



United States
Department of
Agriculture

National Institute of
Food and Agriculture

Competitive Programs

SBIR-13-2

Program Solicitation

**Small Business Innovation
Research Program – Phase II
Fiscal Year 2014**

Phase II Closing Date: February 27, 2014

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Catalog of Federal Domestic Assistance Number (CFDA)

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Acronym List

ADO – Authorized Departmental Officer
APHIS – Animal and Plant Health Inspection Service
AR – Authorized Representative
ASAP – Automated Standard Applications for Payment System

CCR – Central Contractor Registry
CFDA – Catalog of Federal Domestic Assistance
CFR – Code of Federal Regulations
COI – Conflict of Interest
CRADA – Cooperative Research and Development Agreement

DUNS – Data Universal Number System

E-Business POC - E-Business Point of Contact

F&A – Facilities and Administration
FR – Federal Regulation
FY – Fiscal Year

HUBZONE – Historically Underutilized Business Zone

M-PIN – Marketing Partner Identification Number

NIFA – National Institute for Food and Agriculture
NPL – National Program Leader

PD – Project Director
PDF – Portable Document Format
PI – Principle Investigator
POC – Point of Contact
PRS – Peer Review System

REERPort- Research, Education, and Extension project online reporting tool
R/R&D – Research or Research and Development
R&D – Research and Development
R&R – Research and Related

SBA – Small Business Administration
SBC – Small Business Concern
SBIR – Small Business Innovation Research
SAM – System for Awards Management
STTR – Small Business Technology Transfer Program

U.S. – United States
USDA – United States Department of Agriculture

1.0 GENERAL PROGRAM DESCRIPTION

1.1 Introduction

The U.S. Department of Agriculture (USDA) invites previous Phase I awardees to apply for Phase II funding under this program solicitation. Phase II awards are only provided to those Phase I awardees that meet the eligibility requirements of a Phase II project. To be eligible for a Phase II award, an applicant must have been funded by the USDA SBIR program as a Phase I project and have not previously applied for Phase II funding under this program. See section 1.4 of this solicitation for other eligibility requirements.

Objectives of the SBIR program include stimulating technological innovation in the private sector, strengthening the role of small businesses in meeting Federal research and development needs, increasing private sector commercialization of innovations derived from USDA-supported research and development efforts and fostering and encouraging participation by women-owned and socially and economically disadvantaged small business firms in technological innovation.

On December 31, 2011, the President signed into law the National Defense Authorization Act for Fiscal Year 2012 (Defense Reauthorization Act), Public Law 112-81, 125-Stat. 1298, Section 5001, Division E of the Defense Authorization Act contains the SBIR/STTR Reauthorization Act of 2011 (Reauthorization Act), which amends the Small Business Act and extends the SBIR program through 2017. This program is administered by the National Institute of Food and Agriculture (NIFA) of the USDA.

In accordance with the changes in section 2.0 of this RFA, it has been modified to be consistent with the Reauthorization Act of 2011 (i.e. commercialization, covered small business concern, and small business concern).

This program is subject to the provisions found at 7 CFR Part 3403. These provisions set forth procedures to be followed when submitting grant applications, rules governing the evaluation of applications and the awarding of grants and regulations relating to the post-award administration of grant projects. Beginning in FY 2014, NIFA will begin the process to modify 7 CFR Part 3403 to, at a minimum, be consistent with the applicable definitions included in the Reauthorization Act of 2011.

NIFA is currently operating under temporary appropriations as part of the Continuing Resolution (CR) providing funds through January 15, 2014. Based on the current CR, NIFA anticipates the amount available for support of this program in FY 2014 will be approximately 12 million. Adjustments will be made to program allocations once the FY 2014 appropriations are finalized.

1.2 Three-phase Program

The USDA SBIR program is carried out in three separate phases. Phase I is to determine the scientific or technical feasibility of ideas submitted by applicants on research topic areas solicited by this program.

Phase II applications require a more comprehensive application, outlining the proposed effort in detail. Phase II awards may not request more than \$450,000 (see section 3.3.5 of this solicitation for details on budget requirements) for a period normally not to exceed 24 months. **Only those small businesses previously receiving Phase I awards that have not previously applied for a Phase II are eligible to submit Phase II proposals in FY 2014. Please note that for each Phase I project funded, the awardee may apply for a Phase II award only once.** At the appropriate time, the SBIR Program will

send a letter to 2011, 2012 and 2013 Phase I awardees eligible to submit Phase II applications with instructions for preparing these applications and a deadline date for submitting applications. Phase I awardees that were funded before 2011 and have not submitted for a Phase II will need to contact the SBIR staff on how to apply (sbir@nifa.usda.gov). **This program solicitation is only for the preparation and submission of Phase II applications.** USDA recognizes that Phase II awards may not be sufficient in either dollars or time for the firm to complete the total R/R&D required to bring the project results to commercialization in the market place. Therefore, completion of the research under these circumstances may have to be carried into Phase III.

The purpose of Phase III is to stimulate technological innovation and the national return on investment from research through the pursuit of commercialization objectives resulting from the USDA-supported work carried out in Phases I and II. Federal SBIR funds may not be used to support Phase III projects. However, firms are strongly encouraged to secure Phase III funding from their own resources or from other public and private sources. Additionally, Phase III is to be conducted by the small business firm, including joint ventures and limited partnerships.

This SBIR program funding opportunity for FY 2014 Phase II applications has a closing date of February 27, 2014.

1.3 Potential Commercial Outcome

In addition to supporting scientific research and development, the program's primary goal is to provide incentive and opportunity for small business firms to convert USDA-sponsored research to technological innovation in the private sector. All proposed research should have some potential commercial outcome. Phase II applicants are encouraged to obtain a contingent commitment for non-SBIR follow-on funding to pursue further development of the commercial potential during Phase III. **Obtaining follow-on financial commitment(s) is the responsibility of the applicant.** For Phase II applicants to receive consideration of follow-on funding during the review and evaluation process, a signed contingent commitment between the small business firm and the entity providing the follow-on financial support should be submitted with the Phase II application. While such commitment agreements are optional when submitting Phase II proposals, they will receive special consideration as a point of merit in the review and evaluation process where proposals are evaluated as being of approximately equal technical merit. **The maximum value (in Phase II evaluation) will be given for a signed formal agreement with reasonable terms and funding equal to or in excess of the Federal investment requested in the Phase II proposal.** The agreement should set forth the specific amount of Phase III funds and should indicate the dates that such funds will be made available to the small business concern. Also, the agreement should contain a few specific technical objectives which, if achieved in Phase II, will make the commitment usable by the small business firm. The terms cannot be contingent upon the obtaining of a patent due to the length of time this process requires.

The commitment may be in the form of venture capital or a package including venture capital, contract research and development, a joint venture, a research and development limited partnership, or other agreement with a non-SBIR source of funding. No amortization, repayment, or repurchase of commitment funds may be included during the Phase II period of performance.

USDA understands that any such commitment will likely be contingent upon the Phase II awardee attaining technical objectives that are mutually agreed upon between the small business firm and the provider of the follow-on funding. These objectives should be closely related to those delineated in the Phase II research proposal. The technical objectives should be clearly defined and measurable and should be specified in the commitment agreement at the threshold level that would justify such an investment.

The objectives do not have to be identical to those stated in the Phase II proposal, but they must be able to be accomplished within the scope of the proposed SBIR-funded research. Any letters or other forms of tentative commitment for follow-on Phase III funding from sources other than Federal SBIR Programs will be considered.

1.4 Eligibility

Only previous Phase I winners who have not previously applied for Phase II support are eligible to apply for Phase II support through this FY 2014 solicitation. A Phase I project may apply for Phase II funding one time only. Therefore, if a Phase I awardee has previously applied for Phase II funding and was not successful; the awardee is not allowed to resubmit the same project under this program solicitation. Proposals for Phase II normally may only be submitted to the Federal agency from which the Phase I award was received.

Each applicant submitting an application must qualify as a small business concern for R/R&D purposes at the time of award, see definitions in section 2.0. A potential grantee that is a subsidiary must show that the parent company is also a small business entity and the parent company must provide documentation supporting their small business status (the documentation should be included in Field 12 “Other Attachments” of the Research and Related (R&R) Other Project Information form). If the parent company is not a small business entity, then the subsidiary is not eligible to submit an SBIR application. In addition, the primary employment of the Project Director (PD) must be with the small business concern at the time of award and during the conduct of the proposed research, unless otherwise approved in writing by NIFA. Primary employment means that more than one-half of the PD’s time is spent in the employ of the small business concern. Primary employment with the small business precludes the applicant as a full-time employee with another organization. Any deviations from this requirement must be approved in writing by the USDA Authorized Departmental Officer (ADO) after consultation with the appropriate National Program Leader (NPL). While the PD must work more than one-half of his/her time for the small business during the entire grant period, there is no minimal time requirement for what percentage of the PD’s time is spent working on the proposed research.

(B) Size.

An SBIR awardee, together with its affiliates, must not have more than 500 employees. The small business concern must be the primary performer of the proposed research effort. In Phase I, a minimum of two-thirds of the research or analytical work, as determined by budget expenditures, must be performed by the proposing organization. Occasionally, deviations from this requirement may occur, and must be approved in writing by the ADO after consultation with the USDA SBIR NPL.

1.5 Agency Contacts

Applicants and other interested parties are encouraged to contact the SBIR NPL indicated for more information about each topic area listed below.

