

BIOMASS RESEARCH AND DEVELOPMENT INITIATIVE

FY 2012 Request for Full Applications

APPLICATION DEADLINE: August 3, 2012

Funding Opportunity Number: USDA-NIFA-9008-003828

**NATIONAL INSTITUTE OF FOOD AND AGRICULTURE (NIFA); U.S.
DEPARTMENT OF AGRICULTURE AND GOLDEN FIELD OFFICE; U.S.
DEPARTMENT OF ENERGY (DOE)-JOINT COMPETITIVE GRANTS PROGRAM**

BIOMASS RESEARCH AND DEVELOPMENT INITIATIVE – Phase II

INITIAL ANNOUNCEMENT

CATALOG OF FEDERAL DOMESTIC ASSISTANCE: This Program is listed under the Catalog of Federal Domestic Assistance (CFDA) 10.312 for the Department of Agriculture. The Program is listed under CFDA 81.087 for the Department of Energy.

DATES: Applications must be received by close of business (COB) on August 3, 2012 (**5:00 p.m. Eastern Time**). Applications received after this deadline will not be considered for funding. Comments regarding this request for applications (RFA) are requested within six months from the issuance of this notice. Comments received after that date will be considered to the extent practicable.

STAKEHOLDER INPUT: The National Institute of Food and Agriculture (NIFA) is requesting comments regarding this RFA from any interested party. These comments will be considered in the development of the next RFA for the program, if applicable, and will be used 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)). This section requires the Secretary to solicit and consider input on a current RFA from persons who conduct or use agricultural research, education and extension for use in formulating future RFAs for competitive programs. Written stakeholder comments on this RFA should be submitted in accordance with the deadline set forth in the DATES portion of this Notice.

Written stakeholder comments should be submitted by mail 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 Biomass Research and Development Initiative (BRDI) RFA.

EXECUTIVE SUMMARY: NIFA and DOE request applications for the fiscal year (FY) 2012 BRDI RFA to competitively award grants to eligible entities to carry out research, development, and demonstration of (A) biofuels and biobased products; (B) the methods, practices and technologies for the production of biofuels and biobased products and (C) approaches to evaluating and optimizing the life-cycle performance of biofuels and biobased products. Approximately \$35 million may be available to fund applications under this solicitation. In FY 2012 DOE administered Phase I (pre-applications). USDA-NIFA is administering Phase II (full applications). Only applications from successful FY 2012 BRDI Phase I applicants are invited under this BRDI Phase II solicitation.

This notice identifies the objectives for BRDI projects, the eligibility criteria for projects and applicants, and the application forms and associated instructions needed to apply for a BRDI grant. Additionally, NIFA and DOE – Golden Field Office request stakeholder input from any interested party for use in the development of the next RFA for this program.

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PART I—FUNDING OPPORTUNITY DESCRIPTION

A. Legislative Authority and Background

This section of the Request for Applications (RFA) contains information on the Department of Energy (DOE) and United States Department of Agriculture (USDA) programmatic objectives, administrative roles, and areas of interest addressed by this RFA.

Section 9001(a) of the Food, Conservation, and Energy Act of 2008 (FCEA) (Pub. L. 110-246), re-authorized the Biomass Research and Development Initiative (BRDI) competitive grants program by amending section 9008 of the Farm Security and Rural Investment Act of 2002 (FSRIA), as amended, (Pub. L. 107-171) (7 U.S.C. 8108). Collaboration between DOE and USDA on BRDI is directed under section 9008(e)(1) of FSRIA, as amended. Additionally, DOE provides funds guided by certain administrative provisions of the Energy Independence and Security Act of 2007 and the Energy Policy Act of 2005. Section 9008(e)(3) of FSRIA provides direction and guidance on the technical areas as described in BRDI. The technical areas are: (A) Feedstocks development, (B) Biofuels and biobased products development, and (C) Biofuels and biobased products development analysis. These areas are described further below.

For fiscal year (FY) 2012, BRDI requires that funded projects integrate all three legislatively mandated technical areas: (A) Feedstocks development, (B) Biofuels and biobased products development, and (C) Biofuels and biobased products development analysis. The intent of requiring integration is to encourage a collaborative problem-solving approach to all studies funded under BRDI, to facilitate formation of consortia, identify and address knowledge gaps, and accelerate the application of science and engineering for the production of sustainable biofuels, bioenergy, and biobased products. The result of integration has improved the positioning of advanced manufacturing technologies to become more commercially viable in the near-term timeframe.

For the FY 2012 BRDI RFA, DOE anticipates funding one (1) to three (3) awards, and USDA/National Institute of Food and Agriculture (NIFA) anticipates funding from five (5) to seven (7) awards. Anticipated award size ranges from \$3 million to \$7 million per award. All DOE funding is subject to the availability of annual Congressional appropriations.

B. Purpose and Priorities

BRDI requires USDA and DOE to competitively award grants to eligible entities to carry out research and development (R&D), or demonstration of biofuels and biobased products; and the methods, practices, and technologies, for the production of biofuels and biobased products. The BRDI Program is designed to assist developing and emergent technologies and provide bridge funding for the economic ‘valley of death’ in an effort to produce biofuels and biobased products at competitive prices. At the end of the project term, BRDI Research and Development projects should result in technology, prototypes, materials, systems, or proof of concepts that are ready for field testing or demonstration. BRDI Demonstration projects should demonstrate pilot scale production in an effort to verify a financeable project result in a viable business plan.

Both DOE and USDA have been given responsibility to support the development of a biomass-based industry in the United States. The objectives of this responsibility are specified in Section 9008(e) of FSRIA, as amended, which requires the development of:

- (A) Technologies and processes necessary for abundant commercial production of biofuels at prices competitive with fossil fuels;
- (B) high-value biobased products –
 - (i) To enhance the economic viability of biofuels and biopower;
 - (ii) To serve as substitutes for petroleum-based feedstocks and products; and
 - (iii) To enhance the value of coproducts produced using the technologies and processes;
- (C) A diversity of economically and environmentally sustainable domestic sources of renewable biomass for conversion to biofuels, bioenergy, and biobased products.

C. Technical Topic Areas – Detailed Descriptions

Invited applications will integrate all three of the technical topic areas described below and on the following pages. Applicants are encouraged to develop partnerships with other entities, as needed, to ensure that all three technical areas are adequately addressed (additional information on eligibility is provided in Section III). **Only applications that address the integration of all three technical areas will be reviewed.**

- A. **Feedstocks Development** – Research, development, and demonstration activities regarding feedstocks and feedstock logistics (including harvest, handling, transport, preprocessing, and storage) relevant to production of raw materials for conversion to biofuels and biobased products. The BRDI program is designed to support near-term commercial systems. Projects should emphasize development and optimization of existing feedstocks that will be available for testing and demonstration during the life of the project. Proposals that include breeding or genetic improvement of feedstocks should reconcile this work with the Program’s emphasis on near-term impacts.

