technological innovation in [DoD's Critical Technology Areas](#), strengthening the role of small business in meeting DoD research and development needs, fostering and encouraging participation by minority and disadvantaged persons in technological innovation, and increasing the commercial application of DoD-supported research or research and development results.

The Federal SBIR Program is mandated by Public Laws PL 97-219, PL 99-443, PL 102-564 and PL 106-554. The basic design of the DoD SBIR Program is in accordance with the Small Business Administration (SBA) SBIR Policy Directive, 2002. The DoD Program presented in this solicitation strives to encourage scientific and technical innovation in areas specifically identified by DoD Components. The guidelines presented in this solicitation incorporate and exploit the flexibility of the SBA Policy Directive to encourage proposals based on scientific and technical approaches most likely to yield results important to the DoD and the private sector.

1.2 Three Phase Program

This program solicitation is issued pursuant to the Small Business Innovation Development Act of 1982, PL 97-219, PL 99-443, PL 102-564 and PL 106-554. Phase I is to determine, insofar as possible, the scientific, technical, and commercial merit and feasibility of ideas submitted under the SBIR Program. Phase I awards are typically \$70,000 to \$100,000 in size over a period generally of six to nine months. Proposals should concentrate on that research or research and development which will significantly contribute to proving the scientific, technical, and commercial feasibility of the proposed effort, the successful completion of which is a prerequisite for further DoD support in Phase II. The measure of Phase I success includes evaluations of the extent to which Phase II results would have the potential to yield a product or process of continuing importance to DoD and the private sector. Proposers are encouraged to consider whether the research or research and development they are proposing to DoD Components also has private sector potential, either for the proposed application or as a base for other applications.

Subsequent Phase II awards will be made to firms on the basis of results of their Phase I effort and the scientific, technical, and commercial merit of the Phase II proposal. Phase II awards are typically \$500,000 to \$750,000 in size over a period generally not to exceed 24 months (subject to negotiation). Phase II is the principal research or research and development effort and is expected to produce a well-defined deliverable prototype. A more comprehensive proposal will be required for Phase II.

Under Phase III, the small business is expected to obtain funding from the private sector and/or non-SBIR Government sources to develop the prototype into a viable product or non-R&D service for sale in military and/or private sector markets.

Under a policy approved by the Under Secretary of Defense for Acquisition and Technology in October 1998, DoD tracks the extent to which technologies developed under Phase II are successfully commercialized in Phase III (in military and/or private sector markets), as discussed in Section 5.4 of this solicitation. Furthermore, DoD has adopted such commercialization success as a critical measure of performance for both the DoD SBIR program and the firms that participate in the program (See Sections 3.5.b(6), 3.5.b(10), 3.5.d, 4.4, 5.4).

This solicitation is for Phase I proposals only. Only proposals submitted in response to this solicitation will be considered for Phase I award. Only proposals submitted in response to topics contained in this solicitation will be accepted. Proposers who were not awarded a contract in response to a prior SBIR solicitation are free to update or modify and re-submit the same or modified proposal if it is responsive to any of the topics listed in Section 8.

For Phase II, no separate solicitation will be issued and no unsolicited proposals will be accepted. Only those firms that were awarded Phase I contracts are eligible to participate in Phases II and III (Section 4.3 and 5.2).

DoD is not obligated to make any awards under either Phase I, II, or III, and all awards are subject to the availability of funds. DoD is not responsible for any monies expended by the proposer before award of any contract.

1.3 Proposer Eligibility and Limitations

Each proposer must qualify as a small business for research or research and development purposes as defined in Section 2.0 and certify to this on the Cover Sheet of the proposal. In addition, a minimum of two-thirds of the research and/or analytical work in Phase I must be carried out by the proposing firm. For Phase II, a minimum of one-half of the research and/or analytical work must be performed by the proposing firm. The percent of work is usually measured by both direct and indirect costs, although proposers planning to subcontract a significant fraction of their work should verify how it will be measured with their

DoD contracting officer during contract negotiations. For both Phase I and II, the primary employment of the principal investigator must be with the small business firm at the time of the award and during the conduct of the proposed effort. Primary employment means that more than one-half of the principal investigator's time is spent with the small business. Primary employment with a small business concern precludes full-time employment at another organization. For both Phase I and Phase II, all research or research and development work must be performed by the small business concern and its subcontractors in the United States. Deviations from the requirements in this paragraph must be approved in writing by the contracting officer (during contract negotiations).

Joint ventures and limited partnerships are permitted, provided that the entity created qualifies as a small business in accordance with the Small Business Act, 15 USC 631, and the definition included in Section 2.2.

1.4 Conflicts of Interest

Awards made to firms owned by or employing current or previous Federal Government employees could create conflicts of interest for those employees in violation of federal law. Such proposers should contact the cognizant Ethics Counselor from the employees' Government agency for further guidance.

1.5 Questions about SBIR and Solicitation Topics

a. General SBIR Questions/Information.

- (1) **Help Desk.** The DoD SBIR/STTR Help Desk is prepared to address general questions about this solicitation, the proposal preparation and electronic submission process, contract negotiation, payment vouchers, Government accounting requirements, intellectual property protection, the Fast Track, financing strategies, and other program-related areas. The Help Desk may be contacted from 8am to 5pm EST by:

Phone: 866-SBIRHLP (866-724-7457)

Email: www.dodsbir.net/helpdesk

- (2) **Web Sites.** The DoD SBIR/STTR Web Site at <http://www.acq.osd.mil/osbp/sbir> offers electronic access to SBIR solicitations, answers to commonly asked questions, sample SBIR proposals, model SBIR contracts, abstracts of ongoing SBIR projects, the latest updates on the SBIR program, hyperlinks to sources of business assistance and financing, and other useful information.

The DoD SBIR Resource Center at www.dodsbir.net mirrors the most frequently accessed information on the DoD SBIR/STTR Web Site:

- SBIR and STTR Solicitations are posted at www.dodsbir.net/solicitation
 - Topics Search engine is available at www.dodsbir.net/topics
 - Technical Q&A through SITIS is available at www.dodsbir.net/sitis
 - Electronic Proposal Submission for Phase I and II is through the Submission site at www.dodsbir.net/submission. Firms submitting through this site for the first time will be asked to register with their tax ID number and supply a point of contact at the firm.
 - Phase I proposal Selections are posted at www.dodsbir.net/selections, generally 6 months after the solicitation close.
 - All Phase I and II awards made since the inception of the SBIR and STTR programs may be searched by keywords or company name at www.dodsbir.net/awards
- (3) **Tutorial.** An on-line tutorial on how to prepare and submit a proposal to the DoD SBIR/STTR program is available at the Resource Center website at www.dodsbir.net. It is a practical guide for beginners and a quick reference for more experienced participants.
 - (4) **ListServ.** The DoD maintains a ListServ e-mail broadcast service. To stay in touch with SBIR opportunities and receive notices about upcoming conferences and solicitations, subscribe by emailing sbirlist@listserv.dodsbir.net and typing SUBSCRIBE in the subject of the message, or visit the Resource Center at www.dodsbir.net.

- b. **General Questions about a DoD Component.** General questions pertaining to a particular DoD Component (Army, Navy, Air Force, etc.) should be submitted in accordance with the instructions given at the beginning of that Component's topics, in Section 8.0 of this solicitation. Hyperlinks to Component SBIR websites are available from the DoD SBIR/STTR Web Site (above).

c. **Technical Questions about Solicitation Topics.**

- (1) **Direct Contact with Topic Authors.** From November 6, 2006 through December 5, 2006, this solicitation is issued for pre-release on the DoD SBIR/STTR Web Site with the names of the topic authors and their phone numbers and email addresses. During this period, proposers have an opportunity to contact topic authors by telephone or email to ask technical questions about specific solicitations topics. Questions should be limited to specific information related to improving the understanding of a particular topic's requirements. Offerors may not ask for advice or guidance on solution approach, nor submit additional material to the topic author. If information given in response to a question is deemed necessary for the preparation of proposals, that information will be made available to the public through SITIS. Afterwards, questions must be asked through SITIS, described below.