Dr. Kitty Cardwell (kcardwell@nifa.usda.gov)

Telephone: (202) 401-1790

Fax: (202) 401-6070

8.13 Plant Production and Protection – Engineering

Dr. Charles Cleland (ccleland@nifa.usda.gov)

Telephone: (202) 401- 6852

Fax: (202) 401- 6070

8.1 Forests and Related Resources

8.7 Aquaculture

8.12 Small and Mid-Size Farms

Dr. Denis Ebodaghe (debodaghe@nifa.usda.gov)

Telephone: (202) 401-4385

Fax: (202) 401-6070

8.12 Small and Mid-Size Farms

Dr. Brent Elrod (belrod@nifa.usda.gov)

Telephone: (202) 690-3468

Fax: (202) 401-6070

8.6 Rural Development

Dr. William Goldner (wgoldner@nifa.usda.gov)

Telephone: (202) 401- 1719

Fax: (202) 401- 6070

8.8 Biofuels and Biobased Products

8.13 Plant Production and Protection – Engineering

Dr. Shing Kwok (skwok@nifa.usda.gov)

Telephone: (202) 401 - 6060

Fax: (202) 401- 6070

8.2 Plant Production and Protection- Biology

Ms. Mary Ann Rozum (mrozum@nifa.usda.gov)

Telephone: (202) 401 - 4533

Fax: (202) 401- 6070

8.4 Air, Water, and Soil

Dr. Robert Smith (rsmith@nifa.usda.gov)

Telephone: (202) 401 - 4892

Fax: (202) 401 - 6070

8.3 Animal Production and Protection

Dr. Jodi Williams (jwilliams@nifa.usda.gov)

Telephone: (202) 720-6145

Fax: (202) 401-6070

8.5 Food Science and Nutrition

Questions of a general nature about this SBIR solicitation should be sent to sbir@nifa.usda.gov or can be directed to:

Mr. Elden Hawkes (sbir@nifa.usda.gov)

Telephone: (202) 401-6516

Fax: (202)401-6070

Program Specialist

1.6 Stakeholder Input

The National Institute of Food and Agriculture (NIFA) seeks your comments about this RFA. We will consider the comments when we develop the next RFA for the program, if applicable, and we'll use them to meet the requirements of section 103(c)(2) of the Agricultural Research, Extension, and Education Reform Act of 1998 (7 U.S.C. 7613(c)(2)). Submit written stakeholder comments by the deadline set forth in the DATES portion of this Notice to: Policy and Oversight Division; Office of Grants and Financial Management; National Institute of Food and Agriculture; USDA; STOP 2299; 1400 Independence Avenue, SW; Washington, DC 20250-2299; or via e-mail to: Policy@nifa.usda.gov. (This e-mail address is intended only for receiving comments regarding this RFA and not requesting information or forms.) In your comments, please state that you are responding to the Small Business Innovation Research Phase II solicitation.

2.0 DEFINITIONS

The following definitions apply for purposes of this solicitation:

2.1 Ad hoc Reviewers

Experts or consultants, qualified by training and experience in particular scientific or technical fields to render expert advice on the scientific technical merit of the grant applications in those fields, who review on an individual basis one or several of the eligible proposals submitted to this program in their area of expertise and who submit to the Department written evaluations of such proposals.

2.2 Affiliate

This term has the same meaning as set forth in 13 CFR part 121—Small Business Size Regulations, section 121.103, What is affiliation? (available at <http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr;sid=03878acee7c064a02cac0d870e00ef43;rgn=div6;view=text;node=13%3A1.0.1.1.17.1;idno=13;cc=ecfr>). Further information about SBA's affiliation rules and a guide on affiliation is available at www.SBIR.gov and www.SBA.gov/size.

2.3 Applicant

The organizational entity that, at the time of award, will qualify as a small business concern and that submits a grant application for a funding agreement under the SBIR Program.

2.4 Authorized Departmental Officer

The Secretary or any employee of the Department who has the authority to issue or modify grant instruments on behalf of the Secretary.

2.5 Authorized Organizational Representative

The president, director, chief executive officer or other designated official of the applicant organization who has the authority to commit the resources of the organization. Also referred to as the Authorized Representative (AR).

2.6 Budget Period

Interval of time into which the project period is divided for budgetary and reporting purposes.

2.7 Commercialization

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

2.8 Covered Small Business Concern

A small business that:

(1) Was not majority-owned by multiple venture capital operating companies (VCOCs), hedge funds, or private equity firms on the date on which it submitted an application in response to a solicitation under the SBIR program; and

(2) Is majority-owned by multiple venture capital operating companies, hedge funds, or private equity firms on the date of the SBIR award.

2.9 Department

The United States Department of Agriculture.

2.10 Direct Costs

Costs that occur in direct support of a single project or that can be clearly identified, segregated and billed directly to the project via the companies' accounting system.

2.11 Essentially Equivalent Work

Occurs when (1) substantially the same research is proposed for funding in more than one 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 applications or awards, regardless of the funding source.

2.12 Fee

The amount of profit a company will receive from the grant.

2.13 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, including products or services funded in whole or in part by the Federal Government.

2.14 Grant

A financial assistance mechanism providing money, property or both to an eligible entity to carry out the approved project or activity, and substantial programmatic involvement by Government is not anticipated.

2.15 Grantee

The small business concern designated in the grant award document as the responsible legal entity to whom the grant is awarded under this part. Also referred to as an "awardee."

2.16 Historically Underutilized Business Zone (HUBZone)

A small business concern meeting the following criteria:

- (A) Located in a “historically underutilized business zone” or HUBZone area located in one or more of the following:
 - (1) **A qualified census tract** (as defined in section 42(d)(5)(C)(i)(1) of the Internal Revenue Code of 1986); or
 - (2) **A qualified “non-metropolitan county”** (as defined in section 143(k)(2)(B) of the Internal Revenue Code of 1986); or
 - (3) **On an Indian Reservation-** Land within the boundaries of a federally recognized Indian Reservation.
- (B) Owned and controlled by one or more U.S. Citizens; and
- (C) At least 35 percent of its employees **must** reside in a HUBZone.

2.17 Indirect Costs

Costs which occur in support of more than one objective and therefore cannot be identified readily and specifically with a particular project, often called overhead or General & Administrative (G&A).

2.18 Innovation

A new or improved item having marketable potential including (1) development of new technologies; (2) refinement of existing technologies; or (3) development of new applications for existing technologies.

2.19 Intellectual Property

The separate and distinct types of intangible property that are referred to collectively as “intellectual property,” including but not limited to: patents, trademarks, copyrights, trade secrets, SBIR technical data (as defined in this section), ideas, designs, know-how, business, technical and research methods, other types of intangible business assets, and all types of intangible assets either proposed or generated by a small business concern as a result of its participation in the SBIR program.

2.20 Joint Venture

An association of concerns with interests in any degree or proportion by way of contract, express or implied, consorting to engage in and carry out a single specific business venture for joint profit, for which purpose they combine their efforts, property, money, skill or knowledge, but not on a continuing or permanent basis for conducting business generally. A joint venture is viewed as a business entity in determining power to control its management.

2.21 Manufacturing Related

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

(A) Unit process level technologies that create or improve manufacturing processes, including:

1. Fundamental improvements in existing manufacturing processes that deliver substantial productivity, quality, or environmental benefits; or
2. Development of new manufacturing processes, including new materials, coatings, methods, and associated practices.

(B) Machine level technologies that create or improve manufacturing equipment, including:

1. 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, such as safety, energy efficiency and, environmental impact; or
2. New apparatus and equipment for manufacturing, including additive and subtractive manufacturing, deformation and molding, assembly and test, semiconductor fabrication, and nanotechnology.

(C) Systems level technologies for innovation in the manufacturing enterprise, including:

1. Advances in controls, sensors, networks, and other information technologies that improve the quality and productivity of manufacturing cells, lines, systems, and facilities;
2. Innovation in extended enterprise functions critical to manufacturing, such as quality systems, resource management, supply change integration and distribution, scheduling, and tracking; or
3. 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.

(D) Environment or societal level technologies that improve workforce abilities, productivity, and manufacturing competitiveness, including:

1. Technologies for improved workforce health and safety, such as human factors and ergonomics; or
2. Technologies that aid and improve workforce manufacturing skill and technical excellence, such as educational systems incorporating improved manufacturing knowledge and instructional methods.

2.22 NIFA

The National Institute of Food and Agriculture.

2.23 Outcomes

The measure of long-term, eventual, program impact.

2.24 Outputs

The measures of near-term program impact.

2.25 Peer Review Group

Experts or consultants, qualified by training and experience in particular scientific or technical fields to give expert advice on the scientific and technical merit of grant applications to those fields, who assemble as a group to discuss and evaluate all of the eligible applications submitted to this program in their area of expertise.

2.26 Program Solicitation

A formal request for applications whereby a Federal agency notifies the small business community of its Research or Research and Development (R/R&D) needs and interests in broad and selected areas, as appropriate to the agency, and requests applications from small business concerns in response to these needs and interests.

2.27 Project Director / Principal Investigator (PD/PI)

An individual designated by the applicant to provide the scientific and technical direction to a project supported by the funding agreement.

2.28 Prototype

A model of something to be further developed, which includes designs, protocols, questionnaires, software, and devices.

2.29 Project Period

The total length of time approved by the Department for conducting the research project as outlined in an approved grant award. Also referred to as the period of performance.

2.30 Research or Research and Development (R/R&D)

R/R&D means any activity which is:

- (1) A systematic, intensive study directed toward greater knowledge or understanding of the subject studied;
- (2) A systematic study directed at applying new knowledge to meet a recognized need; or
- (3) A systematic application of knowledge toward the production of useful materials, devices and systems or methods, including design, development and improvement of prototypes, and new processes to meet specific requirements.

2.31 Research Project Grant

The award by the Department of funds to a grantee to assist in meeting the costs of conducting for the benefit of the public an identified project, which is intended and designed to establish, discover, elucidate, or confirm information or the underlying mechanisms relating to a research topic area identified in the annual solicitation of applications.

2.32 SBIR Participants

Business concerns that have received SBIR awards or that have submitted SBIR applications.

2.33 SBIR Technical Data

All data generated during the performance of an SBIR award.

2.34 SBIR Technical Data Rights

The rights a small business concern obtains in data generated during the performance of any SBIR award that an awardee delivers to the Government during or upon completion of a Federally-funded project and to which the government receives a license.

2.35 Small Business Concern (SBC)

A concern that meets the requirements set forth in 13 CFR 121.702 (available at <http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr;sid=03878acee7c064a02cac0d870e00ef43;rgn=div8;view=text;node=13%3A1.0.1.1.17.1.273.45;idno=13;cc=ecfr>).