The lack of logistics systems capable of handling and delivering a sufficiently high tonnage of feedstocks year-round to support the rapid escalation of cellulosic biofuels production has been identified as a significant barrier to the expansion of a sustainable domestic biofuels industry. Feedstocks or combinations of feedstocks that will be considered include: agricultural residues, energy crops (switchgrass, miscanthus, energycane, sorghum, poplar, willow, etc.), forest resources (forest thinnings, wood chips, wood wastes, small diameter trees, etc.), urban wood wastes, oilseed crops, algae, animal waste, other waste streams that are byproducts of alternative energy processes. Additional information on acceptable feedstocks may be found in the definitions for “Advanced Biofuel” and “Renewable Biomass” which are presented in Appendix A – Definitions. Projects should include the use or development of the following:

- Dedicated biofuel or industrial product crops with desired features, including enhanced productivity, broader site range, low requirements for chemical inputs, and enhanced processing characteristics;

- Advanced crop production methods and management technologies and systems to achieve optimal yields while conserving soil and water resources;
- Innovative equipment designs and systems for harvest, handling, preprocessing, transport, and storage that will be compatible with the biomass conversion technology;
- Innovative uses of alternative waste streams that decrease the cost, environmental impacts, greenhouse gas footprint or complexity of renewable energy systems for small commercial applications;
- Compatibility of the selected feedstock with potential conversion systems;
- Strategies for integrating feedstock production into existing managed land; and
- Generation of data that can contribute to a best management practices database.

B. Biofuels and Biobased Products Development - Research, development, and demonstration (R,D,&D) activities to support:

- (i) Development of diverse cost-effective technologies for the use of cellulosic biomass in the production of biofuels, bioenergy, and biobased products; and
- (ii) Product diversification through technologies relevant to the production of a range of biobased products (including chemicals, animal feeds, and cogeneration power) that potentially can increase the feasibility of fuel production in a biorefinery.

The DOE Biomass Program has been focused on developing, demonstrating, and deploying cellulosic ethanol to enable a FY2012 goal of making cellulosic ethanol cost-competitive with corn-based ethanol. Over the last two decades, research and development have led to significant progress in the biochemical processes used to convert cellulosic biomass to ethanol. First-generation technology for cellulosic ethanol production is now in the demonstration phase. In addition to cellulosic ethanol and biodiesel, USDA-NIFA and DOE will support other advanced biofuels and/or biobased products, such as biobutanol, hydrocarbons, and Fischer-Tropsch gasoline and diesel, which are still in the early stages of investigation in terms of production technologies, cost-effectiveness, and performance characteristics. Additional information on acceptable biofuels and biobased products may be found in the definitions for “Advanced Biofuel” and “Biobased Product” which are presented in Appendix A – Definitions.

For FY 2012, DOE and USDA-NIFA have identified areas of particular interest for BRDI. These areas of interest will not be given a priority over applications that address other technologies and are not intended to deter submission of applications that address other technologies. Research, development, and demonstration projects of particular interest include, but are not limited to, technologies that would address:

- Small scale biomass densification (e.g. gasification, pyrolysis, pellets) R,D&D to address issues of local and regional production of biofuels from cellulosic feedstocks;
- Research and development of local-scale woody biomass-to-energy conversion with a major thrust focusing on the simultaneous generation of electricity and useful heat;
- Conversion, via biological, thermal, catalytic or chemical means, of acceptable feedstocks into advanced biofuels and/or biobased products including intermediate and end-use products;

- Improvement of chemical and physical biomass separation that reduces capital expenses, operating costs, and energy inputs;
- Improvement of the production and performance or commercial viability of biobased products and co-products;
- Improvement of the potential for developing rural based processing and manufacturing of biofuels and/or biobased products;
- Demonstration of commercial relevance of the technology, its expected marketability, and its potential commercial viability for processing and manufacturing biobased products; and
- Demonstration of biobased products to evaluate functional and environmental performance and to facilitate amending or developing industry standards and specifications.

Areas of particular interest for Biochemical, Thermochemical, and Chemical conversions, based on known barriers to successful commercialization, include, but are not limited to, research, development, and demonstration of technologies that would address:

Biochemical Conversion:

- Pretreatment technologies;
- Hydrolysis and saccharification technologies that enhance advanced biofuels production;
- Fermentation technologies for advanced biofuels; and
- Advanced bioprocessing technologies.

Thermochemical Conversion:

- Gasification; and
- Pyrolysis.

Chemical Conversion:

- Tolerance to inhibitory compounds;
- Exothermic reactions for waste heat;
- Reduction of cellulosic components at mild conditions with recycle of reactants;
- Selective dehydrations without side reactions;
- Catalyst development for cleaving C-O and C-C bonds; and
- Cleavage of C-N bonds while preserving molecular structure.

- C. **Biofuels and Biobased Products Development Analysis** – The intent of this section and integrating Technical Areas A, B, and C is to apply systems evaluation methods that can be used to optimize system performance and market potential and to quantify the project’s impact on sustainability; therefore, successful applications will consider the life-cycle (cradle-to-grave) impacts including environmental, social, and economic implications that are attributable to the project. Successful projects should include these sustainability data in engineering process models and be used over the life of the project to improve the system and quantify sustainability impacts. As appropriate, the proposed project should include additional aspects of the following:
- (i) Strategic guidance – The development of analysis that provides strategic guidance for the application of renewable biomass technologies to improve sustainability and environmental quality, cost effectiveness, security, and rural economic development.

- (ii) Energy and Environmental Impact – Development of systematic evaluations of the impact of expanded biofuel production on the environment (including forest land) and on the food supply for humans and animals, including the improvement and development of tools for life cycle analysis of current and potential biofuels.
- (iii) Assessment of Federal land – Assessments of the potential of Federal land resources to increase the production of feedstocks for biofuels and biobased products, consistent with the integrity of soil and water resources and with other environmental considerations.

To integrate Technical Area (C) with (A) and (B), the proposed project should consider the full life-cycle of the technology, which can be characterized by the following stages and, where appropriate, should generate geographically specific social, economic, and environmental data that can be made publicly available to be used in local, state, regional, and national analytical tools and models. The tools and models should utilize primary data generated by the project's efforts.