- (2) **SITIS.** Once DoD begins accepting proposals on December 6, 2006, no further direct contact between proposers and topic authors is allowed; however, proposers may submit written questions through the SBIR Interactive Topic Information System (SITIS) at www.dodsbir.net/sitis. In SITIS, the questioner and respondent remain anonymous and all questions and answers are posted electronically for general viewing. Questions are limited to technical information related to improving the understanding of a particular topic's requirements; any other questions, such as those asking for advice or guidance on solution approach, will not receive a response. Locate the topic to which you want to submit a technical question by using the SITIS Quick Scan feature on this website. Then, using the form at the bottom of the topic description page, enter and submit your question. Answers are generally posted within seven working days of question submission. (Answers will also be emailed directly to the inquirer if the inquirer provides an e-mail address.)

The SITIS service for this solicitation opens on November 6, 2006 and closes to new questions on December 27, 2006. All questions and answers will be posted from November 6, 2006 through January 10, 2007. All proposers are advised to monitor SITIS during the solicitation period for questions and answers, and other information relevant to the topic under which they are proposing.

1.6 SBIR Conferences and Outreach

The DoD participates in National SBIR Conferences and many state-organized conferences for small business. For information on these events, see "[Conferences](#)" on our Web Site or Resource Center. We have a special outreach effort to women-owned small businesses and socially and economically disadvantaged small businesses.

2.0 DEFINITIONS

The following definitions apply for the purposes of this solicitation:

2.1 Research or Research and Development

Any activity that is:

Basic Research - Scientific study and experimentation to provide fundamental knowledge required for the solution of problems.

Exploratory Development - A study, investigation or minor development effort directed toward specific problem areas with a view toward developing and evaluating the feasibility and practicability of proposed solutions.

Advanced Development - Proof of design efforts directed toward projects that have moved into the development of hardware for test.

Engineering Development - Full-scale engineering development projects for DoD use but which have not yet received approval for production.

2.2 Small Business Concern. A small business concern is one that, at the time of award of Phase I and Phase II, meets all of the following criteria:

- a. Is independently owned and operated, is not dominant in the field of operation in which it is proposing, has a place of business in the United States and operates primarily within the United States or makes a significant contribution to the US economy, and is organized for profit.
- b. Is (a) at least 51% owned and controlled by one or more individuals who are citizens of, or permanent resident aliens in, the United States or (b) it must be a for-profit business concern that is at least 51% owned and controlled by another for-profit business concern that is at least 51% owned and controlled by one or more individuals who are citizens of, or permanent resident aliens in, the United States.
- c. Has, including its affiliates, an average number of employees for the preceding 12 months not exceeding 500, and meets the other regulatory requirements found in 13 CFR Part 121. Business concerns are generally considered to be affiliates of one another when either directly or indirectly, (a) one concern controls or has the power to control the other; or (b) a third-party/parties controls or has the power to control both.

Control can be exercised through common ownership, common management, and contractual relationships. The term "affiliates" is defined in greater detail in 13 CFR 121.103. The term "number of employees" is defined in 13 CFR 121.106.

A business concern may be in the form of an individual proprietorship, partnership, limited liability company, corporation, joint venture, association, trust, or cooperative. Further information may be obtained at <http://sba.gov/size>, or by contacting the Small Business Administration's Government Contracting Area Office or Office of Size Standards.

2.3 Socially and Economically Disadvantaged Small Business Concern.

A socially and economically disadvantaged small business concern is one that is at least 51% owned and controlled by one or more socially and economically disadvantaged individuals, or an Indian tribe, including Alaska Native Corporations (ANCs), a Native Hawaiian Organization (NHO), or a Community Development Corporation (CDC). Control includes both the strategic planning (as that exercised by boards of directors) and the day-to-day management and administration of business operations. See 13 CFR 124.109, 124.110, and 124.111 for special rules pertaining to concerns owned by Indian tribes (including ANCs), NHOs or CDCs, respectively.

2.4 Women-Owned Small Business Concern.

A small business concern that is at least 51% owned and controlled by a woman or women. Control includes both the strategic planning (as that exercised by boards of directors) and the day-to-day management and administration of business operations.

2.5 Funding Agreement

Any contract, grant, or cooperative agreement entered into between any Federal Agency and any small business concern for the performance of experimental, developmental, or research work funded in whole or in part by the federal Government. *Only the contract method will be used by DoD components for all SBIR awards.*

2.6 Subcontract

A subcontract is any agreement, other than one involving an employer-employee relationship, entered into by an awardee of a funding agreement calling for supplies or services for the performance of the original funding agreement. This includes consultants. See Section 3.5.b(9).

2.7 Commercialization

The process of developing marketable products or services and delivering products or services for sale (whether by the originating party or by others) to Government or commercial markets.

2.8 Essentially Equivalent Work

This occurs when (1) substantially the same research is proposed for funding in more than one contract proposal or grant application submitted to the same Federal agency; (2) substantially the same research is submitted to two or more different Federal agencies for review and funding consideration; or (3) a specific research objective and the research design for accomplishing an objective are the same or closely related in two or more proposals or awards, regardless of the funding source.

2.9 Historically Underutilized Business Zone (HUBZone) Small Business Concern

HUBZone small business concern means a small business concern that appears on the List of Qualified HUBZone Small Business Concerns maintained by the Small Business Administration. See www.sba.gov/hubzone for more details.

2.10 Service-Disabled Veteran

A veteran with a disability that is service connected as defined in section 101 (16) of title 38, United States Code.

2.11 Small Business Concern Owned and Controlled by Service-Disabled Veterans

A small business concern that:

- a. not less than 51 percent of which is owned by one or more service-disabled veterans or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more service-disabled veterans; and
- b. the management and daily business operations of which are controlled by one or more service-disabled veterans or, in the case of a veteran with permanent and severe disability, the spouse or permanent caregiver of such a veteran.

2.12 Small Business Concern Owned and Controlled by Veterans

A small business concern that:

- a. not less than 51 percent of which is owned by one or more veterans or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more; and
- b. the management and daily business operations of which are controlled by one or more veterans.

2.13 United States

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

2.14 Manufacturing-related R&D as a result of Executive Order 13329

Encompasses improvements in existing methods or processes, or wholly new processes, machines or systems. Four main areas include

1. *Unit process level technologies* that create or improve manufacturing processes including:
 - fundamental improvements in existing manufacturing processes that deliver substantial productivity, quality, or environmental benefits.
 - development of new manufacturing processes, including new materials, coatings, methods, and associated practices.
2. *Machine level technologies* that create or improve manufacturing equipment, including:
 - improvements in capital equipment that create increased capability (such as accuracy or repeatability), increased capacity (through productivity improvements or cost reduction), or increased environmental efficiency (safety, energy efficiency, environmental impact)
 - new apparatus and equipment for manufacturing, including additive and subtractive manufacturing, deformation and molding, assembly and test, semiconductor fabrication, and nanotechnology
3. *Systems level technologies* for innovation in the manufacturing enterprise, including:
 - Advances in controls, sensors, networks, and other information technologies that improve the quality and productivity of manufacturing cells, lines, systems, and facilities.
 - Innovation in extended enterprise functions critical to manufacturing, such as quality systems, resource management, supply change integration, and distribution, scheduling and tracking.

- Technologies that enable integrated and collaborative product and process development, including computer-aided and expert systems for design, tolerancing, process and materials selection, life-cycle cost estimation, rapid prototyping, and tooling.
4. *Environment or societal level technologies* that improve workforce abilities, productivity, and manufacturing competitiveness, including:
- technologies for improved workforce health and safety, such as human factors and ergonomics
 - technologies that aid and improve workforce manufacturing skill and technical excellence, such as educational systems incorporating improved manufacturing knowledge and instructional methods

2.15 Foreign National (also known as Foreign Persons) means any person who is NOT:

- a. a citizen or national of the United States; or
- b. a lawful permanent resident; or
- c. a protected individual as defined by 8 U.S.C.1324b(a)(3).

"Lawful permanent resident" is a person having the status of having been lawfully accorded the privilege of residing permanently in the United States as an immigrant in accordance with the immigration laws and such status not having changed.

"Protected individual" is an alien who is lawfully admitted for permanent residence, is granted the status of an alien lawfully admitted for temporary residence under 8 U.S.C.1160(a) or 8 U.S.C.1255a(a)(1), is admitted as a refugee under 8 U.S.C.1157, or is granted asylum under section 8 U.S.C.1158; but does not include (i) an alien who fails to apply for naturalization within six months of the date the alien first becomes eligible (by virtue of period of lawful permanent residence) to apply for naturalization or, if later, within six months after November 6, 1986, and (ii) an alien who has applied on a timely basis, but has not been naturalized as a citizen within 2 years after the date of the application, unless the alien can establish that the alien is actively pursuing naturalization, except that time consumed in the Service's processing the application shall not be counted toward the 2-year period.