2.36 Small and Mid-Size Farms

Small Farms are defined as farms or ranches with less than \$250,000 in annual agricultural sales. Mid-Size Farms are defined as farms or ranches with less than \$500,000 in annual agricultural sales.

2.37 Socially and Economically Disadvantaged Small Business Concern

A socially and economically disadvantaged small business concern is one:

- (1) Which is at least 51 percent owned by (i) an Indian tribe or a native Hawaiian organization or (ii) one or more socially and economically disadvantaged individuals; and
- (2) Whose management and daily business operations are controlled by one or more socially and economically disadvantaged individuals.

For purposes of this solicitation, a socially and economically disadvantaged individual is defined as a member of any of the following groups: Black Americans, Hispanic Americans, Native Americans, Asian-Pacific Americans, Subcontinent Asian Americans, other groups designated from time to time by the Small Business Administration (SBA) to be socially disadvantaged, or any other individual found to be socially and economically disadvantaged by the SBA pursuant to Section 8(a) of the Small Business Act, 15 U.S.C. 637(a).

Note: The certification of socially and economically disadvantaged small business is for statistical purposes only.

2.38 Subcontract

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.

2.39 United States

The 50 states, the territories and possessions of the Federal Government; the Commonwealth of Puerto Rico; the District of Columbia; the Republic of the Marshall Islands; the Federated States of Micronesia; and the Republic of Palau.

2.40 Women-owned Small Business Concern

A women-owned small business concern is a SBC:

- (1) Which is at least 51 percent owned by one or more women; and
- (2) Whose management and daily business operations are controlled by one or more women.

Note: Certification of women-owned small business is for statistical purposes only.

3.0 APPLICATION PREPARATION INSTRUCTIONS AND REQUIREMENTS

3.1 Application Requirements

Applications must address only scientific research activities. **A small business must not propose technical assistance, demonstration projects, classified research, or patent applications.** Many of the research projects supported by the SBIR program lead to the development of new products based upon the research results obtained during the project. However, projects that seek funding solely for product development where no research is involved (i.e. the funds are needed to permit the development of a product based on previously completed research) will not be accepted. Research may be carried out through the construction and evaluation of a laboratory prototype, where necessary.

Literature surveys should be completed prior to the Phase II application and should not be proposed as part of the R&D effort. Applications that deal principally with developing proven concepts for commercial markets or scaling up previously developed prototypes for commercial production should not be submitted. Such efforts are considered the responsibility of the private sector and therefore are not supported by USDA. An application must be limited to only one research problem.

Phase II Applicants must respond to a topic area listed under section 8.0 that corresponds to the Phase I work that was previously funded.

The purpose of a research application is to provide a written statement that contains sufficient information to persuade members of the research community who review the application and then advise the USDA SBIR professional staff that the proposed research is a sound approach to an important scientific question and is worthy of support under the stated USDA evaluation criteria (see section 4.0). The application should be self-contained and written with the care and thoroughness accorded papers for publication. Each application should be reviewed carefully by the applicant prior to submission and by others knowledgeable on the subject to ensure inclusion of data essential for comprehensive evaluation.

3.2 USDA SBIR Application Submission Overview

For all FY 2014 applications, the USDA SBIR program will require electronic application submission through Grants.gov (www.grants.gov). Submission through Grants.gov requires the use of forms located at the Grants.gov Website. Applications not submitted electronically are not eligible to be considered for a Phase I SBIR award and will not be reviewed.

Please note that NIFA has developed both this Program Solicitation and a NIFA document titled “A Guide for Preparation and Submission of NIFA Applications via Grants.gov,” also known as the “NIFA Grants.gov Application Guide,” to assist in completing the application forms. Both documents are needed to complete the application process. Section 3.0 of this program solicitation provides additional information that is specific to the USDA SBIR program. Applicants are advised to refer to this program solicitation to determine if specific information is required during the submission of the forms on Grants.gov.

Steps to Obtain Application Package Materials

To receive application materials:

1. You must download and install a version of Adobe Reader compatible with Grants.gov to access, complete, and submit applications. For basic system requirements and download

instructions, see <http://www.grants.gov/web/grants/support/technical-support/software/adobe-reader-compatibility.html>. Grants.gov has a test package that will help you determination whether your current version of Adobe Reader is compatible.

2. To obtain the application package from Grants.gov, go to <http://www.grants.gov/web/grants/applicants/apply-for-grants.html>. Under Step 1 click on “Download a Grant Application Package,” and enter the funding opportunity number **USDA-NIFA-SBIR-004418** in the appropriate box and click “Download Package.” From the search results, click “Download” to access the application package.

Contained within the application package is the “NIFA Grants.gov Application Guide.” This guide contains an introduction and general Grants.gov instructions, information about how to use a Grant Application Package in Grants.gov, and instructions on how to complete the application forms.

3.2.1 Resources

If you require assistance to access the application package (e.g., downloading or navigating Adobe forms) **or submitting the application**, refer to resources available on the Grants.gov website (<http://www.grants.gov/web/grants/applicants/applicant-resources.html>). Grants.gov assistance is also available at:

Grants.gov customer support
800-518-4726 Toll-Free or 606-545-5035
Business Hours: 24 hours a day, 7 days a week. Closed on [federal holidays](#).
Email: support@grants.gov

Grants.gov iPortal: Top 10 requested help topics (FAQs), Searchable knowledge base, self-service ticketing and ticket status, and live web chat (available 7 am - 9 p.m. ET).
Get help now!

Have the following information available when contacting Grants.gov:

- Funding Opportunity Number (FON)
- Name of agency you are applying to
- Specific area of concern

See <http://www.nifa.usda.gov/funding/electronic.html> for additional resources for applying electronically.

Any program-specific questions concerning the USDA SBIR program, such as the appropriateness of your proposed research or work plan, should be directed to the NPL responsible for the topic area where you wish to submit your application, see section 8.0. For general questions you can also contact the USDA SBIR office at sbir@nifa.usda.gov or 202-401-4002.

3.2.2 Registration Procedures for Companies

Information related to the steps necessary to submit an application through Grants.gov can be found at http://www.grants.gov/applicants/organization_registration.jsp.

The registration procedure for companies or individual proprietorships intending to submit a grant application through Grants.gov requires several steps and must be finished prior to submitting an application. **The registration process can take up to two weeks to complete so it is critical that**

companies begin this process as soon as possible. Companies that have previously registered with Grants.gov must contact Grants.gov to ensure that the company’s registration is updated and complete prior to submission. Grants.gov enforces all companies to update their registration on an annual basis. Grants.gov requires all companies to update their registration on an annual basis.

All companies that are submitting an application to any SBIR solicitation are required to register with the SBIR company registry. Information related to the steps necessary to register with the SBIR company registry through SBA.gov can be found at <http://www.sbir.gov/registration>.

3.2.3 Special Considerations

Throughout the program solicitation, the following is specified, “Attachment Format – (PDF Format is Required).” Applicants should refer to Part III, 3.1 of the NIFA Grants.gov Application Guide for attachment requirements. It is the responsibility of the applicant to correctly submit the attachments in the correct format. Grants.gov will not check the application for adherence to this requirement at the time of submission.

THE USDA SBIR PROGRAM WILL ONLY ACCEPT ATTACHMENTS IN PDF.

Grants.gov provides online tools to assist if you do not own PDF-generating software. You will find PDF conversion software at <http://test.grants.gov/web/grants/support/technical-support/software/pdf-conversion-software.html>.

PDF documents submitted as a part of the application must also adhere to the following guidelines:

- margins not less than 1 inch; 2.5 cm on all sides;
- type no smaller than 12 point font size regardless of whether it is single or double spaced;
- Font type should be Times New Roman, Geneva, Helvetica, Arial;
- Tables and graphics may be included; text for captions, headings and graphic explanations must not be smaller than 9 point and must be the same font type as the rest of the application; and
- All documents must be submitted without file protection.

ANY PROPOSALS CONTAINING NON-PDF DOCUMENTS WILL BE AT RISK OF BEING EXCLUDED FROM NIFA REVIEW. Incomplete applications will also be excluded from NIFA review.

Page Limitations

Applications submitted electronically via Grants.gov consist of forms and PDF attachments. **Page limitations for certain attachments must be followed, see section 3.3. APPLICATIONS THAT DO NOT FOLLOW THE PAGE LIMITS OUTLINED IN SECTION 3.3 ARE NOT ELIGIBLE TO BE CONSIDERED FOR A PHASE II SBIR AWARD AND WILL BE EXCLUDED FROM NIFA REVIEW.**

Changes, Additions or Corrections

Modifications to the application will not be accepted after the closing date of this program solicitation. Under some circumstances, changes, additions, or corrections may be necessary to an application submitted to the USDA SBIR program via Grants.gov **before the specified program solicitation closing date.** Modifications to applications will require a resubmission of the entire application package and the applicant must notify the program at sbir@nifa.usda.gov of the resubmission.

Submitting changes to Grants.gov without contacting the program could significantly delay your application submission and may result in the application not being reviewed.

3.3 Application Guidelines

Those who wish to submit an application to the USDA SBIR program should submit the following components and associated attachments via Grants.gov.

If there is a discrepancy between the program solicitation and the NIFA Grants.gov Application Guide, the information contained in this program solicitation is overriding.

Below are instructions for completing each field within each of the forms required in the application package. Page limitations indicated in bold are appropriate for a given section/attachment.

3.3.1 SF-424 R&R Cover Sheet

Information related to the questions on this form is dealt with in detail in Part V, 2 of the NIFA Grants.gov Application Guide unless otherwise noted below.

Field 4. Make sure to include the application number of the previous submission at the top of this section.

Field 5. Please note: the USDA SBIR program’s official correspondence will be with either the PD or AOR.

Field 12. Proposed Project Start Date and End Date – The proposed duration of Phase II projects should normally not exceed 24 months, except in special, justified circumstances. In most circumstances, the following dates should be used for these fields:

	Start	End
Phase II	9/1/2014	8/31/2016

Field 17. Complete Certification – Please refer to the NIFA Grants.gov Application guide for information on the Certifications that are being agreed to by checking this box.