- Biomass feedstock development and cultivation;
- Feedstock harvesting and preparation;
- Feedstock logistics (handling, storage, and transportation);
- Waste stream logistics (handling, storage, and transportation);
- Biomass pre-processing (as appropriate);
- Biomass conversion;
- Production of biofuels/bioenergy/biobased products;
- Product logistics and distribution;
- Product consumption; and
- End of useful life.

E. Notice of NEPA Applicability

Environmental Review and Approval: Federal agencies are responsible for conducting the environmental review process required by the National Environmental Policy Act (NEPA) and related environmental statutes, regulations, permits, and approvals. NEPA applies to all federal grant programs and requires federal agencies to integrate environmental values into their decision-making processes by considering the environmental impacts of their proposed actions. While NEPA compliance is a federal agency responsibility and the ultimate decisions remain with the federal agency, applicants will be required to assist in the timely and effective completion of the NEPA process in the manner most pertinent to the applicant's proposed project.

If a project is selected for negotiation of award, and the recipient moves forward with activities that are not authorized for Federal funding by the DOE Contracting Officer in advance of the NEPA determination, the recipient is doing so at risk of not receiving Federal funding and such costs may not be recognized as allowable cost match. DOE does not guarantee or assume any obligation to reimburse any costs incurred prior to receiving written authorization from the DOE Contracting Officer.

PART II—AWARD INFORMATION

Applications received under this solicitation will be considered for funding by either DOE or USDA; however, applicants *may not* request to be funded by a particular organization and must prepare their application in accordance to this USDA-NIFA RFA. It is recommended that applicants prepare their application in accordance with USDA-NIFA cost principles and policies (e.g. no blending of cost share for R&D and Demonstration activities). If the project is selected by DOE, the applicant will have the opportunity to revise their budget according to DOE cost principles.

A. Application Process

A two-phase technical evaluation process is used for applications submitted to BRDI in FY 2012 as described in Section I.C. of the Pre-application Funding Opportunity Announcement (DE-FOA-0000657). DOE administers Phase I (pre-applications). USDA-NIFA is administering Phase II (full applications). Only applications from successful FY 2012 BRDI Phase 1 applicants are invited under this BRDI Phase II solicitation. Other applications submitted under this solicitation will not be reviewed.

- **Phase 1 – Pre-applications**

The first phase required the applicant to submit a preliminary application (pre-application) to the funding opportunity announcement (FOA) released on March 22, 2012. As a result of this preliminary review, applicants were either requested to submit a full application package or removed from further consideration. In either case, copies of reviews, including a summary of the panel comments, but not the identity of panel reviewers, have been provided to each applicant. The review of pre-applications was conducted in accordance with the DOE's merit review guidance and 10 CFR Part 600, and consistent with USDA-NIFA's standards for competition as outlined in Subparts B and C of 7 CFR 3430.

- **Phase 2 – Full applications**

The second evaluation phase will consist of a scientific peer review of full application packages submitted by invitation to submit as a result of the Phase I – Pre-applications competition. Applications submitted that were not invited, or do not expand on successful Phase I proposals will not be reviewed. Successful Phase I applicants invited to submit may not significantly change the scope or focus of the original Phase I proposals. The review and evaluation of full applications will meet standards for competition as outlined in Subparts B and C of 7 CFR 3430.

1. Type of Award Instrument

- Grants

2. Estimated Funding

There is no commitment by USDA or DOE to fund any particular application or to make a specific number of awards.

- DOE funding is subject to annual appropriations. BRDI funding made available to USDA is mandatory through FY 2012 pursuant to 7 U.S.C. 8108 (h)(1). All figures below should be treated as estimates.

Anticipated Federal Funding:	\$35 million
FY 2012 USDA-NIFA Federal Funding Amount:	\$25 million
Anticipated FY 2013 DOE Federal Funding Amount*:	\$10 million

* DOE reserves the right to fund, in whole or in part, any, all, or none of the applications submitted in response to this solicitation and will award the number of financial instruments that serves the public purpose and is in the best interests of the Government. All DOE funding is subject to the availability of annual Congressional appropriations.

USDA-NIFA awards issued as a result of this RFA will have designated the Automated Standard Applications for Payment System (ASAP), operated by the Department of Treasury's Financial Management Service, as the payment system for funds. For more information see http://www.nifa.usda.gov/business/method_of_payment.html.

3. Maximum and Minimum Award Size

- Ceiling (i.e., the maximum amount for an individual award made under this announcement): \$7,000,000 (total, not per year)
- Floor (i.e., the minimum amount for an individual award made under this announcement): \$3,000,000 (total, not per year)

4. Expected Number of Awards

- DOE anticipates funding 1-3 awards in FY 2013, subject to the availability of annual Congressional appropriations.
- USDA-NIFA anticipates funding 5-7 awards in FY 2012.

5. Anticipated Award Size

- The average award size is anticipated to be approximately \$5.8 million. The average award size for this program in FY 2010 was \$ 5.8 million. DOE and USDA expect the average award size to be similar under this solicitation. All DOE funding is subject to the availability of annual Congressional appropriations. Section 9008(e)(6) of FSRIA, as amended, (7 U.S.C. 8108(e)(6)) requires that not less than 15% of the available funds for BRDI be awarded under each of the 3 legislatively mandated technical areas.

6. Period of Performance

- DOE and USDA anticipate making awards with project periods of up to three (3) years.

7. Type of Application

In FY 2012, applications must be submitted to the Joint Biomass Research and Development Initiative Program as the following type of request:

- New application. DOE and USDA-NIFA will accept **only new applications** under this solicitation (i.e., applications for renewals of existing DOE/USDA-NIFA funded projects

will not be considered). All new applications will be reviewed competitively using the selection process and evaluation criteria described in Part V—Application Review Requirements.

8. Project Types

BRDI may fund only two project types:

- a. Research and/or Development; or
- b. Demonstration

The project types are limited to research and development (see definition, Part VIII, E.) or demonstration of biofuels and biobased products; and the methods, practices, and technologies, for the production of biofuels and biobased products.

The applicant must explicitly define that the project is either “Research and Development” or “Demonstration” and budget accordingly. Both project types cannot be included in a proposal that is funded by USDA-NIFA.

PART III—ELIGIBILITY INFORMATION

A. Eligible Applicants

All entities listed under Section 9008(e)(5) of FSRFA, as amended (7 U.S.C. 8108(e)(5)), are eligible to apply. Eligible entities are:

- (A) An institution of higher education;
- (B) A National Laboratory;
- (C) A Federal research agency;
- (D) A State research agency;
- (E) A private sector entity;
- (F) A nonprofit organization; or
- (G) A consortium of 2 or more entities described in (A) through (F) above.