3.0 PROPOSAL PREPARATION INSTRUCTIONS AND REQUIREMENTS

3.1 Proposal Requirements

A proposal to any DoD Component under the SBIR Program is to provide sufficient information to persuade the DoD Component that the proposed work represents an innovative approach to the investigation of an important scientific or engineering problem and is worthy of support under the stated criteria.

The quality of the scientific or technical content of the proposal will be the principal basis upon which proposals will be evaluated. The proposed research or research and development must be responsive to the chosen topic, although need not use the exact approach specified in the topic (see Section 4.1). Any small business contemplating a bid for work on any specific topic should determine that (a) the technical approach has a reasonable chance of meeting the topic objective, (b) this approach is innovative, not routine, with potential commercial application and (c) the firm has the capability to implement the technical approach, i.e. has or can obtain people and equipment suitable to the task.

Classified proposals are not accepted under the DoD SBIR Program.

Proposers must be registered in the DoD Submission system at www.dodsbir.net/submission in order to prepare and submit proposals (see section 6.1)

3.2 Proposal Checklist. Those responding to this solicitation should note the proposal preparation tips listed below:

- 1) Read and follow all instructions contained in this solicitation, including the instructions in Section 8.0 of the DoD component to which you are applying.
- 2) Register your firm on the secure password-protected DoD Electronic Submission Web Site (<http://www.dodsbir.net/submission>) and, as instructed on the Web Site, prepare your proposal. A complete proposal consists of the proposal cover sheets, technical proposal, cost proposal, and Company Commercialization Report.
- 3) The proposal cost adheres to the Component criteria specified and the cost on the cover sheets matches the cost on the cost proposal.
- 4) The Project Abstract and other content provided on the cover sheets contains NO proprietary information. Mark proprietary information within the technical proposal as instructed in Section 5.6.
- 5) The content in the technical proposal, including the option (if applicable), includes the items in Section 3.5.b.
- 6) The header on each page of your technical proposal should contain your company name, topic number, and proposal number. (The header may be included in the one-inch margins.)
- 7) The Company Commercialization Report is submitted online in accordance with Section 3.5.d. This report is required even if the firm has not received prior SBIR funding.
- 8) Limit your proposal to 25 pages (excluding the cost proposal and Company Commercialization Report).
- 9) Use a type size no smaller than a 10-point font.
- 10) The technical proposal shall not be in 2-column format.

Note: Public access to the internet is available at most public libraries, local schools or a Small Business Development Center (SBDC) in your area. If you have any questions, please contact the DoD Help Desk 866-SBIRHLP (866-724-7457).

3.3 Proprietary Information

If information is provided which constitutes a trade secret, proprietary commercial or financial information, confidential personal information, or data affecting the national security, it will be treated in confidence to the extent permitted by law, provided it is clearly marked in accordance with Section 5.6. The cost proposal information will be treated as proprietary whether or not it is indicated.

3.4 Limitations on Length of Proposal

This solicitation is designed to reduce the investment of time and cost to small firms in preparing a formal proposal. Those who wish to respond must submit a direct, concise, and informative research or research and development proposal of no more than 25 pages (no type smaller than 10-point on standard 8 1/2 " X 11" paper with one (1) inch margins). Only the Proposal Cover Sheet (pages 1 & 2), the Technical Proposal (beginning with page 3), and any enclosures or attachments count toward the 25-page limit. The Cost Proposal and Company Commercialization Report are excluded from the page limit. Promotional and non-project related discussion is discouraged. The space allocated to each will depend on the problem chosen and the principal investigator's approach. In the interest of equity, pages in excess of the 25-page limitation (including attachments, appendices, or references, but excluding the cost proposal and Company Commercialization Report) will not be considered for review or award. Additional information on Universal Resource Locator (URL) links, computer disks, CDs, DVDs, video tapes or any other medium will not be accepted or considered in the proposal evaluation unless otherwise specified in the Component instructions to which you are applying.

3.5 Phase I Proposal Format

a. **Proposal Cover Sheets.** On the DoD Electronic Submission Web Site (www.dodsbir.net/submission), prepare Proposal Cover Sheets, including a brief technical abstract of the proposed R&D project and a discussion of anticipated benefits and potential commercial applications. Once you save the coversheet, the system will assign a proposal number. You may edit the coversheet as often as necessary until the solicitation closes. Your cover sheets will count as the first two pages of your proposal no matter how they print out. If your proposal is selected for award, the technical abstract and discussion of anticipated benefits will be publicly released on the Internet; therefore, do not include proprietary or classified information in these sections.

b. **Technical Proposal.** Create a single file that covers the following items in the order given below. Begin your technical proposal on Page 3 (since the cover sheets are pages 1 and 2) and put your firm name, topic number, and proposal number in the header of each page. (The header may be included in the one inch margins.) The technical proposal file must be in Portable Document Format (PDF) for evaluation purposes. You can not upload the technical proposal to the DoD Submission site until you have created a coversheet and been assigned a proposal number. Perform a virus check before uploading the technical proposal file. If a virus is detected, it may cause rejection of the proposal. The technical proposal should be a single file, including graphics and attachments (and cost proposal if not using the Web Site's on-line cost proposal form). **Do not lock or encrypt the file you upload.**

- (1) **Identification and Significance of the Problem or Opportunity.** Define the specific technical problem or opportunity addressed and its importance. (Begin on Page 3 of your proposal.)
- (2) **Phase I Technical Objectives.** Enumerate the specific objectives of the Phase I work, including the questions it will try to answer to determine the feasibility of the proposed approach.
- (3) **Phase I Work Plan.** Provide an explicit, detailed description of the Phase I approach. If a Phase I option is required or allowed by the Component to which you are submitting, it should describe appropriate research activities which would commence at the end of the Phase I should the Component elect to exercise the option. The plan should indicate what is planned, how and where the work will be carried out, a schedule of major events, and the final product to be delivered. The Phase I effort should attempt to determine the technical feasibility of the proposed concept. The methods planned to achieve each objective or task should be discussed explicitly and in detail. This section should be a substantial portion of the total proposal.
- (4) **Related Work.** Describe significant activities directly related to the proposed effort, including any conducted by the principal investigator, the proposing firm, consultants, or others. Describe how these activities interface with the proposed project and discuss any planned coordination with outside sources. The proposal must persuade reviewers of the proposer's awareness of the state-of-the-art in the specific topic.

Describe previous work not directly related to the proposed effort but similar. Provide the following: (1) short description, (2) client for which work was performed (including individual to be contacted and phone number), and (3) date of completion.
- (5) **Relationship with Future Research or Research and Development.**
 - (1) State the anticipated results of the proposed approach if the project is successful.
 - (2) Discuss the significance of the Phase I effort in providing a foundation for Phase II research or research and development effort.
- (6) **Commercialization Strategy.** Describe in approximately one page your company's strategy for commercializing this technology in DoD, other Federal Agencies, and/or private sector markets. Provide specific information on the market need the technology will address and the size of the market. Also include a schedule showing the quantitative commercialization results from this SBIR project that your company expects to achieve and when (i.e., amount of additional investment, sales revenue, etc. - see Section 5.4).
- (7) **Key Personnel.** Identify key personnel who will be involved in the Phase I effort including information on directly related education and experience. A concise resume of the principal investigator, including a list of relevant publications (if any), must be included. All resumes will count toward the 25-page limitation. Identify any foreign nationals you expect to be involved on this project, country of origin and level of involvement.
- (8) **Facilities/Equipment.** Describe available instrumentation and physical facilities necessary to carry out the Phase I effort. Items of equipment to be purchased (as detailed in the cost proposal) shall be justified under this section. Also state whether or not the facilities where the proposed work will be performed meet environmental laws and regulations of federal, state (name), and local Governments for, but not limited to, the following groupings: airborne emissions, waterborne effluents, external radiation levels, outdoor noise, solid and bulk waste disposal practices, and handling and storage of toxic and hazardous materials.