NOTE: An applicant who is delinquent on Federal debts must attach explanatory information detailing all relevant particulars concerning the Federal debt in PDF format in Field 12 of the R&R Other Project Information form (Other Attachments).

Field 20. Pre-application – This is not applicable to the USDA SBIR program. No attachments should be added.

3.3.2 R&R Other Project Information

Information related to the questions on this form is dealt with in detail in Part V, 4 of the NIFA Grants.gov Application Guide unless otherwise noted below.

Field 7. Project Summary/Abstract - (PDF Format is Required)

1 PAGE is the Page Limit for the Summary/Abstract.

In the technical abstract, include a brief description of the problem or opportunity, project objectives, and a description of the effort. Provide another paragraph discussing the anticipated results and potential commercial applications of the proposed research. **The project summary/abstract of successful applications may be published by USDA and, therefore, should not contain proprietary information.**

It is the responsibility of the applicant to review the attachment for page limit and PDF compliance before submission. Applicants must ensure that the abstract attachment meets the required page limit even if single or double spaced. Applications that exceed required page limits will be excluded from review.

Field 8. Project Narrative - (PDF Format is Required)

20 PAGES is the Page Limit for the Project Narrative.

NOTE: Applicants must submit their attachments within the required page limits identified in this program solicitation. The USDA SBIR Program encourages applicants to only include information pertaining to the items listed below. Applicants must not include additional information such as cover sheets, table of contents, reference listings, budgets, and appendixes unless the applicant intends for these to be considered in the page count. It is the responsibility of the applicant to review the attachment for page limit and PDF compliance before submission.

- (1) Responsiveness to USDA SBIR Program Priorities** – Please indicate if the application has a connection to agriculturally-related manufacturing technology or alternative and renewable energy, see section 8.0. Provide a brief explanation of how the application is related to the area indicated.
- (2) Prior USDA Support** – USDA is interested in documenting examples of SBIR projects that are developing new technologies based on earlier USDA-supported research and development projects awarded to the proposing small business, university, or government scientist collaborators by other USDA research and development programs, such as the Agricultural Food and Research Initiative (AFRI). If any such support exists, it should be documented in this section by listing the PD, application title, organization that received the award, and the USDA program that awarded the project.
- (3) Identification and Significance of the Problem or Opportunity** – Clearly state the specific technical problem or opportunity addressed and its importance.
- (4) Background and Rationale** – Indicate the overall background and technical approach to the problem or opportunity and the part that the proposed research plays in providing needed results. As a part of this section, it is critical that applications adequately cite relevant scientific literature. **Moreover, all citations provided must be properly referenced in the Bibliography & References Cited attachment (see 3.3.2 – Field 9).**
- (5) Relationship with Research or Research and Development** – Discuss the results of the Phase I project. Include a discussion of the overall background of the Phase I project, a list of the Phase I technical objectives, a presentation of a detailed description of the Phase I results, a clear interpretation of the results, and conclusions as to the feasibility of the project. This section is where the Phase II applicant establishes technical feasibility by presenting results from Phase I. Therefore, this section should provide an adequate discussion of Phase I results. The applicant

should also state the anticipated results of the proposed approach if the project is successful. **In Phase II proposals, this section should constitute a substantial portion of the project narrative.**

- (6) **Technical Objectives** – State the specific objectives of the research or research and development effort. Include the technical questions needed to establish the technical feasibility of the proposed approach.
- (7) **Work Plan** – The work plan must provide an explicit, detailed description of the research or research and development approach. The plan should list the tasks to be performed, **provide details of the methodology that would be used to research each task**, including statistical analysis, if applicable, and indicate how and where the work will be carried out. The work plan should be linked with the technical objectives of the research and the questions the effort is designed to answer. **This section should constitute a substantial portion of the project narrative.**
- (8) **Related Research or Research and Development** – Describe significant research or R&D activities that are directly related to the proposed effort, including any conducted by the project director or by the proposing small business concern, how the proposed effort expands on the related work, and any planned coordination with outside sources. **The applicant must persuade reviewers that he or she is aware of related research in the selected subject.** It is critical that the applicant make a convincing case that the proposed research builds upon previous research and, if successful, will lead to the development of new product, process, service, or technology or to substantial improvement of an existing product, process, service, or technology.
- (9) **Potential Post Application** – In Phase II, commercialization potential is more important and thus a more extensive commercialization plan must be presented (see Section 3.3.8).
- (10) **Satisfying the Public Interest** – Specify how the proposed research will satisfy one or more of the following USDA strategic goals: (more information can be found at www.usda.gov/ocfo/usdasp/usdasp.htm)
 - a. Strategic Goal 1: Assist Rural Communities to Create Prosperity so They Are Self-Sustaining, Repopulating, and Economically Thriving
 - b. Strategic Goal 2: Ensure Our National Forests and Private Working Lands¹¹ Are Conserved, Restored, and Made More Resilient to Climate Change, While Enhancing Our Water Resources
 - c. Strategic Goal 3: Help America Promote Agricultural Production and Biotechnology Exports as America Works to Increase Food Security
 - d. Strategic Goal 4: Ensure that All of America’s Children Have Access to Safe, Nutritious, and Balanced Meals

Field 10 Facilities & Other Resources - (PDF Format is Required)

Describe the types, location, and availability of instrumentation and physical facilities necessary to carry out the work proposed.

Field 11 Equipment Documentation - (PDF Format is Required)

Describe the types, location, and availability of equipment necessary to carry out the work proposed. Items of equipment to be purchased must be fully justified under this section. When purchasing equipment or a product under the SBIR funding agreement, the small business should purchase only American-made items whenever possible.

Field 12. Other Attachments – (PDF Format is Required) See Part V, 4.12 for instructions for documentation to be included in this field. The following are additional instructions for documentation that may be required for your application.

1. **Use of Facilities or Equipment – If university facilities, private facilities, or government laboratories are being used, there must be a letter in the application from the authorized organizational representative of the university, private facility, or government laboratory describing the arrangement and testifying that the facilities will be subject to the exclusive use and control of the applicant.**
2. **Outside Services** – 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 that have not previously received Federal research awards. Establishment of a Cooperative Research and Development Agreement (CRADA) with a USDA laboratory or other Federal laboratory may also be beneficial to proposing firms. If the application involves outside consultants, subcontracts, or involvement with a CRADA partner, these arrangements should be described in detail. **Applications must include letters from proposed consultants, subcontractors or CRADA cooperators indicating their willingness to serve in order for such participation to be considered during the application review and evaluation process (see subsection 4.3 as appropriate).**
3. **Letters of Support** –General letters of support from potential end-users of the technology or from individuals/organizations that want to express support for the application.
4. **Duration Exceeds Normal Project Period** – (4) Duration Exceeds Normal Project Period – The proposed duration of Phase II projects should normally not exceed 24 months, except in special, justified circumstances.
5. **Applicant is a Subsidiary** – A potential grantee that is a subsidiary must show that the parent company is also a small business entity and the parent company must provide documentation supporting their small business status. The subsidiary must provide documentation to support its independent viable financial status.
6. **Statement as to Delinquency on Federal Debts by Applicants for Federal Assistance** – An applicant that is delinquent on Federal debts must attach, in PDF format, explanatory information detailing all relevant particulars concerning the Federal debt.
7. **Non-Domestic Performance Explanation** – Requests for foreign travel or work are discouraged, but may be approved based on the justification provided in the application. In the budget justification, provide the purpose, the destination, method of travel, number of persons traveling, number of days, and estimated cost for each trip. If details of each trip are not known at the time of application submission, provide the basis for determining the amount requested.

3.3.3 R&R Senior/ Key Person Profile - (PDF Format is Required)

Applicants must fill out a profile for the PD and anyone that will be supported by the budget. For instructions on completing the profile part of this form, applicants must reference Part V.5 of the NIFA Grants.gov Application Guide for directions.

3.3.4 R&R Personal Data

As noted in Part V.6 of the NIFA Grants.gov Application Guide, the submission of this information is voluntary and is not a precondition of award.

3.3.5 R&R Budget - (PDF Format is Required)

Information related to the questions on this form is dealt with in detail in Part V, 7 of the NIFA Grants.gov Application Guide unless otherwise noted below. Applicants who plan to have a sub award (subcontract) will need to reference section 3.3.7 for directions.

A Research and Related Budget form must be completed for each year (or partial year) for which work is proposed under this program solicitation. **Applicants must ensure that the budget provided in the R&R Budget forms matches the requested budget amount found in Field 15(a) on the SF-424 form and that this number does not exceed the budget ceiling.**

Applicants must request a federal budget that is reasonable and must not exceed a ceiling of \$450,000.00 for 24 months. If an applicant requests a fee, the combined total of “Section I - Total Direct and Indirect Costs” and “Section J – Fee” on the Research & Related (R&R) Budget form must not exceed the ceiling of this program solicitation. Budget requests that exceed the ceiling of this program solicitation will be excluded from review.

Applicants should note that the USDA SBIR Program requires Phase II grantees to participate in a Phase II Commercialization Assistance Training Program (CATP). Currently, the USDA SBIR Program expects to cover \$8,000 of commercialization assistance expenses for each awarded project, except for travel costs to attend a two (2) day USDA SBIR commercialization workshop that will be held in the Washington DC area and the time needed to complete the program requirements. On average the grantee will spend approximately 65 to 80 hours completing the CATP requirements, therefore the applicant may include in the proposed budget the travel and time needed to participate and complete the CATP. The USDA budgeted amount (\$8,000) must not be included in the requested budget submitted with the application since this amount is paid directly to the contractor.

Fields C1-C11. Equipment Description - Performing organizations are expected to have appropriate facilities, suitably furnished and equipped. However, funding for items of equipment may be requested provided that they are specifically identified with the dollar amount and adequately justified, see Field K of the R&R Budget.

Field D1. Domestic Travel - Applicants must include in their budget, travel expenses to the Washington DC area for a two (2) day commercialization assistance workshop. For additional information on this section applicants must reference the NIFA Grants.gov Application Guide for directions.