Applicants are encouraged to form consortia so that a range of capabilities is available to address all aspects of the three technical areas. Institutions of higher education include colleges and universities beyond the secondary education level. Private sector entities include companies, corporations, farms, ranches, cooperatives, and others that compete in the marketplace. DOE specific restrictions on consortia, explained below, do not apply to USDA awards.

If an application proposes a consortium, DOE will require that the consortium structure consist of a Consortium Lead Organization (with associated Director and other key personnel) and technical partners who will conduct the technical scope of work described by the consortium in collaboration with the Lead Organization. All participants must be clearly identified. The Consortium Lead should be focused on the coordination and management of the overall technical effort in addition to the strategy, approach, and expected outcomes. The Consortium Lead must describe how it will effectively maintain cohesiveness in a group of organizations having different corporate or operating cultures. DOE will expect this information to be included in the full application. It is anticipated that the award(s) will be made to the Lead Organization within the selected consortium, with the technical partners as sub-recipients to the Lead Organization. DOE does not anticipate making awards to a joint venture or other special entity formed specifically for the purpose of carrying out a project under this RFA.

Award recipients may subcontract to organizations not eligible to apply provided such organizations are necessary for the conduct of the project. An applicant's failure to meet an eligibility criterion by the time of an application deadline will result in NIFA not accepting the application, or even though an application may be reviewed, will preclude NIFA from making an award.

B. Cost Sharing

Cost Share 20% and/or 50%

The recipient is required to cost share. The non-Federal share of the cost of a research or development project under BRDI shall be not less than 20 percent of the allowable total project cost. The non-Federal share of the cost of a demonstration or commercial project under BRDI shall be not less than 50 percent of the allowable total project cost. The allowable total project

cost is equal to the sum of Federal funds requested and non-Federal matching funds. Applicant cost share must come from non-Federal sources unless otherwise allowed by law. No blending of research and development, and demonstration cost share will be permitted. Blending is defined as having one project (e.g. demonstration) making up the match “share” requirement of the other project (e.g. research or development project). Whereas projects cannot blend the recipient share, they must also provide different budgets for demonstration or research and development projects. The recipient can determine their match requirement from three different perspectives. First, if the recipient knows that the **total** cost (federal and non-federal allowable costs) of the project is \$100,000, and their cost share is 20%, they only need to multiply the total project costs of \$100,000 by 20 percent and see that their non-federal share is \$20,000 and they will request \$80,000 in federal funding. Secondly, if they are told that they can request up to \$80,000 in federal funds and the grantee wants to know what their non-federal share would be, they take the federal share of \$80,000 and divide it by the federal “share” percentage of 80%, which will give them **total** project fund level of \$100,000. They take the total funds of \$100,000 and multiply by their non-federal share of 20% to get their non-federal share of \$20,000. Finally, if the recipient knows that they can provide non-federal contributions of up to \$20,000, and desires to know what federal funds can be requested with the available match of \$20,000. The recipient takes the \$20,000 available for non-federal contribution, and divides by the non-federal percentage of 20%, which provides them with a **total** project fund amount of \$100,000. The recipient then can subtract their available \$20,000 to get the federal amount of \$80,000 or they may multiply the total amount by 80% and get the federal amount of \$80,000. These three alternate ways to compute cost share can be used with any amount and any percentage. The applicant must explicitly define that the project is either “Research and Development” or “Demonstration” in the Budget Justification [SF 424 (R&R) Budget Fed & Non-Fed, Field K].

The sum of the Government share, including Federally Funded Research and Development Center (FFRDC) contractor costs if applicable, and the recipient share of allowable costs equals the total allowable cost of the project. If an FFRDC is involved as either the prime applicant or as a collaborator or Co-Project Director (PD), cost share will still be based on the total project cost and the source of cost share must come from non-Federal sources.

Applicable cost sharing requirements for DOE are included in 10 CFR Part 600 and Appendix B. Cost share for USDA-NIFA projects must comply with NIFA cost principles referenced in Sections IV.B.6 and VI.C. of this RFA.

The term “demonstration” is defined as demonstration of technology in a pilot plant or semi-works scale facility, including a plant or facility located on a farm.

C. Indirect Costs

Section 7132 of the Food, Conservation, and Energy Act of 2008, amended the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (7 U.S.C. 3310(a)), limiting indirect costs to **22 percent of the total Federal funds provided under each USDA NIFA award**. Therefore, when preparing budgets, applicants should limit their requests for recovery of indirect costs to the lesser of their institution’s officially negotiated indirect cost rate or the equivalent of 22 percent of total Federal funds awarded.

D. Multiple Principal Investigators

The assignment and use of multiple Principal Investigators (PIs)/project directors (PDs) for projects submitted to this RFA is allowed. Additionally, PIs may collaborate on as many projects as they choose; however, a PI/PD may only be the lead on one (1) submission. As a part of the FY 2012 BRDI Phase I – Pre-Application process, the applicant, whether a single organization or team/partnership/consortium, was required to indicate if the project includes multiple PIs. If multiple PIs are designated, the Applicant must identify in the application the Contact PI/Project Coordinator. Each PI's roles and administrative, technical, and scientific responsibilities for the project should be described in the application.

PART IV—APPLICATION AND SUBMISSION INFORMATION

A. Electronic Application Package

Only electronic applications may be submitted via Grants.gov to NIFA in response to this RFA.

Prior to preparing an application, it is suggested that the project director (PD)/principle investigator (PI) first contact an Authorized Representative (AR) (also referred to as Authorized Organizational Representative or AOR) to determine if the organization is prepared to submit electronic applications through Grant.gov. If the organization is not prepared, the AR should see http://www.grants.gov/applicants/get_registered.jsp for steps for preparing to submit applications through Grants.gov.

The steps to access application materials are as follows:

1. In order to access, complete and submit applications, applicants must download and install a version of Adobe Reader compatible with Grants.gov. This software is essential to apply for NIFA Federal assistance awards. For basic system requirements and download instructions, please see http://www.grants.gov/help/download_software.jsp. To verify that you have a compatible version of Adobe Reader, Grants.gov established a test package that will assist you in making that determination. Grants.gov Adobe Versioning Test Package: <http://www.grants.gov/applicants/AdobeVersioningTestOnly.jsp>.
2. The application package must be obtained via Grants.gov, go to <http://www.grants.gov>, click on “Apply for Grants” in the left-hand column, click on “**Step 1: Download a Grant Application Package and Instructions,**” enter the funding opportunity number, **USDA-NIFA-9008-003828**, 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: A Guide for Preparation and Submission of NIFA Applications via Grants.gov.” 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.