(9) **Subcontractors/Consultants.** Involvement of a university or other subcontractors or consultants in the project may be appropriate. (See Section 2.6) If such involvement is intended, it should be described in detail and identified in the cost proposal. A minimum of two-thirds of the research and/or analytical work in Phase I, as measured by direct and indirect costs, must be carried out by the proposing firm, unless otherwise approved in writing by the contracting officer. No portion of a SBIR award may be subcontracted back to any Federal government agency, including Federally Funded Research and Development Centers (FFRDCs). SBA may issue a case-by-case waiver to this provision after review of the DoD component's written justification that includes the following information: (a) an explanation of why the SBIR research project requires the use of the Federal facility or personnel, including data that verifies the absence of non-federal facilities or personnel capable of supporting the research effort; (b) why the Agency will not and can not fund the use of the Federal facility or personnel for the SBIR project with non-SBIR money; and (c) the concurrence of the small business concern's chief business official to use the Federal facility or personnel. Award is contingent on the sponsoring agency obtaining a waiver.

(10) **Prior, Current, or Pending Support of Similar Proposals or Awards.** *Warning --* While it is permissible, with proposal notification, to submit identical proposals or proposals containing a significant amount of essentially equivalent work (see section 2.8) for consideration under numerous federal program solicitations, it is unlawful to enter into contracts or grants requiring essentially equivalent effort. If there is any question concerning this, it must be disclosed to the soliciting agency or agencies before award.

If a proposal submitted in response to this solicitation is substantially the same as another proposal that has been funded, is now being funded, or is pending with another Federal Agency or DoD Component or the same DoD Component, the proposer must so indicate on the Proposal Cover Sheet and provide the following information:

- (a) Name and address of the Federal Agency(s) or DoD Component to which a proposal was submitted, will be submitted, or from which an award is expected or has been received.
- (b) Date of proposal submission or date of award.
- (c) Title of proposal.
- (d) Name and title of principal investigator for each proposal submitted or award received.
- (e) Title, number, and date of solicitation(s) under which the proposal was submitted, will be submitted, or under which award is expected or has been received.
- (f) If award was received, state contract number.
- (g) Specify the applicable topics for each SBIR proposal submitted or award received.

Note: If Section 3.5.b(10) does not apply, state in the proposal "No prior, current, or pending support for proposed work."

c. **Cost Proposal.** Complete the cost proposal in the format shown in the [Cost Breakdown Guidance](#), either using the on-line cost proposal form on the DoD Electronic Submission Web Site or as the last page(s) of your technical proposal (the cost proposal will not be included in the proposal page limitation (see Section 3.4). Some items in the [Cost Breakdown Guidance](#) may not apply to the proposed project. If such is the case, there is no need to provide information on each and every item. What matters is that enough information be provided to allow the DoD Component to understand how the proposer plans to use the requested funds if the contract is awarded.

- (1) List all key personnel by name as well as by number of hours dedicated to the project as direct labor.
- (2) Special tooling and test equipment and material cost may be included under Phases I and II. The inclusion of equipment and material will be carefully reviewed relative to need and appropriateness for the work proposed. The purchase of special tooling and test equipment must, in the opinion of the Contracting Officer, be advantageous to the Government and should be related directly to the specific topic. These may include such items as innovative instrumentation and/or automatic test equipment. Title to property furnished by the Government or acquired with Government funds will be vested with the DoD Component, unless it is determined that transfer of title to the contractor would be more cost effective than recovery of the equipment by the DoD Component.
- (3) Cost for travel funds must be justified and related to the needs of the project.
- (4) Cost sharing is permitted for proposals under this solicitation; however, cost sharing is not required nor will it be an evaluation factor in the consideration of a Phase I proposal.
- (5) A Phase I Option (if applicable) should be fully costed separately from the Phase I (base) approach. Additional cost proposal information may be required at the end of your technical proposal (See Component Instructions, Section 8.0).
- (6) All subcontractor costs and consultant costs must be detailed at the same level as prime contractor costs in regards to labor, travel, equipment, etc. Provide detailed substantiation of subcontractor costs in your cost proposal. If you use the on-line cost proposal form, enter this information in the Explanatory Material section of the form.

When a proposal is selected for award, the proposer should be prepared to submit further documentation to its DoD contracting officer to substantiate costs (e.g., a brief explanation of cost estimates for equipment, materials, and consultants or subcontractors). For more information about cost proposals and accounting standards, see the DCAA publication called "Information for Contractors" available at www.dcaa.mil.

d. **Company Commercialization Report.** If your firm is submitting a Phase I or Phase II proposal, it is required to prepare a Company Commercialization Report through the password-protected DoD Electronic Submission Web Site (www.dodsbir.net/submission). If you submit a proposal, you must submit a company commercialization report whether or not you have previously received SBIR or STTR awards. As instructed on the Web Site, list in the Report the quantitative commercialization results of your firm's prior Phase II projects, including the items listed in section 5.4 of this solicitation (sales revenue, additional investment, etc.), as well as other information relative to your firm's commercialization track record. All prior Phase II projects must be reported, regardless of whether the project has any commercialization to date. The Web Site will then compare these results to the historical averages for the DoD SBIR Program to calculate a Commercialization Achievement Index (CAI) value. Only firms with four or more completed Phase II projects will receive a CAI score; otherwise the CAI is N/A. Firms with a CAI at the 15th percentile or below may receive no more than half of the evaluation points available for commercial potential criteria (see Section 4.4). This report need only be prepared once and submitted with all your proposals for this solicitation.

As noted on the Web Site, your firm may also, at its option, include at the end of the Report additional, explanatory material (no more than five pages) relating to the firm's record of commercializing its prior SBIR or STTR projects, such as: commercialization successes (in government and/or private sector markets) that are not fully captured in the quantitative results (e.g. commercialization resulting from your firm's prior Phase I projects); any mitigating factors that could account for low commercialization; and recent changes in the firm's organization or personnel designed to increase the firm's commercialization success. The Company Commercialization Report and additional explanatory material (if any) will not be counted toward the 25-page limit for Phase I proposals. A Report showing that a firm has received no prior Phase II awards will not affect the firm's ability to obtain an SBIR award.

3.6 Page Numbering and Format

Number all pages of your proposal consecutively. The cover sheets are pages 1 and 2. The technical proposal begins on page 3. Use no type smaller than 10-point on standard 8 1/2" x 11" paper with one-inch margins. The header on each page of the technical proposal should contain your company name, topic number, and proposal number assigned by the DoD Electronic Submission Web Site when the cover sheet was created. The header may be included in the one-inch margin.

3.7 Phase II Proposal Format

This solicitation is for Phase I only. A Phase II proposal can be submitted only by a Phase I awardee and only in response to a request from the agency; that is, Phase II is not initiated by this solicitation.

Each Phase II proposal must contain a Proposal Cover Sheet, technical proposal, cost proposal and a Company Commercialization Report (see Section 3.5) submitted through the DoD Electronic Submission Web Site by the deadline specified in the invitation. In addition, each Phase II proposal must contain a two-page commercialization strategy as part of the technical proposal, addressing the following questions:

- (1) What is the first product that this technology will go into?
- (2) Who will be your customers, and what is your estimate of the market size?
- (3) How much money will you need to bring the technology to market, and how will you raise that money?
- (4) Does your company contain marketing expertise and, if not, how do you intend to bring that expertise into the company?
- (5) Who are your competitors, and what is your price and/or quality advantage over your competitors?

The commercialization strategy must also include a schedule showing the quantitative commercialization results from the Phase II project that your company expects to report in its Company Commercialization Report Updates one year after the start of Phase II, at the completion of Phase II, and after the completion of Phase II (i.e., amount of additional investment, sales revenue, etc. - see section 5.4).

Additional instructions regarding Phase II proposal preparation and submission will be provided or made available by the DoD Components to Phase I winners at time of Phase I contract award or Phase II proposal invitation.

3.8 False Statements

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. Sec 1001), punishable by a fine of up to \$10,000, up to five years in prison, or both.

4.0 METHOD OF SELECTION AND EVALUATION CRITERIA

4.1 Introduction

Phase I proposals will be evaluated on a competitive basis and will be considered to be binding for six (6) months from the date of closing of this solicitation unless the offeror states otherwise. If selection has not been made prior to the proposal's expiration date, offerors will be requested as to whether or not they want to extend their proposal for an additional period of time. Proposals meeting stated solicitation requirements will be evaluated by government scientific or technical personnel knowledgeable in the topic area. Proposals will be evaluated first on their relevance to the chosen topic. A proposal that meets the goals of a solicitation topic but does not use the exact approach specified in the topic will be considered relevant.