Field D2. Foreign Travel Costs Funds Requested - Requests for foreign travel are discouraged, but may be approved based on the justification provided in the application. In the budget justification, provide the purpose, the destination, method of travel, number of persons traveling, number of days and estimated cost for each trip. If details of each trip are not known at the time of application submission, provide the basis for determining the amount requested.

Fields E 1-5. Participant/Trainee Support Costs - Applicants must reference the NIFA Grants.gov Application Guide for directions.

Fields F 1-10. Other Direct Costs - Applicants must reference the NIFA Grants.gov Application Guide for directions.

Field G. Direct Costs - Applicants must reference the NIFA Grants.gov Application Guide for directions.

Fields H 1-4. Indirect Costs - Applicants must reference the NIFA Grants.gov Application Guide for directions (see 3.3.5 Field K (7)).

Field J. Fee - Applicants must reference the NIFA Grants.gov Application Guide for directions. **If an applicant requests a fee, the combined total of “Section I - Total Direct and Indirect Costs” and “Section J – Fee” on the Research & Related (R&R) Budget form must not exceed the ceiling of this program solicitation.**

Field K. Budget Justification – (PDF Format is Required) - A budget justification with supporting detail for each budget category as noted in items (1) through (5) of this subsection must be attached. **A budget justification is required for each entity for which a Research and Related Budget Form is submitted.**

- (1) **Salaries and Wages** - Indicate the number and kind of personnel for whom salary support is sought, including job tasks. For key personnel, also indicate the number of work months of involvement to be supported with USDA funds, and explain how the level of compensation was established (e.g., the hourly rate of pay, the monthly rate of pay, or the yearly rate of pay).
- (2) **Equipment** - Performing organizations are expected to have appropriate facilities, and be suitably furnished and equipped. However, funding for items of equipment may be requested provided that they are specifically identified with the dollar amount and adequately justified. The limit for Phase I of 10 percent does not apply to Phase II budgets; however, **Phase II equipment purchases must be adequately justified.** Equipment is defined as an article of nonexpendable, tangible personal property having a useful life of more than one year and an acquisition cost of \$5000 or more per unit. Awardees are usually allowed to retain title to equipment purchased with funding provided under a SBIR funding agreement. However, in some instances, USDA may direct the awardee to vest title to a third party. **Awardees should plan to lease expensive equipment.** The inclusion of equipment will be carefully reviewed with respect to need and appropriateness for the research proposed.
- (3) **Materials and Supplies** - The types of expendable materials and supplies required should be indicated in general terms with estimated costs.
- (4) **Travel** - The type and extent of travel and its relationship to the project should be specified. Funds may be requested for field work or for travel to professional meetings. Requests for foreign travel are discouraged, but may be approved based on the justification provided in the application. In the budget justification, provide the purpose, the destination, method of travel, number of persons traveling,

number of days, and estimated cost for each trip. If details of each trip are not known at the time of application submission, provide the basis for determining the amount requested.

- (5) **All Other Direct Costs** - Other anticipated direct costs not included above should be itemized. Examples include, but are not limited to, subcontracts and consultants. See Field 12 “Other Attachments” of the R&R Other Project Information form for required documentation associated with subcontracts and consultants. A budget and budget justification stating sub-contractual and consulting costs and the rationale for the amount of the costs are required. Consultants’ rate of pay normally cannot exceed \$550/day for an 8 hour day. However, with proper documentation and justification, NIFA will consider approval of higher rates.
- (6) **Fee** - A reasonable fee, not to exceed seven percent of total Federal funds awarded (.07527 of Field I, Total Direct and Indirect Costs) is permitted under this program solicitation, but applicants are encouraged to minimize fee requests due to the small amount of funds available. **All fees are subject to negotiation with USDA. If a fee is requested, the amount should be indicated in Field J “Fee” on the R&R Budget form. If an applicant requests a fee, the combined total of “Section I - Total Direct and Indirect Costs” and “Section J – Fee” on the Research & Related (R&R) Budget form must not exceed the ceiling of this program solicitation. Budget requests that exceed the ceiling of this program solicitation will be excluded from review.**
- (7) **Indirect Costs** - *When NIFA is not the cognizant Federal agency.* The applicant must have a basis for requesting indirect costs in the application budget. The applicant should use the current negotiated indirect cost rate established by its cognizant Federal agency (the agency that provides the most funds). If the applicant does not have a current negotiated rate agreement, the applicant should calculate a rate in order to request indirect costs. If awarded, the applicant will be required to produce a negotiated indirect cost rate agreement from the cognizant agency in order to recover indirect costs. Applicants may request (i.e., budget) indirect costs using the lesser of: (a) the negotiated rate; or (b) the maximum statutory rate stated in the Request for Application, if any. If unable to obtain a negotiated rate from its cognizant agency, the applicant is not permitted indirect cost reimbursement. Rather, the applicant may only be reimbursed for allowable direct costs. Violation of Cost Accounting Standards is not permitted when re-budgeting or charging costs to awards.

When NIFA is the cognizant Federal agency. The applicant must have a basis for requesting indirect costs in the application budget. If the applicant does not have a negotiated rate, and NIFA is the cognizant agency, the applicant must calculate an indirect cost rate in order to request indirect costs. NIFA’s indirect cost website provides several sample indirect cost rate calculations. NIFA’s website is found at: http://www.nifa.usda.gov/business/pdfs/est_indir_cost_rates_2012.pdf. During the application process, the applicant is not required to complete the entire indirect cost package identified on NIFA’s website. Rather, the applicant need only calculate an indirect cost rate to serve as a basis for requesting indirect costs. If awarded, the applicant will be required to submit a complete Indirect Cost Proposal (ICP) package as explained on NIFA’s indirect cost website.

- (8) **Cost Sharing** - Cost sharing is permitted for applications under this program solicitation; however, cost sharing is not required nor will it be an evaluation factor in considering the competitive merit of applications submitted.

3.3.6 R&R Subaward Budget Attachment - (PDF Format is Required)

Information related to the questions on this form is dealt with in detail in Part V, 8. of the NIFA Grants.gov Application Guide.

3.3.7 NIFA Supplemental Information

Information related to the questions on this form is dealt with in detail in Part VI, 1. of the NIFA Grants.gov Application Guide unless otherwise noted below.

Field 2. Program to Which You Are Applying and Program Code – This refers to the **topic area** (see **section 8.0**) to which you are submitting your USDA SBIR application. For example:

Program Code Name
Animal Production and Protection
Program Code
8.3

Please note that you are expected to submit your Phase II proposal to the same topic area from which your Phase I grant was received. If you have a question about which topic area is appropriate for your application, please contact the NPL(s) in the area(s) in question. It is extremely important the Program Code Name and Program Code are spelled correctly and match exactly one of the topic areas indicated in section 8.0 of the program solicitation. Failure to complete these fields correctly could significantly delay the acceptance of your application into the program.

Field 8. Conflict of Interest List – A conflict of interest attachment is necessary for USDA SBIR applications. Attachments should be added. See Part VI, 1.8 of the NIFA Grants.gov Application Guide for further instructions and a link to a suggested template.

3.3.8 SBIR/Small Business Technology Transfer Program (STTR) Information

Information related to the questions on this form is dealt with in detail in Part VI, 3 of the NIFA Grants.gov Application Guide unless otherwise noted below.

Program Type – Select SBIR only. USDA does not offer a STTR program.

SBIR/STTR Type – Select Phase II. The USDA SBIR program does not offer the Fast-Track Option.

Field 1. Did you certify that at the time of award your organization will meet the eligibility criteria for a small business as defined in the funding opportunity announcement? – Enter yes or no.

Field 2. Does this application include subcontracts with Federal laboratories or any other Federal Government agencies? Enter yes or no. **If yes, insert the names of the Federal laboratories/agencies.**

Field 3. Are you located in a HUBZone? – Enter yes or no.

Field 4. Will all research and development on the project be performed in its entirety in the United States? – Enter yes or no. **If no, provide an explanation in an attached PDF file** (this is required information).

Field 5. Has the applicant and/or Project Director/Principal Investigator submitted applications for essentially equivalent work under other Federal program solicitations or received other Federal

awards for essentially equivalent work? – Enter yes or no. **If yes, insert the names of the other Federal agencies** (this is required information).

Field 6. Disclosure Permission Statement: If this application does not result in an award, is the Government permitted to disclose the title of your proposed project, and the name, address, telephone number and e-mail address of the official signing for the applicant organization to organizations that may be interested in contacting you for further information (e.g., possible collaborations, investment)? – Enter yes or no.

Field 7. Commercialization Plan – (PDF format only) – This is required for a Phase II application submission.

10 Pages is the limit. NOTE: The USDA SBIR Program encourages applicants to only include information pertaining to the items listed below. Applicants must submit their attachments within the required page limits identified in each section of this program solicitation. It is the responsibility of the applicant to review the attachment for page limit and PDF compliance before submission.

The commercialization plan should provide a description of each of the following areas:

1. **Introduction of the SBIR Project and Expected Outcomes:** Describe, in layperson's terms, the proposed project and its key technology objectives. Clarify the need addressed, specifying weaknesses in the current approaches to meet this need. In addition, describe the commercial applications of the research and the innovation inherent in the application.
2. **Company Information:** Give a brief description of your company including corporate objectives, core competencies, size (annual sales level and number and types of employees for the last 5 years, if company has existed for more than 5 years), and any current products/services that have significant sales. Those grantees existing for less than five years should provide this information for the years they have been operational. Indicate your vision for the future and how you will grow/maintain a sustainable business entity. Include a short description of the origins of the company.
3. **The Market, Customer, and Competition:** Describe the market and/or market segments (for the product, technology or service) you are targeting and provide information on the size of the market and a brief profile of the potential customer. Tell what significant advantages your innovation will bring to the market (e.g., better performance, lower cost, faster, more efficient or effective, new capability). Explain the hurdles you will need to overcome in order to gain market/customer acceptance of your innovation. Briefly explain the plans you have for approaching your potential customers (i.e., your marketing and sales strategy). Describe the current competition and any potential competitors over the next several years. Include a schedule showing the projected needs (e.g., amount of additional investment, timeframe, etc.) from the end of Phase II until commercialization. Applicant should also indicate any other potential commercial factors.
4. **Intellectual Property:** Describe how you will protect the intellectual property that results from your innovation. Note any actions you may consider to attain at least a temporary competitive advantage. What is the company's prior record in this area? Please comment on the company's strategy to build a sustainable business through protection of intellectual property.