If assistance is needed to access the application package (e.g., downloading or navigating Adobe forms), refer to resources available on the Grants.gov Web site first (<http://www.grants.gov/>). Grants.gov assistance is also available as follows:

Grants.gov customer support

Toll Free: 1-800-518-4726

Business Hours: 24 hours a day, 7 days a week. Closed on [Federal Holidays](#).

Email: support@grants.gov

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

B. Content and Form of Application Submission

Electronic applications should be prepared following Parts V and VI of the document entitled “A Guide for Preparation and Submission of NIFA Applications via Grants.gov.” This guide is part of the corresponding application package (see Section A. of this Part). The following is **additional information** needed in order to prepare an application in response to this RFA. If there is discrepancy between the two documents, the information contained in this RFA is overriding.

Note the attachment requirements (e.g., portable document format) in Part III section 3. of the Guide. ANY PROPOSALS CONTAINING NON-PDF DOCUMENTS WILL BE AT RISK OF BEING EXCLUDED FROM NIFA REVIEW. DO NOT password protect PDF documents – NIFA cannot access any PDF with password protection. Partial applications will be excluded from NIFA review. With documented prior approval, resubmitted applications that are complete will be accepted until close of business on the closing date in the RFA.

If you do not own PDF-generating software, Grants.gov provides online tools to assist applicants. Users will find a link to “Convert Documents to PDF” on <http://grants.gov/assets/PDFConversion.pdf>.

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.

2. SF 424 R&R Project/Performance Site Location(s)

Information related to the questions on this form is dealt with in detail in Part V, 3. of the NIFA Grants.gov Application Guide.

3. R&R Other Project Information Form

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

PLEASE NOTE: The Project Summary/Abstract shall not exceed **two pages** of single or double-spaced written text. This maximum has been established to ensure fair and equitable competition. The Project Summary/Abstract must include all of the following:

a. Field 7. Project Summary/Abstract.

The project summary must contain a summary of the proposed activity suitable for dissemination to the public. It must include:

- Name of Applicant Organization – enter the single entity that will be the primary recipient.
- Collaborating and/or Partner Organizations – if more than one organization or entity is participating in the project, list the other organizations here.
- Contact PI/Project Director – the PI who will serve as the single point of contact for the project. See Section III.D.

- Other Principal Investigator(s) – if multiple PIs are included in the project, list the other PIs here.
- Project Title – enter the project title.
- City, state, and zip code where the project will be managed – use the location that best describes where the project will be managed/coordinated.
- Federal Funds Requested – enter the dollar amount being requested.
- Cost Share Provided – enter the dollar amount being contributed by the applicant(s). (Please Note: USDA does not consider the cost share provided during the peer review process).
- Total Project Cost – enter the total project cost. This should be the sum of the Federal Funds and the Cost Share.
- Does the project address all three Technical Areas? Put an X by either “Yes” or “No.”
- TA 1 – Feedstocks Development: List the Proposed Feedstock(s) and Advanced Crop Production Method – this refers to Technical Area 1. Please provide a list of proposed feedstock(s) and method(s) that will be used by the project.
- TA 2 – Biofuels and Biobased Products Development: List the Proposed Conversion Technology(s) – this refers to Technical Area 2. Please provide a list of technologies that will be used by the project.
- TA 3 – Biofuels and Biobased Products Development Analysis: State the Proposed Sustainability Approach – this refers to Technical Area 3. Please state very briefly.
- Provide an Abstract.

b. Field 8. Project Narrative.

PLEASE NOTE: The Project Narrative shall not exceed **25 pages** of written text regardless of whether it is single or double spaced including charts, graphs, maps, photographs, and other pictorial presentations. This maximum (25 pages) has been established to ensure fair and equitable competition.

The Project Narrative must include all of the following:

1. Title Page. Cover page should include the name and type of organization, the RFA title, the project title (Note this page does not count against the narrative’s specified page limit.)
2. Table of Contents. Table of contents should include page numbers corresponding to the elements outlined in these guidelines. (Note the table of contents does not count against the narrative’s specified page limit.)
3. Project Objectives. This section should provide a clear, concise statement of the specific objectives/aims of the proposed project.
4. Merit Review Criterion Discussion. This section should be formatted to address each of the merit review criterion and sub-criterion listed below. Provide sufficient information so that reviewers will be able to evaluate the application in accordance with these merit review criteria (this information is repeated in Part V.B.) DOE and USDA will evaluate

and consider only those applications that address separately each of the merit review criterion and sub-criterion below:

Criterion 1: Technical Relevance and Merit (Weight: 35 percent)

Specific considerations are:

- Relevance and alignment of the project objectives to the Technical Area goals;
- Effective integration of the three technical areas for biofuels and/or bioenergy and/or biobased products; and
- Novelty, innovation, uniqueness, and originality of the project objective or the extent to which the project objectives move the industry forward. Applications should articulate how this project will advance the industry against the relevant baseline that the system, technology, or product is building upon or competing against.

Criterion 2: Technical Approach/Work Plan (Weight: 25 percent)

Specific considerations are:

- Clarity, reasonableness, and feasibility of the technical approach to achieve project goals;
- Viability, adequacy, and relevance of the proposed task structure, milestones, schedule, and performance measures and deliverables;
- Likelihood that a Research and Development project will be ready to be demonstrated or scaled-up upon completion;
- Likelihood that a Demonstration project will generate adequate performance data and business planning to secure additional funding or financing; and
- Adequacy and viability of the tools and management capabilities to mitigate project uncertainty and risks.

Criterion 3: Rural Economic Development & Sustainability (Weight: 25 percent)

Extent to which the proposed project demonstrates the following criteria based on preliminary data specific to this proposal:

- Promotion of enterprise and community self-sufficiency, rural economic development, job creation; inclusion of community stakeholders;
- Quantification of life-cycle economic and environmental benefits, e.g. impacts and benefits to public safety, the environment, and land sustainability in rural areas. In particular, collection of data that can be used to gauge improvements in key sustainability areas, specifically soil quality, water quality/water use, generation/reduction of hazardous/toxic substances, air emissions; wastewater discharges; reductions in use of pesticides, herbicides and fertilizer, and other data necessary to quantify the sustainability of the project. Quantification of projected energy efficiency and/or petroleum displacement benefits and include any assumptions used;
- Demonstrate the integration of system evaluation methods to optimize the economic, environmental, and social performance of the system; and
- For advanced hydrocarbon-based biofuels, compatibility of the proposed technology or product with existing infrastructure and end use applications.