Proposals found to be relevant will then be evaluated using the criteria listed in Section 4.2. Final decisions will be made by the DoD Component based upon these criteria and consideration of other factors as listed below. A DoD Component may elect to fund several or none of the proposed approaches to the same topic. In the evaluation and handling of proposals, every effort will be made to protect the confidentiality of the proposal and any evaluations. There is no commitment by the DoD Components to make any awards on any topic, to make a specific number of awards or to be responsible for any monies expended by the proposer before award of a contract.

For proposals that have been selected for contract award, a Government Contracting Officer will draw up an appropriate contract to be signed by both parties before work begins. Any negotiations that may be necessary will be conducted between the offeror and the Government Contracting Officer. It should be noted that only a duly appointed contracting officer has the authority to enter into a contract on behalf of the U.S. Government.

Phase II proposals will be subject to a technical review process similar to Phase I. Final decisions will be made by DoD Components based upon the scientific and technical evaluations using the criteria listed in Section 4.3 and other factors as listed below. DoD is not responsible for any monies expended by the proposer before award of a contract.

Upon written request and after final award decisions have been announced, a debriefing will be provided to unsuccessful offerors on their proposals (See Section 6.5).

Restrictive notices notwithstanding, proposals may be handled, for administrative purposes only, by support contractors. All support contractors are bound by appropriate non-disclosure agreements.

4.2 Evaluation Criteria - Phase I

The DoD Components plan to select for award those proposals offering the best value to the Government and the nation considering the following factors which are listed in descending order of importance.

- a. The soundness, technical merit, and innovation of the proposed approach and its incremental progress toward topic or subtopic solution.
- b. The qualifications of the proposed principal/key investigators, supporting staff, and consultants. Qualifications include not only the ability to perform the research and development but also the ability to commercialize the results.
- c. The potential for commercial (Government or private sector) application and the benefits expected to accrue from this commercialization as assessed utilizing the criteria in Section 4.4.

Other factors that may be considered during the selection process are: possible duplication of other work and program balance.

Firms with a CAI at the 15th percentile or below may receive no more than half of the evaluation points available for commercial potential criteria (see Section 3.5d). Where technical evaluations are essentially equal in merit, cost to the Government will be considered in determining the successful offeror.

Technical reviewers will base their conclusions only on information contained in the proposal. It cannot be assumed that reviewers are acquainted with the firm or key individuals or any referenced experiments. Relevant supporting data such as journal articles, literature, including Government publications, etc., should be contained or referenced in the proposal and will count toward the 25-page limit.

4.3 Evaluation Criteria - Phase II

The Phase II proposal will be reviewed for overall merit based upon the criteria which are listed in descending order of importance, unless otherwise stated in the Component's instructions in Section 8.0 of this solicitation.

- a. The soundness, technical merit, and innovation of the proposed approach and its incremental progress toward topic or subtopic solution.
- b. The qualifications of the proposed principal/key investigators, supporting staff, and consultants. Qualifications include not only the ability to perform the research and development but also the ability to commercialize the results.
- c. The potential for commercial (Government or private sector) application and the benefits expected to accrue from this commercialization (see Sections 3.7 and 4.4)

Other factors that may be considered during the selection process are: a commitment for Phase III follow-on funding, the possible duplication with other research or research and development, program balance, budget limitations, and the potential of a successful Phase II effort leading to a product of continuing interest to DoD.

Firms with a CAI at the 15th percentile or below may receive no more than half of the evaluation points available for commercial potential criteria (see Section 3.5d). The reasonableness of the proposed costs of the effort to be performed will be examined to determine those proposals that offer the best value to the Government. Where technical evaluations are essentially equal in merit, cost to the Government will be considered in determining the successful offeror.

Phase II proposal evaluation may include on-site evaluations of the Phase I effort by Government personnel.

Fast Track Phase II proposals. For projects that qualify for the Fast Track (as discussed in Section 4.5), DoD will evaluate the Phase II proposals under a separate, expedited process in accordance with the above criteria, and may select these proposals for Phase II award provided:

- (1) they meet or exceed criteria (a) and (b); and
- (2) the project has substantially met its Phase I technical goals

(and assuming budgetary and other programmatic factors are met, as discussed in Section 4.1). Fast Track proposals, having attracted matching cash from an outside investor, presumptively meet criterion (c). Selection and award of a Fast Track proposal is not mandated and DoD retains the discretion not to select or fund any Fast Track proposal.

4.4 Assessing Commercial Potential of Proposals

A Phase I or Phase II proposal's commercial potential will be assessed using the following criteria:

- a. The proposer's commercialization strategy (see Section 3.5) and, as discussed in that strategy: (1) any commitments of additional investment in the technology during Phase II from the private sector, DoD prime contractors, non-SBIR/STTR DoD programs, or other sources, and (2) any Phase III follow-on funding commitments; and
- b. The proposer's record of commercializing its prior SBIR and STTR projects, as shown in its Company Commercialization Report (see Section 3.5). If the "Commercialization Achievement Index" (CAI) shown on the first page of the Report is at the 15th percentile or below, the proposer will receive no more than half of the evaluation points available under evaluation criterion c in Sections 4.2 and 4.3 ("potential for commercialization").

A Company Commercialization Report showing that the proposing firm has no prior Phase II awards will not affect the firm's ability to win an award. Such a firm's proposal will be evaluated for commercial potential based on its commercialization strategy in item a, above.

4.5 SBIR Fast Track

The DoD SBIR program has implemented a streamlined Fast Track process for SBIR projects that attract matching cash from an outside investor for the Phase II SBIR effort (as well as for the interim effort between Phases I and II). The purpose is to focus SBIR funding on those projects that are most likely to be developed into viable new products that DoD and others will buy and that will thereby make a major contribution to U.S. military and/or economic capabilities.

Phase I projects that qualify under Fast Track may

- (1) Receive interim funding of \$30,000 to \$50,000 between Phases I and II;
- (2) Be evaluated for Phase II award under a separate, expedited process; and
- (3) Be selected for Phase II award provided they meet or exceed a threshold of "technically sufficient" and have substantially met their Phase I technical goals (and assuming other programmatic factors are met), as described in Section 4.3.

Component Fast Track programs vary; see the Component instructions in Section 8.0 of this solicitation and the Fast Track section at www.dodsbir.net for more details. Fast Track applications must be prepared and submitted through the DoD SBIR Submission website at www.dodsbir.net/submission.

4.6 Phase II Enhancement Policy

To further encourage the transition of SBIR research into DoD acquisition programs as well as the private sector, each DoD Component has developed its own Phase II Enhancement policy. Under this policy, the Component will provide a Phase II awardee with additional Phase II SBIR funding if the company can match the additional SBIR funds with non-SBIR funds from DoD acquisition programs or the private sector.

Phase II projects that qualify under Phase II Enhancement may

- (1) Extend an existing Phase II contract for up to one year and
- (2) Match up to \$500,000 of non-SBIR funds, from either DoD non-SBIR programs or from an outside investor, with SBIR funds.

Phase II Enhancements requirements and matching rates vary by Component. See each Component's instructions in Section 8.0 of this solicitation and the Phase II Enhancement section of www.dodsbir.net for details. Phase II Enhancement applications must be prepared and submitted through the DoD SBIR Submission website at www.dodsbir.net/submission.

4.7 Commercialization Pilot Program (CPP)

The National Defense Authorization Act for Fiscal Year 2006 (P.L. 109-163, Section 252) authorizes a Commercialization Pilot Program (CPP) under the Secretary of Defense and the Secretary of each Military Department. The purpose of the CPP is to accelerate the transition of SBIR-funded technologies to Phase III, especially into systems being developed, acquired and maintained for the warfighter. This can be done through activities that enhance the connectivity among SBIR-firms, prime contractors, and DoD science & technology and acquisition communities. It can also be accomplished by improving a SBIR firm's capability to provide the identified technology to the Department, directly or as a subcontractor.

Each Military Department is establishing a Commercialization Pilot Program. Additionally, each Department is developing criteria and processes to identify projects with the potential for rapid transition to Phase III and that are expected to meet high priority needs of their Department. A project's inclusion in the CPP is by invitation and at the discretion of the Departments. CPP participants may receive a variety of assistance services and/or opportunities to facilitate the transition of their projects. Participation in the CPP may also include modifications to existing Phase II contracts with additional non-SBIR funding, as well as additional SBIR funding beyond the normal SBIR funding guidelines, to enhance ongoing projects with expanded research, development, test, or evaluation to accelerate transition and commercialization. Additional reporting on CPP participants and results achieved is required.