5. Revenue Stream: Describe the plans for generating a revenue stream and include the assumptions that form the basis for revenue projections. Will the revenue stream as described be profitable to the company or at least sustain the product through its life cycle?
6. Financing: How will you raise the necessary financing for Phase III commercialization? Show you have a plan for this funding in one or more of the following ways:
 - (a) A letter of commitment for follow-on funding;
 - (b) A 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 letter of support for the project and/or some in-kind commitment; and
 - (d) A specific plan to secure Phase III funding. The progress of this plan must be commented on in the Phase II progress report.

Field 8. Documentation of Prior SBIR Phase II Awards – A small business firm that submits a Phase II proposal and has received more than 15 Phase II SBIR awards during the preceding 5 fiscal years must document the extent to which it was able to secure Phase III funding to develop concepts resulting from previous Phase II SBIR awards. In addition, the documentation must include the name of the awarding agency, date of award, funding agreement number, amount, topic or subtopic title, follow-on agreement amount, source and date of commitment, and current commercialization status for each Phase II award. USDA shall collect and retain the information at least until the General Accounting Office submits the report required under section 105 of the Small Business Research and Development Enhancement Act of 1992.

Field 9. Will the Project Director/Principal Investigator have his/her primary employment with the small business at time of award? – Check Yes or No.

Fields 10-11. STTR-Specific Questions – Do not respond to these questions. They are not applicable to the USDA SBIR program

4.0 METHOD OF SELECTION AND EVALUATION CRITERIA

4.1 Introduction

All Phase II applications will be evaluated on a competitive basis. Applications will be initially screened to determine responsiveness to the Request for Application (program solicitation). Applications passing this initial screening will be evaluated by technical reviewers to select those with the highest scientific and technical merit. **Applications received after the specified closing date or not following application guidelines of this program solicitation will not be considered for a Phase II SBIR award and will not be reviewed.**

External peer reviewers will be used during the technical evaluation stage of this process. Selections will be made from among recognized specialists who are uniquely qualified by training and experience in their respective fields to render expert advice on the merit of applications received. It is anticipated that these experts will be drawn from universities, Government, and non-profit research organizations. If possible, USDA intends to have peer review groups be balanced with minority and female representation and with an equitable age distribution.

Final decisions will be made by USDA based upon the ratings assigned by reviewers and consideration of other factors, **including the potential commercial application**, possible duplication of other research, any critical USDA requirements, program balance, and budget limitations. There is no commitment by USDA to fund any particular application, to support any specific number of applications in a given research topic area or to make a specific number of awards. USDA also may elect to fund several or none of the proposed approaches to the same topic. Care will be taken to avoid actual and potential conflicts of interest among reviewers. Evaluations will be confidential to USDA staff members, peer reviewers, and the proposed project director, to the extent permitted by law.

4.2 Initial Screening Criteria

To avoid any misunderstandings, applicants should be aware that applications that do not satisfy all of the screening criteria will be returned to the proposing entity without review. Returned applications may not be resubmitted (with or without revision) under this solicitation. The initial screening criteria are the following:

- (A) The proposing firm must qualify as a small business concern as defined in subsection 2.35.
- (B) The application must meet the Application Content and Format requirements as described in subsection 3.0.
- (C) Applications must be limited to one research problem as described in subsection 3.1.
- (D) The proposed budget must be within the dollar ceiling identified in subsection 1.2.
- (E) Applications must cover scientific research activities only as described in subsection 3.1.
- (F) The proposed Phase II research must fall within the topic area that the project was originally funded under as a Phase I. See section 8.0 for the listing of current topic areas.

- (G) An application must contain adequate scientific/technical information clearly stating the research plan and objectives. USDA reserves the right not to submit for review any application that it finds to have insufficient scientific/technical information.
- (H) It is clear that the project director will work a minimum of 51 percent of his/her time for the small business firm during the period of the grant and that the small business firm will conduct a minimum of one-half of the research effort. However the project director may spend less than 50 percent of his/her time on the Phase II project.

4.3 Phase II Evaluation Criteria

Only awardees in Phase I are eligible to participate and submit a Phase II proposal. This includes those awardees identified via a “novated” or “successor-in-interest” revised funding agreement. The primary evaluation criteria used by reviewers are listed below, and except for items (B) and (C) are largely identical to those for Phase I. Approximately equal consideration will be given to each criterion, **except for items (A), (B), and (C) which will receive twice the value of any of the other items:**

- (A) **Scientific and Technical Feasibility:** Is there a thorough background section with an up-to-date literature review? Are the stated objectives logical and appropriate for a two year research and development period? Does the research plan offer an original and innovative approach to the problem and sufficient detail to indicate how each research objective will be investigated?
- (B) **Degree to Which Phase I Objectives were Met and Technical Feasibility Established:** Are the Phase I objectives clearly stated and Phase I results presented in sufficient detail to permit a reviewer to determine whether the objectives were fully met and technical feasibility clearly established?
- (C) **Commercial Potential:** A separate Commercialization Plan (see Section 3.3.8) is required. The commercial potential will be assessed using the following:
 1. Company information;
 2. Market information (need, size, potential customers, competition, etc.);
 3. Strategy for commercializing this product/technology/service (including second phase and third-phase follow-on commitments from private sector or non-SBIR funding sources);
 4. Plans for protection of intellectual property;
 5. Projected revenue stream and assumptions; and
 6. Record of commercializing new products and/or services during the last 5 years, especially from prior SBIR and STTR projects.

A company Commercialization Plan 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.

- (D) **Importance of the Problem:** Does the proposal provide sufficient justification for the importance of the problem? Is the proposed project in the public interest by satisfying one or more of the strategic goals listed in subsection 3.3.2 (item (10) of Field 8)?
- (E) **Investigator and Resource Qualifications:** Is adequate bibliographic information provided to document that the project director, other key staff, and any consultants have the appropriate training and experience to carry out the proposed research plan? If consultants, subcontractors, or CRADA

cooperators are involved in the project, are letters from these individuals included in the proposal verifying their willingness to participate in the research study? Are adequate research facilities available that the small business firm either owns or controls for the duration of the grant? Is adequate instrumentation available for the proposed research plan?

- (F) **Budget:** Is the budget appropriate for the proposed research plan? Is sufficient budget detail provided to indicate clearly how the funds would be utilized?
- (G) **Duplication:** Does the proposed research substantially duplicate any ongoing or previous research by the small business firm or by other researchers? Does the proposal clearly indicate how the proposed technology would differ significantly from existing technology?

Additional factors that will be considered in the review process are whether a proposal involves a CRADA with a USDA laboratory or contains a follow-on funding commitment for Phase III. In the event that two or more proposals are of approximately equal merit, the existence of a CRADA with a USDA laboratory will be an important consideration. The existence of a follow-on funding commitment for continued development in Phase III will also be an important consideration. The value of any commitment will depend upon the degree of financial commitment made by non-Federal investors, with the **maximum value resulting from a signed agreement with reasonable terms for an amount at least equal to the funding requested from USDA in Phase II.**

4.4 Phase II Review Process

USDA uses confidential peer review as the basis for evaluating all Phase II proposals that satisfy the initial screening criteria described in section 4.2. Reviewers are drawn primarily from universities, government, and non-profit research organizations. Each proposal will be reviewed for technical merit as well as commercialization potential. As commercialization potential is more important in Phase II and beyond, the reviews of the commercialization plan will significantly impact the funding decisions.

4.5 Notice to Applicants

Technical reviewers will base their conclusions and recommendations on information contained in the application. It cannot be assumed that reviewers are acquainted with any experiments referred to within an application, with key individuals or with the small business firm itself.

After final decisions have been announced, a panel summary will be assembled that briefly states the main strengths and weaknesses of the application. In addition, the written reviews of the application will be sent to the project director. The reviews will not include the scores or the identities of the reviewers. Due to funding limitations and USDA's desire to support as many worthwhile projects as possible, it may be necessary for USDA to reduce the amount of an award below the amount requested by a small business or to fund only certain objectives outlined in the application. Any significant changes will be discussed with the proposing small business, which may then be asked to submit a revised budget reflecting the reduced amount. In the event that this occurs, specific instructions will be provided to the applicant.

5.0 CONSIDERATIONS

5.1 Awards

Depending upon the availability of funds USDA expects to make approximately 30 Phase II awards not to exceed \$450,000.00 each to small businesses in FY 2014. Awards are anticipated to be made on or after September 1, 2014. USDA will announce the names of those concerns receiving awards and successful applicants will then typically have twenty-four months after awards are made to carry out their proposed Phase II effort. All applicants will be notified of their status by the end of June 2014. If notification is not received in that time, please contact the SBIR program staff at sbir@nifa.usda.gov.

NIFA is currently operating under temporary appropriations as part of the Continuing Resolution (CR) providing funds through January 15, 2014. Based on the current CR, NIFA anticipates the amount available for support of this program in FY 2014 will be approximately 12 million. Adjustments will be made to program allocations once the FY 2014 appropriations are finalized.

All Phase II awards will be issued as research grants in accordance with the guidelines contained in 31 U.S.C. 6301-6308, the authority contained in Section 630 of the Act making appropriations for Agriculture, Rural Development and Related Agencies' programs for fiscal year ending September 30, 1987 and for other purposes, as made applicable by Section 101(a) of Public Law Number 99-591, 100 Stat. 3341.

A reasonable fee may be requested as part of the budget. See 3.3.6, Field J.