Criterion 4: Technical, Management, and Facility Capabilities (Weight: 15 percent)

Specific considerations are:

- Credentials, capabilities, experience (technical and managerial), availability, and performance record of key personnel;
 - Type, quality, availability, and appropriateness of facilities, equipment, and supplies; and
 - Extent to which the roles and responsibilities of key personnel are clearly defined.
5. **Relevance and Outcomes/Impacts.** This section should explain the relevance of the effort to the objectives in Part I., B. and the expected outcomes and impacts. Outcomes are observed changes in knowledge, adoption of new and more efficient technologies, change of practice, or behaviors. Impacts are the measurable results of outcomes such as increased biofuel production, improved cost effectiveness, or adoption of new feedstocks and advanced manufacturing technologies.
 6. **Project Timetable.** This section should outline as a function of time, year by year, all of the important activities or phases of the project, including any activities planned beyond the project period. Successful applicants must use this project timetable to report progress.
 7. **Evaluation Phase.** This section must include a plan and quantifiable measures to be used to assess the success of the project.

c. Field 9 Bibliography & Cited References - (PDF Format is Required)

Provide a complete list of all references cited in the application. For each reference, provide the complete name for each author, the year of the publication, full title of the article, name of the journal or book published, volume, and the page numbers. The references should be listed in alphabetical order using the last name of the first author.

d. 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. See field 12 item (1).

e. 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 section 6; Field K – Budget Justification.

f. Field 12 Other Attachments - (PDF Format is Required)

Additional documentation that may be required for your application should be grouped in this section.

(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) 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. R&R Senior/Key Person Profile (Expanded)

Information related to the questions on this form is dealt with in detail in Part V, 5. of the NIFA Grants.gov Application Guide. A Senior/Key Person Profile should be completed for the PD/PI and each co-PD/PI, senior associate, and other professional personnel.

- a. Attach Biographical Sketch – **PDF Attachment. 2-Page Limit (excluding publications listings) per PD/PI, co-PD/PI, senior associate, and other professional personnel.** Title the attachment as ‘Biographical Sketch’ in the document header and save file as ‘Biographical Sketch – person name’.
- b. Attach Current and Pending Support – **PDF Attachment. No Page Limit.** Title each attachment as ‘Current and Pending Support’ in the document header and save file as ‘Current and Pending Support – person name’. Individual Current and Pending Support information should be completed for the PD/PI and each co-PD/PI.

A suggested template for the Current and Pending Support can be found at:

http://www.nifa.usda.gov/funding/templates/current_pending.doc.

Current and Pending Support information is only required for personnel with PD/PI or co-PD/PI indicated as their Project Role on the R&R Senior/Key Person Profile. All applications must contain a list of all Current and Pending Support detailing public or private support (including in-house support) to which personnel identified in the application have committed portions of their time, whether or not salary support for person(s) involved is included in the budget, see template. **Please note that the project being proposed should be included in the pending section of the form. Total project time listed for each PD/PI should be indicated as a percent effort and not exceed 100% for concurrent projects.**

5. 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.

6. (R&R) Budget Fed & Non-Fed

Information related to the questions on this form is dealt with in detail in Part V, 7. of the NIFA Grants.gov Application Guide. This form (accompanied by the required Budget Justification attachment (see Field K on the Form)) contains the itemized listing and description of your project’s budget. Applicants must complete one SF 424 (R&R) Budget Fed & Non-Fed Form for each 12-month period, plus a cumulative budget form for the entire project.

The Budget Justification must define the amount (and percent) of federal funds that will be allocated to activities related to each of the three technical areas defined in Section I.B. The budget justification should also include a brief breakdown of the distribution of funds among collaborators (by amount and percent of federal funds) and the geographic distribution of funds by state based on project activity, if project team members reside in different states.

Cost Sharing:

The recipient is required to cost share. The non-Federal share of the cost of a research or development project under BRDI shall be not less than 20 percent of the total allowable project cost. The non-Federal share of the cost of a demonstration project under BRDI shall be not less than 50 percent of the total allowable project cost. The total allowable project cost is equal to the sum of Federal funds requested and non-Federal matching funds. Applicant cost share must come from non-Federal sources unless otherwise allowed by law. No blending of research and development, and demonstration cost share will be permitted. Blending is defined as having one project (e.g. demonstration project) making up the match “share” requirement of the other project (e.g. research or development project). Whereas projects cannot blend the recipient share, they must also provide different budgets for demonstration projects and research or development projects. The recipient can determine their match requirement from three different perspectives. First, if the recipient knows that the **total** cost (federal and non-federal allowable costs) of the project is \$100,000, and their cost share is 20%, they only need to multiply the total project costs of \$100,000 by 20 percent and see that their non-federal share is \$20,000 and they will request \$80,000 in federal funding. Secondly, if they are told that they can request up to \$80,000 in federal funds and the grantee wants to know what their non-federal share would be, they take the federal share of \$80,000 and divide it by the federal “share” percentage of 80%, which will give them **total** project fund level of \$100,000. They take the total funds of \$100,000 and multiply by their non-federal share of 20% to get their non-federal share of \$20,000. Finally, if the recipient knows that they can provide non-federal contributions of up to \$20,000, and desires to know what federal funds can be requested with the available match of \$20,000. The recipient takes the \$20,000 available for non-federal contribution, and divides by the non-federal percentage of 20%, which provides them with a **total** project fund amount of \$100,000. The recipient then can subtract their available \$20,000 to get the federal amount of \$80,000 or they may multiply the total amount by 80% and get the federal amount of \$80,000. These three alternate ways to compute cost share can be used with any amount and any percentage. The applicant must explicitly define that the project is either “Research and Development” or “Demonstration” in the Budget Justification (see Field K on the Form).

Applications shall include written verification of commitments of matching support (including both cash and fair market value of in-kind contributions) from third parties (non-Federal sources) in an amount not less than 20 percent of costs for R&D projects, not less than 50 percent of costs for demonstration/commercial projects. Written verification means:

For any third party cash contributions, a separate pledge agreement for each donation, signed by the authorized representative of the donor organization and the applicant organization, which must include: (1) the name, address, and telephone number of the donor; (2) the name of the applicant organization; (3) the title of the project for which the

donation is made; (4) the dollar amount of the cash donation or the fair market value of in-kind contribution; and (5) a statement that the donor will provide the cash or in-kind contribution during the grant period.

The sources and the amount of all matching support from the applicant organization and outside the applicant organization shall be summarized on a separate page and placed in the application as a part of the Budget Justification attachment (see Field K on the Form SF 424 (R&R) Budget Fed & Non-Fed). Include the matching amount, the budget category for the match, and detail how the matching support, *from each source*, will be used (e.g., salary and position supported). Additionally, all pledge agreements must be included as a PDF attachment in Field K as well.