5.0 CONTRACTUAL CONSIDERATIONS

Note: Eligibility and Limitation Requirements (Section 1.3) Will Be Enforced

5.1 Awards (Phase I)

- a. **Number of Phase I Awards.** The number of Phase I awards will be consistent with the agency's RDT&E budget, the number of anticipated awards for interim Phase I modifications, and the number of anticipated Phase II contracts. No Phase I contracts will be awarded until all qualified proposals (received in accordance with Section 6.2) on a specific topic have been evaluated. Normally proposers will be notified of selection/non-selection status for a Phase I award within six months of the proposal's closing date. Selections are posted at www.dodsbir.net/selections.
- b. **Type of Funding Agreement.** All winning proposals will be funded under negotiated contracts and may include a reasonable fee or profit consistent with normal profit margins provided to profit-making firms for R/R&D work. The firm fixed price, purchase order, or cost plus fixed fee type contract will be used for all Phase I projects (see Section 5.5).
- c. **Average Dollar Value of Awards.** DoD Components will make Phase I awards to small businesses typically on a one-half person-year effort over a period generally not to exceed six months (subject to negotiation). P.L. 102-564 allows agencies to award Phase I contracts up to \$100,000 without justification. The typical size of award varies across the DoD Components; it is therefore important for a proposer to read the introductory page of the Component to which it is applying (in Section 8.0) for any specific instructions regarding award size.
- d. **Timing of Phase I Awards.** Across DoD, the median time between the date that the SBIR solicitation closes and the award of a Phase I contract is 4 months.

5.2 Awards (Phase II)

- a. **Number of Phase II Awards.** The number of Phase II awards will depend upon the results of the Phase I efforts and the availability of funds. *The DoD Components anticipate that approximately 40 percent of its Phase I awards will result in Phase II projects. This is merely an advisory estimate and the government reserves the right and discretion not to award to any or to award less than this percentage of Phase II projects.*
- b. **Type of Funding Agreement.** Each Phase II proposal selected for award will be funded under a negotiated contract and may include a reasonable fee or profit consistent with normal profit margins provided to profit-making firms for R/R&D work.
- c. **Average Dollar Value of Awards.** Average Phase II awards will typically cover 2 to 5 person-years of effort over a period generally not to exceed 24 months (subject to negotiation). PL 102-564 states that the Phase II awards may be up to \$750,000 each without justification. See special instructions for each DoD Component in Section 8.
- d. **Timing of Phase II Awards.** Across DoD, the median time between DoD's receipt of a Phase II proposal and the award of a Phase II contract is 6.5 months

5.3 Phase I Report

- a. **Content.** A final report is required for each Phase I project. The report must contain in detail the project objectives, work performed, results obtained, and estimates of technical feasibility. A completed SF 298, "Report Documentation Page", will be used as the first page of the report. (The Report Documentation Page may be prepared and printed from the DoD Electronic Submission Web Site at www.dodsbir.net/submition) In addition, monthly status and progress reports may be required by the DoD component.

- b. **Preparation.**

- (1) If desirable, language used by the company in its Phase II proposal to report Phase I progress may also be used in the final report.

- (2) For each unclassified report, the company submitting the report should fill in block 12a (Distribution/Availability Statement) of the SF298, "Report Documentation Page" with the following statement: "Distribution authorized to U.S. Government only; Proprietary Information (DFARS - SBIR Data Rights). Other requests for this document shall be referred to the [DoD Controlling Office](#) or the DoD SBIR Program Office."

Note: Data developed under a SBIR contract is subject to SBIR Data Rights which allows for protection under DFARS 252.227-7018 (see section 5.9 Technical Data Rights). The sponsoring DoD activity, after reviewing the company's entry in block 12a, has final responsibility for assigning a distribution statement.

For additional information on distribution statements see the following Defense Technical Information Center (DTIC) website: http://www.dtic.mil/dtic/submitting/distrib_statement.html

- (3) Block 13 (Abstract) of the SF 298, "Report Documentation Page" must include as the first sentence, "Report developed under SBIR contract for topic [insert solicitation topic number]". The abstract must identify the purpose of the work and briefly describe the work carried out, the finding or results and the potential applications of the effort. Since the abstract will be published by the DoD, it must not contain any proprietary or classified data.
- (4) Block 14 (Subject Terms) of the SF 298 must include the term "SBIR Report".

- c. **Submission.** The company shall submit FIVE COPIES of the final report on each Phase I project to the DoD in accordance with the Phase I contract and negotiated delivery schedule. The participating DoD components may require submission of Phase I and/or Phase II final reports through the DoD SBIR/STTR website. Delivery will normally be within thirty days after completion of the Phase I technical effort. The company shall, at the same time, submit ONE ADDITIONAL COPY of each report directly to the DTIC (unless instructed otherwise by the sponsoring DoD activity in the Phase I contract):

ATTN: DTIC-OCA
Defense Technical Information Center
8725 John J Kingman Road, Suite 0944
Ft. Belvoir, VA 22060-6218.

If the report is classified, the sponsoring DoD activity will provide special submission instructions. *Note: The sponsoring DoD activity has final responsibility for ensuring that the company or the DoD activity provide DTIC with all applicable Phase I and Phase II technical reports, classified and unclassified, developed under SBIR contract, per DoD Directive 3200.12 (<http://www.dtic.mil/whs/directives/corres/html/320012.htm>).*

5.4 Commercialization Updates in Phase II

If, after completion of Phase I, the contractor is awarded a Phase II contract, the contractor shall be required to periodically update the following commercialization results of the Phase II project through the Web Site at www.dodsbir.net/submission:

- a. Sales revenue from new products and non-R&D services resulting from the Phase II technology;
- b. Additional investment from sources other than the federal SBIR/STTR program in activities that further the development and/or commercialization of the Phase II technology;
- c. Whether the Phase II technology has been used in a fielded DoD system or acquisition program and, if so, which system or program;
- d. The number of patents resulting from the contractor's participation in the SBIR/STTR program;
- e. Growth in number of firm employees; and
- f. Whether the firm has completed an initial public offering of stock (IPO) resulting, in part, from the Phase II project.

These updates on the project will be required one year after the start of Phase II, at the completion of Phase II, and subsequently when the contractor submits a new SBIR or STTR proposal to DoD. Firms that do not submit a new proposal to DoD will be asked to provide updates on an annual basis after the completion of Phase II.

5.5 Payment Schedule

The specific payment schedule (including payment amounts) for each contract will be incorporated into the contract upon completion of negotiations between the DoD and the successful Phase I or Phase II offeror. Successful offerors may be paid periodically as work progresses in accordance with the negotiated price and payment schedule. Phase I contracts are primarily fixed price contracts, under which monthly payments may be made. The contract may include a separate provision for payment of a fee or profit. Final payment will follow completion of contract performance and acceptance of all work required under the contract. In all cases, Components must make payment to recipients under SBIR funding agreements in full, subject to audit, on or before the last day of the 12-month period beginning on the date of the completion of award. Other types of financial assistance may be available under the contract.

5.6 Markings of Proprietary Proposal Information

The proposal submitted in response to this solicitation may contain technical and other data which the proposer does not want disclosed to the public or used by the Government for any purpose other than proposal evaluation.

Information contained in unsuccessful proposals will remain the property of the proposer except for the Proposal Cover Sheet. The 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 a proposer in a proposal which constitutes a trade secret, proprietary commercial or financial information, confidential personal information or data affecting the national security, it will be treated in confidence, to the extent permitted by law, provided this information is clearly marked by the proposer with the term "PROPRIETARY" (not "Company Confidential") and provided that the following legend which appears on the Proposal Cover Sheet (Section 3.3) of the proposal is completed:

"For any purpose other than to evaluate the proposal, this data except proposal cover sheet shall not be disclosed outside the Government and shall not be duplicated, used, or disclosed in whole or in part, provided that if a contract is awarded to the

proposer as a result of or in connection with the submission of this data, the Government shall have the right to duplicate, use or disclose the data to the extent provided in the funding agreement. This restriction does not limit the Government's right to use information contained in the data if it is obtained from another source without restriction. The data subject to this restriction is contained on the pages of the proposal listed on the line below."

Any other legend may be unacceptable to the Government and may constitute grounds for removing the proposal from further consideration and without assuming any liability for inadvertent disclosure. The Government will limit dissemination of properly marked information to within official channels.

In addition, each page of the proposal containing proprietary data which the proposer wishes to restrict must be marked with the following legend:

"Use or disclosure of the proposal data on lines specifically identified by asterisk (*) are subject to the restriction on the Cover Sheet of this proposal."