5.2 Reports

5.2.1 Technical Reports

For Phase II applications, a brief interim progress report must be submitted at approximately the mid-point in the project. In addition, a comprehensive final technical report must be submitted within 90 days following expiration of the Phase II grant. These reports should be submitted electronically as an attachment (MS Word or PDF) to the following email address: sbir@nifa.usda.gov. **Guidance for writing these reports can be found on the USDA SBIR program website under the [Grantee Resources](#) link.**

Please note: All technical reports are held confidential for a period covering four years after the termination of the project. **As such, proprietary information may be included in all reports when necessary to provide the USDA SBIR Staff adequate information to evaluate the outcome of the project.**

5.2.2 REEport

Grantees are to submit initial project information and annual and summary reports to NIFA's electronic, Web-based inventory system, REEport, that facilitates both grantee submissions of project outcomes and public access to information on Federally-funded projects. The details of these reporting requirements are included in the award terms and conditions. Details of annual and final technical reporting requirements also are included in the award terms and conditions. More information about

REReport can be found at http://www.nifa.usda.gov/business/reepreport_imp.html. As such, **proprietary information should not be included in these reports.**

5.2.3 Financial Reports

For Phase II applications, a final “**Financial Status Report**” (SF-425) is due within 90 days after the expiration date of the grant (<http://www.whitehouse.gov/sites/default/files/omb/grants/sf269.pdf>) and should be submitted in accordance with instructions contained in the award terms and conditions.

5.3 Proprietary Information

Information contained in unsuccessful applications will remain the property of the applicant. The Government may, however, retain copies of all applications. Public release of information in any application submitted will be subject to existing statutory and regulatory requirements. If proprietary information is provided by an applicant in an application, 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. This information must be clearly marked by the applicant with the term “confidential proprietary information,” and the following legend must appear on each PDF attachment submitted as a part of the application: “These data shall not be disclosed outside the Government and shall not be duplicated, used or disclosed in whole or in part for any purpose other than evaluation of this application. If a funding agreement is awarded to this applicant as a result of or in connection with the submission of these data, the Government shall have the right to duplicate, use or disclose the data to the extent provided in the funding agreement and pursuant to applicable law. 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 are contained on pages ___ of this application.”

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

USDA, by law, is required to make the final decision as to whether the information is required to be kept in confidence. Information contained in unsuccessful applications will remain the property of the applicant. However, USDA will retain for three years one file copy of all applications received. Public release of information for any application submitted will be subject to existing statutory and regulatory requirements. The legislation reauthorizing the SBIR Program strengthened the protection of awardee firms relative to maintaining confidentiality of proprietary information for a period of four years after the end of the grant period. However, any application which is funded will be considered an integral part of the award and normally will be made available to the public upon request through the Freedom of Information Act, except for designated proprietary information.

The inclusion of proprietary information is discouraged unless it is necessary for the proper evaluation of the application. If proprietary information is to be included, it should be limited, set apart from other text on a separate page, and keyed to the text by numbers. It should be confined to a few critical technical items which, if disclosed, could jeopardize the obtaining of foreign or domestic patents. Trade secrets, salaries, or other information that could jeopardize commercial competitiveness should be similarly keyed and presented on a separate page. Applications or reports that attempt to restrict dissemination of large amounts of information may be found unacceptable by USDA.

5.4 Rights in Technical Data

Rights in technical data, including software developed under the terms of any funding agreement resulting from an application submitted in response to this solicitation, shall remain with the grantee. However, the Government shall have the limited right to use such data for Governmental purposes and shall not release such data outside the Government without permission of the grantee for a period of four years from completion of the project under which the data were generated. Effective at the conclusion of the four-year period, the Government shall retain a royalty-free license for Governmental use of any technical data delivered under the agreement, whether patented or not.

5.5 Copyrights

With prior written permission of the Authorized Departmental Officer, the grantee normally may copyright and publish (consistent with appropriate national security considerations, if any) material developed with USDA support. USDA receives a royalty-free license for the Federal Government and requires that each publication contain the following acknowledgment and disclaimer statement:

“The project was supported by the Small Business Innovation Research program of the U.S. Department of Agriculture, grant number #. Any opinions, findings and conclusions or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the views of the U.S. Department of Agriculture.”

The last sentence may be omitted from articles published in scientific journals.

5.6 Patents and Inventions

Allocation of rights to inventions shall be in accordance with 35 U.S.C. 202-206 and the Department of Commerce implementing regulations entitled “Rights to Inventions Made by Nonprofit Organizations and Small Business Firms under Government Grants, Contracts and Cooperative Agreements” at 37 CFR Part 401. These regulations provide that small businesses normally may retain the principal worldwide patent rights to any invention developed with USDA support. USDA receives a royalty-free license for Federal Government use, reserves the right to require the patentee to license others in certain 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 U.S.C. 205, USDA will not make public any information disclosing a USDA-supported invention for a four-year period to allow the grantee a reasonable time to file an initial patent application. Additional information may be obtained by contacting:

Bart Hewitt, Director of Planning, Accountability, and Reporting
National Institute of Food and Agriculture, USDA
STOP 2213
1400 Independence Avenue, SW
Washington, DC 20250-2213
Telephone: (202) 720-5623
Facsimile: (202) 720-7714
bayhdole@nifa.usda.gov

SBIR awardees must report inventions to the awarding agency within two months of the inventor’s report to the awardee. The reporting of inventions must be made through submission to Interagency Edison

(www.iedison.gov). Specific instructions for invention reporting are contained in the agency's terms and conditions, a copy of which can be provided upon request.

5.7 Research Involving Special Considerations

A number of situations frequently encountered in the conduct of scientific research require the submission of special information for a particular project. Since some types of research targeted for SBIR support have high probability of involving human subjects at risk or vertebrate animals, special instructions follow:

If the proposed research will involve human subjects at risk or vertebrate animals, the application must so indicate by checking "Yes" on the RR_OtherProjectInfo form. Further, in the event that the project is funded, the applicant may be required to have the research plan reviewed and approved by the appropriate review board or committee. It is suggested that applicants contact local universities, colleges, or nonprofit research organizations which have established such reviewing mechanisms to have this service performed.

Guidelines to be applied and observed when conducting such research are outlined below.

- (A) **Human Subjects at Risk** - Regulations issued by the Department of Agriculture to be used in safeguarding the rights and welfare of human subjects used in research supported with USDA grant funds are contained in 45 CFR Part 46 and USDA regulations set forth in 7 CFR Part 1c. All nonexempt research projects involving human subjects must be approved by an Institutional Review Board prior to commencing actual substantive work.

- (B) **Animal Care** - The performing organization must comply with the Animal Welfare Act (7 U.S.C., 2131-2156); Public Law 89-544, 1996 and the regulations issued by the Department of Agriculture in 9 CFR parts 1, 2, 3 and 4. In the case of domesticated farm animals housed under farm conditions, the grantee must adhere to the principles stated in the Guide for the Care and Use of Agricultural Animals in Agricultural Research and Teaching, Federation of Animal Sciences Societies, 1999. In the event a project involving the use of living vertebrate animals results in a grant award, funds will be released only after a qualified Institutional Animal Care and Use Committee has approved the project.

5.8 Responsible and Ethical Conduct of Research

The responsible and ethical conduct of research (RCR) is critical for excellence, as well as public trust, in science and engineering. Consequently, we consider education in RCR essential to the preparation of future scientists. In accordance with sections 2, 3, and 8 of 7 CFR Part 3022, institutions that conduct USDA-funded extramural research must foster an atmosphere conducive to research integrity, bear primary responsibility for prevention and detection of research misconduct, and maintain and effectively communicate and train their staff regarding policies and procedures. In the event an application to NIFA results in an award, the Authorized Representative (AR) assures, through acceptance of the award that the institution will comply with the above requirements. Per award terms and conditions, grant recipients shall, upon request, make available to NIFA the policies, procedures, and to support the conduct of the training.

Note that the training referred to herein shall be either on-campus or off-campus training. The general content of the ethics training will, at a minimum, emphasize three key areas of research ethics: authorship and plagiarism, data and research integration, and reporting misconduct. Each institution will be responsible for developing its own training system, as schools will need flexibility to develop training

tailored to their specific student needs. Grantees should consider the Collaborative Institutional Training Initiative (CITI) program for RCR (<https://www.citiprogram.org/rcrpage.asp>). Typically this RCR education addresses the topics of: Data Acquisition and Management - collection, accuracy, security, access; Authorship and Publication; Peer Review; Mentor/Trainee Responsibilities; Collaboration; Conflict of Interest; Research Misconduct; Human Subject Research; and Use of Animals in Research.

5.9 Grantee Commitments

Upon issuance of a research grant by USDA, the awardee will be required to make certain legal commitments through acceptance of the award document and the terms and conditions attached thereto, as well as any project-specific terms or conditions outlined.

5.10 Additional Information

- (A) 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 funding agreement, the terms of the funding agreement are controlling.
- (B) Before the award of an SBIR funding agreement, USDA requires the submission of certain organizational management, personnel, and financial information to assure responsibility of the applicant, including certification that the proposing organization is in compliance with the Civil Rights Act of 1964. These forms will be provided to the small business concern by the Office of Grants and Financial Management, NIFA, prior to the forwarding of the funding agreement for acceptance. The information contained in both forms must normally be submitted on a one-time basis only. (If sufficient changes occur within the organization to warrant submission of new or additional information, additional forms should be requested by calling (202) 401-4986. It is anticipated that all Phase II awardees will be required to submit the above information. **Please note that NIFA will not issue an award until all requested organizational management and financial information has been received. Delaying or failing to submit this information could result in the application not being funded.**
- (C) If an applicant or a grantee is contemplating any type of transaction involving the entity (i.e. merger, spin-off or sale), it is advised that the applicant or the grantee contact one of the SBIR NPLs (see subsection 1.5) for knowledge of how the transaction may affect a potential grant or the grant, as applicable.
- (D) USDA is not responsible for any monies expended by the applicant prior to the award of any funding agreement.
- (E) This program solicitation is not an offer by USDA and does not obligate USDA to make any specific number of awards. Also, awards under this program are contingent upon the availability of funds.
- (F) Unsolicited applications will not be accepted under the SBIR program.
- (G) The applicant must provide the total number of employees for the organization and its subsidiaries and/or parent company, if applicable.