The value of applicant contributions to the project shall be established in accordance with the applicable cost principles. Applicants should refer to OMB Circulars A-21, Cost Principles for Educational Institutions; A-87, Cost Principles for State, Local, and Tribal Governments; A-122, Cost Principles for Non-Profit Organizations relocated to 2 CFR Parts 220, 225, and 230; 2 CFR Part 215, Uniform Administrative Requirements for Grants and Agreements With Institutions of Higher Education, Hospitals, and Other Non-Profit Organizations (OMB Circular A-110); and the cost principles in the Federal Acquisition Regulation at 48 CFR 31.2 for further guidance and other requirements relating to matching and allowable costs.

This form (accompanied by the required Budget Justification attachment) contains the itemized listing and description of your project's budget. Complete all applicable fields. Information related to the questions on this form is dealt with in detail in Part V. 7 of the NIFA Grants.gov Application Guide.

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

If the project has sub-contracts, applicants will need to complete this form for each sub-contractor. Applicants should reference the NIFA Application Guide to complete this form. Applicants should also note that the sub-award forms will not be checked when the "Check Package for Errors" button is clicked. The sub-award budget forms will be checked when submitted to Grants.gov and it is the responsibility of the applicant to ensure that these forms are completed correctly.

7. Supplemental Information Form

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

- a. Field 2. Program Code. Enter the program code name "**Biomass Research and Development Initiative**" and the program code "**BRDI**".

C. Submission Dates and Times

Instructions for submitting an application are included in Part IV, Section 1.9 of the NIFA Grants.gov Application Guide.

Applications must be received by Grants.gov by COB on **August 3, 2012 (5:00 p.m. Eastern Time)**. Applications received after this deadline will not be considered for funding.

Correspondence regarding submitted applications will be sent using e-mail. Therefore, applicants are strongly encouraged to provide accurate e-mail addresses, where designated, on the SF-424 R&R Application for Federal Assistance.

If the AR has not received correspondence from NIFA regarding a submitted application within 30 days of the established deadline, please contact the Program Contact identified in Part VII of the applicable RFA and request the proposal number assigned to the application. **Failure to do so may result in the application not being considered for funding by the peer review panel. Once the application has been assigned a proposal number, this number should be cited on all future correspondence.**

D. Funding Restrictions

All DOE funding is subject to the availability of annual Congressional appropriations.

Cost Principles Costs must be allowable in accordance with the applicable Federal cost principles referenced in 10 CFR Part 600. The cost principles for commercial organizations are in FAR Part 31.

Pre-award Costs Recipients may charge to an award, resulting from this announcement, pre-award costs that were incurred within the ninety (90) calendar day period immediately preceding the effective date of the award, if the costs are allowable in accordance with the applicable Federal cost principles referenced in 10 CFR Part 600. Recipients must obtain the prior approval of the Contracting Officer for any pre-award costs that are for periods greater than this 90 day calendar period.

Pre-award costs are incurred at the applicant's risk. DOE is under no obligation to reimburse such costs if for any reason the applicant does not receive an award or if the award is made for a lesser amount than the applicant expected.

If recipients are State or Local Governments, they may not incur pre-award costs prior to award, without prior approval of the DOE Contracting Officer.

DOE does not guarantee or assume any obligation to reimburse costs where the recipient incurred the costs prior to receiving from the DOE Contracting Officer a written authorization indicating that DOE has issued either a NEPA clearance or a final NEPA determination. If the applicant carries out activities that may have an adverse affect on the environment or limit the choice of reasonable alternatives prior to receiving such written authorization from the DOE Contracting Officer, the applicant is doing so at risk of not receiving Federal funding and such costs may not be recognized as allowable cost share. Likewise, if a project is selected for negotiation of award, and the recipient moves forward with activities that are not authorized for Federal funding by the DOE Contracting Officer in advance of the NEPA determination, the recipient is doing so at risk of not receiving Federal funding and such costs may not be

recognized as allowable cost share. Nothing contained in the pre-award cost reimbursement regulations or any pre-award costs approval letter from the DOE Contracting Officer override these NEPA requirements to obtain the written authorization from the DOE Contracting Officer regarding a final NEPA determination prior to taking any action that may have an adverse affect on the environment or limit the choice of reasonable alternatives.

1. For Applications invited to be funded by NIFA:

a. Indirect Costs

Section 7132 of the Food, Conservation, and Energy Act of 2008, amended the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (7 U.S.C. 3310(a)), limiting indirect costs to 22 percent of the total Federal funds provided under each award. Therefore, when preparing budgets, applicants should limit their requests for recovery of indirect costs to the lesser of the total indirect costs calculated with the institution's officially negotiated indirect cost rate or the equivalent of 22 percent of total Federal funds awarded. An applicant may elect not to charge indirect costs and, instead, use all grant funds for direct costs. If indirect costs are not charged, the phrase "None requested" should be written in this space.

The maximum allowed indirect cost of 22 percent may be claimed under the Federal portion of the award, or the maximum allowed indirect cost of 22 percent may be claimed as matching contributions (if no indirect costs are requested). However, the maximum allowed indirect cost of 22 percent may not be claimed on both the Federal portion of the award and as matching contributions (Note: An awardee may, as an example, request 11 percent of indirect costs on both the Federal portion of the award and as matching contributions. Or, an awardee may request any other, similar percentage combination that, when combined, does not exceed the 22 percent maximum indirect cost allowed.) Nevertheless, the total combined percent of requested and contributed matching indirect costs cannot exceed 22 percent. In-kind support from non-Federal sources in the form of unrecovered indirect costs *may not* be used to meet the matching requirements.

Special Notices:

1. NIFA will withhold all funds for a BRDI award to an applicant requesting indirect costs if the applicant has not negotiated an indirect cost rate with its cognizant federal agency.
2. If a grantee is in the process of negotiating an indirect cost rate with its federal agency, NIFA will withhold all funds from that grantee until the indirect cost rate has been established.
3. If an institution's indirect cost rate has expired or will expire in the near future, a clear statement on renegotiation efforts must be included in the application. (See Part IV, B.6. SF 424 (R&R) Budget Fed & Non-Fed).
4. It is incumbent on all applicants to have a current indirect cost rate or begin negotiations to establish an indirect cost rate prior to the BRDI submission deadline. Because it may take several months to obtain an indirect cost rate, applicants needing an indirect cost rate are encouraged to start work on establishing these rates well in advance of submitting a BRDI application.

5. In lieu of requesting indirect costs (if the applicant does not have a negotiated rate), an applicant may prepare a budget in which all charges in the budget are included as direct costs.

b. Pre-award Costs

Recipients may charge pre-award costs that were incurred within the ninety (90) calendar day period immediately preceding the effective date of the award, if the costs are allowable in accordance with the applicable Federal cost principles referenced in Section VI. C. of this announcement. Recipients must obtain the prior approval of the USDA Authorized Departmental Officer (ADO) for any pre-award costs that are for periods greater than this 90 day calendar period.