If all of the information on a particular page is proprietary, the proposer should so note by including the word "PROPRIETARY" (not "Company Confidential") in both the header and footer on that page.

The Government assumes no liability for disclosure or use of unmarked data and may use or disclose such data for any purpose.

In the event properly marked data contained in a proposal in response to this solicitation is requested pursuant to the Freedom of Information Act, 5 USC 552, the proposer will be advised of such request and prior to such release of information will be requested to expeditiously submit to the DoD Component a detailed listing of all information in the proposal which the proposer believes to be exempt from disclosure under the Act. Such action and cooperation on the part of the proposer will ensure that any information released by the DoD Component pursuant to the Act is properly determined.

Classified proposals will not be accepted under the DoD SBIR program.

5.7 Copyrights

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

5.8 Patents

Small business firms normally may retain the principal worldwide patent rights to any invention developed with Government support. The Government receives a royalty-free license for its use, reserves the right to require the patent holder to license others in certain limited circumstances, and requires that anyone exclusively licensed to sell the invention in the United States must normally manufacture it domestically. To the extent authorized by 35 USC 205, the Government will not make public any information disclosing a Government-supported invention for a period of five years to allow the awardee to pursue a patent. See also Invention Reporting in section 5.13.

5.9 Technical Data Rights

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

5.10 Research and Analytical Work

- a. For Phase I a minimum of two-thirds of the research and/or analytical work must be performed by the proposing firm unless otherwise approved in writing by the contracting officer.
- b. For Phase II a minimum of one-half of the research and/or analytical work must be performed by the proposing firm, unless otherwise approved in writing by the contracting officer.

The percentage of work is usually measured by both direct and indirect costs, although proposers planning to subcontract a significant fraction of their work should verify how it will be measured with their contracting officer during contract negotiations.

5.11 Contractor Commitments

Upon award of a contract, the contractor will be required to make certain legal commitments through acceptance of Government contract clauses in the Phase I contract. The outline that follows is illustrative of the types of provisions required by

the Federal Acquisition Regulations that will be included in the Phase I contract. This is not a complete list of provisions to be included in Phase I contracts, nor does it contain specific wording of these clauses. Copies of complete general provisions will be made available prior to award.

- a. **Standards of Work.** Work performed under the contract must conform to high professional standards.
- b. **Inspection.** Work performed under the contract is subject to Government inspection and evaluation at all reasonable times.
- c. **Examination of Records.** The Comptroller General (or a fully authorized representative) shall have the right to examine any directly pertinent records of the contractor involving transactions related to this contract.
- d. **Default.** The Government may terminate the contract if the contractor fails to perform the work contracted.
- e. **Termination for Convenience.** The contract may be terminated at any time by the Government if it deems termination to be in its best interest, in which case the contractor will be compensated for work performed and for reasonable termination costs.
- f. **Disputes.** Any dispute concerning the contract which cannot be resolved by agreement shall be decided by the contracting officer with right of appeal.
- g. **Contract Work Hours.** The contractor may not require an employee to work more than eight hours a day or forty hours a week unless the employee is compensated accordingly (that is, receives overtime pay).
- h. **Equal Opportunity.** The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin.
- i. **Affirmative Action for Veterans.** The contractor will not discriminate against any employee or applicant for employment because he or she is a disabled veteran or veteran of the Vietnam era.
- j. **Affirmative Action for Handicapped.** The contractor will not discriminate against any employee or applicant for employment because he or she is physically or mentally handicapped.
- k. **Officials Not to Benefit.** No member of or delegate to Congress shall benefit from the contract.
- l. **Covenant Against Contingent Fees.** No person or agency has been employed to solicit or secure the contract upon an understanding for compensation except bona fide employees or commercial agencies maintained by the contractor for the purpose of securing business.
- m. **Gratuities.** The contract may be terminated by the Government if any gratuities have been offered to any representative of the Government to secure the contract.
- n. **Patent Infringement.** The contractor shall report each notice or claim of patent infringement based on the performance of the contract.
- o. **Military Security Requirements.** The contractor shall safeguard any classified information associated with the contracted work in accordance with applicable regulations.
- p. **American Made Equipment and Products.** When purchasing equipment or a product under the SBIR funding agreement, purchase only American-made items whenever possible.

5.12 Contractor Registration

Before DoD can award a contract to a successful proposer under this solicitation, the proposer must be registered in the DoD Central Contractor Registration (CCR) database and the Online Representations and Certifications Application (ORCA). The CCR allows Federal Government contractors or firms interested in conducting business with the DoD to provide basic information on business capabilities and financial information. To register, visit www.ccr.gov or call 1-888-227-2423. Follow instructions found on the CCR website on how to obtain a Commercial and Government Entry (CAGE) code and Data Universal Numbering System (DUNS) number. Once you have a CAGE code and DUNS number, update your firm profile on the DoD Submission website at www.dodsbir.net/submission to automatically print these on your future proposals to expedite the award process.

ORCA is a web-based system that centralizes, standardizes, and moves the collection and storing of contractor representation and certifications online. To register in ORCA visit <http://orca.bpn.gov/>.

5.13 Invention Reporting

SBIR awardees must report inventions to the awarding agency within 2 months of the inventor's report to the awardee. The reporting of inventions may be accomplished by submitting paper documentation, including fax, or through the Edison Invention Reporting System at www.iedison.gov for those agencies participating in iEdison. See www.dodsbir.net/inventionreporting for more details

5.14 Additional Information

- a. **General.** This Program Solicitation is intended for informational purposes and 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 are controlling.
- b. **Small Business Data.** Before award of an SBIR contract, the Government may request the proposer to submit certain organizational, management, personnel, and financial information to confirm responsibility of the proposer.

- c. **Proposal Preparation Costs.** The Government is not responsible for any monies expended by the proposer before award of any contract.
- d. **Government Obligations.** This Program Solicitation is not an offer by the Government and does not obligate the Government to make any specific number of awards. Also, awards under this program are contingent upon the availability of funds.
- e. **Unsolicited Proposals.** Unsolicited proposals will not be accepted under the SBIR Program in either Phase I or Phase II.
- f. **Duplication of Work.** If an award is made pursuant to a proposal submitted under this Program Solicitation, the contractor will be required to certify that he or she has not previously been, nor is currently being, paid for essentially equivalent work by an agency of the Federal Government.
- g. **Classified Proposals.** Classified proposals are not accepted under the DoD SBIR program.

6.0 SUBMISSION OF PROPOSALS

6.1 Electronic Proposal Submission

Offerors must be registered in the DoD Electronic Submission Web Site at www.dodsbir.net/submission. Each proposal must be prepared and submitted through this website and must contain completed:

- Proposal Cover Sheets,
- Technical Proposal,
- Cost Proposal, and
- Company Commercialization Report.

Classified proposals are not accepted under the DoD SBIR Program.

For complete electronic proposal submission on the DoD Electronic Submission Web Site, first prepare the proposal cover sheets (select "SBIR Phase I Proposal Preparation" from the Main Menu). The site will assign the cover sheets a proposal number, which will be used for tracking throughout the submission process. Prepare the technical proposal in a single PDF file, check it for viruses, and upload it to the Submission Web Site, following instructions on the web site. The cost proposal may be submitted either using the on-line form or as the last page(s) of your technical proposal file (unless otherwise specified in the Component's instructions, see Section 8.0). Prepare the Company Commercialization Report (select "Company Commercialization Report" from the Main Menu).

Technical proposals should be a single file, including all graphics and attachments, should have the company name and proposal number (from the cover sheets) in the header, and should be in Portable Document Format (PDF). Offerors are responsible for performing a virus check on each technical proposal prior to uploading. Every uploaded file will be scanned for viruses. If a virus is detected, the file will be deleted and may cause rejection of the proposal.

Once uploaded, the technical proposal file may be viewed or down loaded from the Web Site by clicking on the Check Upload button. Offerors are responsible for verifying the technical proposal was received and converted properly. Technical proposals may be uploaded as often as necessary, each time overwriting the file previously submitted. Once a file is overwritten, the previous version is NOT retrievable. Offerors electing to modify their proposals in any way must allow enough time to upload a complete updated proposal. Failure to provide a complete modification by the solicitation closing will render the offeror's proposal as "late" regardless of whether the offeror had previously submitted a complete proposal.