6.0 SUBMISSION OF APPLICATIONS

6.1 When to Submit

All complete, error-free Phase II applications must be submitted via Grants.gov by **5:00 p.m. Eastern Time on February 27, 2014**. Applications received after this deadline will not be considered for funding.

For the convenience of all potential applicants, the following schedule is provided for informational purposes:

Phase II

Deadline date for applications February 27, 2014; 5:00 p.m. Eastern Time

Standard period of performance September 1, 2014 through August 31, 2016

6.2 What to Submit

USDA SBIR electronic application submissions consist of forms (viewed, completed, and submitted through the Grants.gov Web site) and attachments. All of the necessary forms and instructions will be found on the Grants.gov Web site (see section 3.0 of this program solicitation). One way applicants can access the appropriate page on Grants.gov is by visiting the USDA SBIR funding opportunity page at <http://www.nifa.usda.gov/fo/sbir>. Clicking on the Funding Opportunity Number listed near the bottom of the page will link the applicant directly to the information and forms and instructions necessary to submit through Grants.gov.

All attachments submitted with the application must follow the requirements listed under Part III, 3.1 of the NIFA Grants.gov Application Guide.

ANY PROPOSALS CONTAINING NON-PDF DOCUMENTS WILL BE EXCLUDED FROM NIFA REVIEW. Partial applications will be excluded from NIFA review. Applications with critical documents which are write protected or password protected will not be reviewed.

Please note: Applicants must have successfully completed the entire registration process, see subsection 3.2.2, prior to being able to submit an application through Grants.gov.

6.3 Where to Submit

All FY 2014 Applications submitted to USDA SBIR must be submitted electronically through Grants.gov.

6.4 Questions Pertaining to the USDA SBIR Program or to this Solicitation

Written or verbal questions of a general nature about the USDA SBIR program, as well as general questions pertaining to this solicitation but not pertaining to requests for additional copies of the solicitation, should be sent to sbir@nifa.usda.gov or can be directed to one of the USDA SBIR NPLs, see section 1.5.

6.5 Information on Application Status

It is anticipated that the evaluation of Phase II applications will require approximately four months from February 27, 2014, and no information on application status will be available until final selections have been made. Both successful and unsuccessful applicants will be notified of final award decisions within approximately 4 months.

7.0 SCIENTIFIC AND TECHNICAL INFORMATION SOURCES

Listed below are some of the sources that can provide technology search and document services which may be useful in preparing SBIR applications. They can be contacted directly for service and cost information.

National Agricultural Library
Service Desk
U.S. Department of Agriculture
10301 Baltimore Avenue
Beltsville, MD 20705-2351
(301) 504-5755
www.nal.usda.gov

National Technology Transfer Center
Wheeling Jesuit University
316 Washington Avenue
Wheeling, WV 26003
(304) 243-2455 or (800) 678-6882
www.nttc.edu

National Technical Information Service
5285 Port Royal Road
Springfield, VA 22161
(800) 553-6847
www.ntis.gov

REEport
PARS/NIFA/USDA
Stop 2213
1400 Independence Ave., SW
Washington, DC 20250
http://www.nifa.usda.gov/business/reeport_imp.html

Regional Technology Transfer Centers

Far West
Western Research Application Center
(WESRAC)
3716 South Hope Street, Suite 200
Los Angeles, CA 90007
(213) 743-2732
<http://wesrac.usc.edu/>

Mid-Continent Technology Transfer Center
Texas Engineering Extension Service
The Texas A&M University System
301 Tarrow
College Station, TX 77843-8000
(979) 845-8762
Fax (979) 845-3559
www.teex.com

Mid-Atlantic
TECC - the Technology Commercialization
Center
144 Research Drive
Hampton, VA 23666
(757) 766-9200
Fax (757) 766-2402
www.teccenter.org

Northeast
Center for Technology Commercialization
1400 Computer Drive
Westborough, MA 01581-5043
(508) 870-0042
www.ctc.org

Southeast
Georgia Institute of Technology
151 6th Street
216 O'Keefe Building
Atlanta, GA 30332
(404) 894-6786
www.edi.gatech.edu/nasa

Agricultural Technology Innovation Partnership (ATIP) Program

Ben Franklin Technology Development Authority, Pennsylvania (BFTDA)

Commonwealth Keystone Building

400 North Street, 4th Floor

Harrisburg, PA 17120-0225

1 (866) 466-3972

www.newpa.com/business/business-assistance/ben-franklin-technology-development-authority

California Association for Local Economic Development

550 Bercut Drive, Suite G

Sacramento, CA 95811

916-448-8252

www.caled.org

Center for Innovation at Arlington, TX (CFI)

202 E Border St.

Arlington, TX 76010

817-543-4298

www.thecenterforinnovation.org

Center for Innovative Food Technology, Toledo, OH (CIFT)

5555 Airport Hwy., Ste. 100

Toledo, OH 43615-7320

www.ciftinnovation.org

Georgia Research Alliance (GRA)

50 Hurt Plaza, Suite 1220

Atlanta, GA 30303

404-332-9770

www.gra.org

Innovate Mississippi

134 Marketridge Drive

Ridgeland, Mississippi 39157

601-960-3610

www.innovate.ms

Kansas Bioscience Authority (KBA)

10900 S. Clay Blair Blvd

Olathe, Kansas 66061

913-397-8300

www.kansasbioauthority.org

Maryland Technology Development Corporation (TEDCO)

5565 Sterrett Place

Suite 214

Columbia, MD 21044

1-800-305-5556

www.tedco.md

Wisconsin Security Research Consortium (WSRC)
455 Science Drive #240
Madison, WI 53711
920-527-1950
www.wisecurity.org

8.0 RESEARCH TOPIC DESCRIPTIONS AND INSTRUCTIONS

Phase II applicants must respond to a topic area listed in this section that corresponds to the Phase I work that was previously funded.

In addition, USDA recognizes **Agriculturally-related Manufacturing Technology** and **Alternative and Renewable Energy** as two cross-cutting priorities with relevance to all topic areas listed in this program solicitation. USDA encourages applicants—as appropriate—to address these priorities within their proposals for submission to one of the topic areas listed in this section. Special consideration of applications that address one of these priorities may be provided.

Agriculturally-related Manufacturing Technology

On February 26, 2004 The President issued Executive Order 13329 (69 FR 9181) entitled “Encouraging Innovation in Manufacturing.” In response to this Executive Order, USDA encourages the submission of applications that deal with some aspect of agriculturally-related manufacturing technology (Section 2.21). Since manufacturing impacts all aspects of agriculture and rural development, applications dealing with manufacturing could be submitted to any of the topic areas.

Alternative and Renewable Energy

In an effort to find alternatives to fossil fuels, the USDA established research on alternative and renewable energy as a high priority. Such research includes development of new energy crops, improved methods for producing biofuels, such as ethanol and biodiesel, producing hydrogen and other fuel gases from agricultural waste and more efficient use of energy in agricultural production and in rural communities. Energy issues impact all aspects of agriculture and rural development and thus applications dealing with alternative and renewable energy could be submitted to many of the different topic areas.

Current Research Topic Areas:

8.1 Forests and Related Resources

Dr. Charles Cleland, National Program Leader for SBIR Forests and Related Resources may be contacted at ccleland@nifa.usda.gov or (202) 401-6852 regarding questions about the suitability of research topics or to arrange a telephone consultation.

8.2 Plant Production and Protection – Biology

Dr. Shing Kwok, National Program Leader for SBIR Plant Production and Protection may be contacted at skwok@nifa.usda.gov or (202) 401-6060 regarding questions about the suitability of research topics or to arrange a telephone consultation.

8.3 Animal Production and Protection

Dr. Robert Smith, National Program Leader for SBIR Animal Production and Protection may be contacted at rsmith@nifa.usda.gov or (202) 401-4892 regarding questions about the suitability of research topics or to arrange a telephone consultation.

8.4 Air, Water and Soils

Ms. Mary Ann Rozum, National Program Leader for SBIR Soil and Water Resources may be contacted at mrozum@nifa.usda.gov or (202) 401-4533 regarding questions about the suitability of research topics or to arrange a telephone consultation.

8.5 Food Science and Nutrition

Dr. Jodi Williams, National Program Leader for SBIR Food Science and Nutrition may be contacted at jwilliams@nifa.usda.gov or (202) 720-6145 regarding questions about the suitability of research topics or to arrange a telephone consultation.

8.6 Rural Development

Dr. Brent Elrod, National Program Leader for SBIR Rural Development may be contacted at belrod@nifa.usda.gov or (202) 690-3468 regarding questions about the suitability of research topics or to arrange a telephone consultation.

8.7 Aquaculture

Dr. Charles Cleland, National Program Leader for SBIR Aquaculture may be contacted at ccleland@nifa.usda.gov or (202) 401-6852 regarding questions about the suitability of research topics or to arrange a telephone consultation.

8.8 Biofuels and Biobased Products

Dr. William Goldner, National Program Leader for SBIR Biofuels and Biobased Products may be contacted at wgoldner@nifa.usda.gov or (202) 401-1719 regarding questions about the suitability of research topics or to arrange a telephone consultation.

8.12 Small and Mid-Size Farms

Dr. Denis Ebodaghe, National Program Leader for SBIR Small and Mid-Size Farms may be contacted at debodaghe@nifa.usda.gov or (202) 401-6852 regarding questions about the suitability of research topics or to arrange a telephone consultation.

8.13 Plant Production and Protection - Engineering

Dr. William Goldner, National Program Leader for SBIR Plant Production and Protection Engineering may be contacted at wgoldner@nifa.usda.gov or (202) 401-1719 or Dr. Kitty Cardwell, National Program Leader for SBIR Plant Production and Protection Engineering may be contacted at kcardwell@nifa.usda.gov or 202-401-1790 regarding questions about the suitability of research topics or to arrange a telephone consultation.

Please refer to the following USDA SBIR website for a detailed description of each topic area:

www.csrees.usda.gov/funding/sbir/sbir_topics.html