Signatures are not required on the cover sheets, cost proposal, and Company Commercialization Report at the time of submission for electronic submission. If the proposal is selected for award, the DoD Component program will contact you for signatures. Firms are encouraged, but not required, to have a CAGE code and DUNS number at the time of proposal submission; however, firms must obtain these before DoD can award a contract to the firm (see section 5.12).

All completed proposals (i.e., those with complete cover sheets, technical proposal, cost proposal, and Company Commercialization Report) not marked for deletion by the solicitation close deadline are submitted and will be evaluated. There is no "submit" button on the Submission Site for Phase I proposals.

6.2 Deadline of Proposals

Proposals are accepted from December 6, 2006 to January 10, 2007. Deadline for electronic receipt of proposals is 6:00 AM EST, January 10, 2007. Complete proposals must be completely submitted to the DoD Submission website by the specified closing time. Complete submission means that the entire proposal (including the following four (4) parts: coversheets, technical proposal, cost proposal, and Company Commercialization Report) has been properly completed and fully transmitted to the DoD Submission website. The solicitation deadline is firm. As the close date draws near, heavy traffic on the web server may cause delays. Plan ahead and leave ample time to prepare and submit your proposal. Offerors bear the risk of website inaccessibility due to heavy usage in the final hours before the solicitation closing time.

In accordance with FAR 52.215-1, offerors are responsible for submitting proposals, and any modification, or revisions, so as to reach the Government office designated in the solicitation by the time specified in the solicitation. Any proposal, modification, or revision received at the Government office designated in the solicitation after the exact time specified for receipt of offers is "late" and will not be considered unless it is received before award is made, the Contracting Officer determines that accepting the late offer would not unduly delay the acquisition; and --

- (1) If it was transmitted through an electronic commerce method authorized by the solicitation, it was received at the initial point of entry to the Government infrastructure not later than 5:00 p.m. one working day prior to the date specified for receipt of proposals; or
- (2) There is acceptable evidence to establish that it was received at the Government installation designated for receipt of offers and was under the Government's control prior to the time set for receipt of offers; or
- (3) It is the only proposal received.

Acceptable evidence to establish the time of receipt at the Government installation includes documentary evidence of receipt maintained by the installation, or oral testimony or statements of Government personnel.

Offerors are responsible for checking their proposal submission through the DoD Electronic Submission Web Site (click on the Check Proposal icon to the right of the proposal number) to confirm that the proposal package is complete and readable.

Proposals may be withdrawn by written notice received at any time prior to award. Proposals may also be withdrawn in person by an offeror or his authorized representative, provided his identity is made known and he signs a receipt for the proposal. Any modification or revision may not make the proposal longer than 25 pages (excluding the cost proposal and Company Commercialization Report). Notwithstanding the above, a late modification of an otherwise successful proposal which makes its terms more favorable to the Government will be considered at any time it is received and may be accepted.

6.3 Notification of Proposal Receipt

Components generally provide notification of proposal receipt via email.

6.4 Information on Proposal Status

Evaluation of proposals and award of contracts will be expedited, but no information on proposal status will be available until the final selection is made. However, contracting officers may contact any and all qualified proposers prior to contract award. Proposers will be notified by the Component to which they submitted their proposal whether their proposal has or has not been selected for award. Selections are posted on the DoD SBIR/STTR Web Site and Resource Center Web Site approximately six months after the solicitation close date.

6.5 Debriefing of Unsuccessful Offerors

An unsuccessful offeror that submits a written request for a debriefing within 30 days of being notified that its proposal was not selected for award will be provided a debriefing. The written request should be sent to the DoD organization that provided such notification to the offeror. Be advised that an offeror that fails to submit a timely request is not entitled to a debriefing, although untimely debriefing requests may be accommodated at the Government's discretion.

6.6 Correspondence Relating to Proposals

All correspondence relating to proposals should cite the SBIR solicitation number, proposal number, and specific topic number and should be addressed to the DoD Component whose address is associated with the specific topic number.

7.0 SCIENTIFIC AND TECHNICAL INFORMATION ASSISTANCE

7.1 DoD Technical Information Services Available

The Defense Technical Information Center (DTIC) provides background technical information services, which can assist SBIR/STTR participants in proposal preparation, product development, marketing and networking.

The DTIC SBIR/STTR web site provides the following free services at <http://www.dtic.mil/dtic/sbir>:

1. **STINET and Private STINET:** Access DTIC's online technical databases including full-text of documents added since 1998, which are downloadable at no cost.
2. **Technical Reports:** Hard copy technical reports may be purchased using a major credit card. Documents identified online full-text in the databases are downloadable at no cost.
3. **TRAIL:** A free alerting service provides biweekly email listings of new DTIC accessions matching the recipient's specific interests and has links to full-text documents.

DTIC is a major component of the DoD Scientific and Technical Information Program, making available technical information resulting from DoD-funded research and development (<http://www.dtic.mil>). DTIC also provides access to specialized information services. MATRIS is the focal point for information on manpower, training systems, human performance, and human factors (<http://dtica.dtic.mil/>). The Information Analysis Centers (IACs) are the DoD centers of expertise concerned with engineering, technical and scientific documents and databases worldwide (<http://iac.dtic.mil>).

Call DTIC (or visit by prearrangement at the location most convenient to you).

Defense Technical Information Center
Ft. Belvoir, VA
Ph: (800) 363-7247
Fax: (703) 767-8228
Email: sbir@dtic.mil
www: <http://www.dtic.mil/dtic/sbir>

DTIC Northeastern Regional Office
Bedford, MA
Ph: (781) 377-2413
Fax: (781) 377-5627
Email: boston@dtic.mil

DTIC Southwestern Regional Office
Albuquerque, NM
Ph: (505) 846-6797
Fax: (505) 846-6799
Email: albuq@dtic.mil

DTIC Midwestern Regional Office
Dayton, OH
Ph: (937) 255-7905
Fax: (937) 656-7002
Email: dayton@dtic.mil

DTIC Western Regional Office
Los Angeles, CA
Ph: (310) 363-8980
Fax: (310) 363-8972
Email: losangel@dtic.mil

Many of the topic descriptions in the solicitation contain references to technical literature or military standards, which may be accessed as follows:

- References with "AD" numbers may be purchased in hard copy from DTIC after you identify them in the online technical database, STINET <http://stinet.dtic.mil>. Newer reports often are available in STINET for free download. You must be a registered user to order hard copy documents. For assistance in utilizing DTIC call (800) DoD-SBIR or email sbir@dtic.mil.

- References with "MIL-STD" numbers are available from the Department of Defense Single Stock Part for Military Specifications, Standards, and Related Publications at <http://dodssp.daps.dla.mil> (or using the DTIC STINET interface at <http://stinet.dtic.mil/>.)
- Other references can be found in your local library or at locations mentioned in the reference. Check SITIS at www.dodsbir.net/sitis for additional availability information.

7.2 State and Other Assistance Available

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

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

Contact your State SBIR Support office at www.ed.gov/offices/OERI/SBIR/statelink.html for further information.

Small Businesses may seek general administrative guidance from small and disadvantaged business utilization specialists located in various [Defense Contract Management](#) activities throughout the continental United States.

8.0 TECHNICAL TOPICS

Section 8 contains detailed topic descriptions outlining the technical areas in which DoD Components request proposals for innovative R&D from small businesses. Topics for each participating DoD Component are listed and numbered separately.

It is a DoD goal to have at least 50 percent of the Military Services topics authored by a DoD acquisition program (e.g., New Attack Submarine, Abrams Tank) or of significant interest to such a program, as noted in the text of the topic. These acquisition programs are potentially important end customers for innovative new products resulting from SBIR projects. Information on how to contact these programs is posted on the DoD SBIR/STTR Web Site and Resource Center (www.dodsbir.net/liasons.htm).

Each DoD Component Topic Section contains topic descriptions, addresses of organizations to which proposals are to be submitted, and special instructions for preparing and submitting proposals to organizations within the Component. Read and follow these instructions carefully to help avoid administrative rejection of your proposal.

| <u>Component Topic Sections</u> | <u>Pages</u> |
|--------------------------------------|--------------|
| Department of the Air Force | AF 1-249 |
| Department of the Navy | Navy 1-146 |
| Office of Secretary of Defense..... | OSD 1-18 |
| Chemical Biological Defense..... | CBD 1-24 |
| Defense Threat Reduction Agency..... | DTRA 1-15 |
| Special Operations Command..... | SOCOM 1-13 |