Pre-award costs are incurred at the applicant's risk. NIFA is under no obligation to reimburse such costs if for any reason the applicant does not receive an award or if the award is made for a lesser amount than the applicant expected.

c. Building Construction or Renovation

Funds made available under this subpart shall not be used for the construction of a new building or facility of the acquisition, expansion, remodeling, or alteration of an existing building or facility (including site grading and improvement, and architect fees).

d. Fixed Equipment

No funds will be awarded for equipment that is permanently fixed in place.

E. Other Submission Requirements

The applicant should follow the submission requirements noted in Part IV, section 1.9 in the document entitled "NIFA Grants.gov Application Guide."

For information about the **status of a submitted application**, see Part III., section 6. of the NIFA Grants.gov Application Guide.

F. Central Contractor Registration and Universal Identifier Requirements

In accordance with the Office of Management and Budget guidance published in the Federal Register (FR), 75 FR 55671, on September 14, 2010, "Financial Assistance Use of Universal Identifier and Central Contractor Registration," awardees must comply with the requirements of this award term.

Requirement for Central Contractor Registration (CCR)

Unless exempt from this requirement under 2 CFR 25.110, the recipient must maintain current information in the CCR until submitting the final financial report or receiving the final payment, whichever is later. This requires reviewing and updating the information at least annually after initial registration, and more frequently if required by changes in information or award terms.

Requirement for Data Universal Numbering System (DUNS) Numbers

If you are authorized to make subawards under this award, you:

1. Must notify potential subrecipients that no entity (see definition in paragraph C of this award term) may receive a subaward from you unless the entity has provided its DUNS number to you.
2. May not make a subaward to an entity unless the entity has provided its DUNS number to you.

Definitions

For purposes of this award term:

1. *Central Contractor Registration (CCR)* means the Federal repository into which an entity must provide information required for the conduct of a business as a recipient. Additional information about registration procedures may be found at the CCR Internet site (currently at <http://www.ccr.gov>).
2. *Data Universal Numbering System (DUNS) number* means the nine-digit number established and assigned by Dun and Bradstreet, Inc. (D&B) to uniquely identify business entities. A DUNS number may be obtained from D&B by telephone (currently 866-705-5711) or the Internet (currently at <http://fedgov.dnb.com/webform>).
3. *Entity*, as it is used in this award term, means all of the following, as defined at 2 CFR part 25, subpart C:
 - a. A Governmental organization, which is a State, local government, or Indian Tribe;
 - b. A foreign public entity;
 - c. A domestic or foreign nonprofit organization;
 - d. A domestic or foreign for-profit organization; and
 - e. A Federal agency, but only as a subrecipient under an award or subaward to a non-Federal entity.
4. *Subaward*:
 - a. This term means a legal instrument to provide support for the performance of any portion of the substantive project or program for which you received this award and that you as the recipient award to an eligible subrecipient.
 - b. The term does not include your procurement of property and services needed to carry out the project or program (for further explanation, see § .210 of the attachment to OMB Circular A-133, “Audits of States, Local Governments, and Non-Profit Organizations”).

PART V—APPLICATION REVIEW REQUIREMENTS

A. General

Each application will be evaluated in a 2-part process. First, each application will be screened to ensure that it meets the administrative requirements as set forth in this RFA. Second, applications that meet these requirements will be technically evaluated by a review panel.

Reviewers will be selected based upon training and experience in relevant scientific, extension, or education fields, taking into account the following factors: (a) The level of relevant formal scientific, technical education, or extension experience of the individual, as well as the extent to which an individual is engaged in relevant research, education, or extension activities; (b) the need to include as reviewers experts from various areas of specialization within relevant scientific, education, or extension fields; (c) the need to include as reviewers other experts (e.g., producers, range or forest managers/operators, and consumers) who can assess relevance of the applications to targeted audiences and to program needs; (d) the need to include as reviewers experts from a variety of organizational types (e.g., colleges, universities, industry, state and Federal agencies, private profit and non-profit organizations) and geographic locations; (e) the need to maintain a balanced composition of reviewers with regard to minority and female representation and an equitable age distribution; and (f) the need to include reviewers who can judge the effective usefulness to producers and the general public of each application.

B. Evaluation Criteria

The evaluation criteria below will be used in reviewing applications submitted in response to this RFA:

Applicants will be required to describe the integration of all three Technical topic areas and whether they are proposing a Research and Development, or Demonstration project. The following criteria will be used to evaluate full applications. Weight percentages for each area are as follows:

Criterion 1: Technical Relevance and Merit (Weight: 35 percent)

Specific considerations are:

- Relevance and alignment of the project objectives to the Technical Area goals;
- Effective integration of the three technical areas for biofuels and/or bioenergy and/or biobased products; and
- Novelty, innovation, uniqueness, and originality of the project objective or the extent to which the project objectives move the industry forward. Applications should articulate how this project will advance the industry against the relevant baseline that the system, technology, or product is building upon or competing against.

Criterion 2: Technical Approach/Work Plan (Weight: 25 percent)

Specific considerations are:

- Clarity, reasonableness, and feasibility of the technical approach to achieve project goals;

- Viability, adequacy, and relevance of the proposed task structure, milestones, schedule, and performance measures and deliverables;
- Likelihood that a Research and Development project will be ready to be demonstrated or scaled-up upon completion;
- Likelihood that a Demonstration project will generate adequate performance data and business planning to secure additional funding or financing; and
- Adequacy and viability of the tools and management capabilities to mitigate project uncertainty and risks.

Criterion 3: Rural Economic Development & Sustainability (Weight: 25 percent)

Extent to which the proposed project demonstrates the following criteria based on preliminary data specific to this proposal:

- Promotion of enterprise and community self-sufficiency, rural economic development, job creation; inclusion of community stakeholders;
- Quantification of life-cycle economic and environmental benefits, e.g. impacts and benefits to public safety, the environment, and land sustainability in rural areas. In particular, collection of data that can be used to gauge improvements in key sustainability areas, specifically soil quality, water quality/water use, generation/reduction of hazardous/toxic substances, air emissions; wastewater discharges; reductions in use of pesticides, herbicides and fertilizer, and other data necessary to quantify the sustainability of the project. Quantification of projected energy efficiency and/or petroleum displacement benefits and include any assumptions used;
- Demonstrate the integration of system evaluation methods to optimize the economic, environmental, and social performance of the system; and
- For advanced hydrocarbon-based biofuels, compatibility of the proposed technology or product with existing infrastructure and end use applications.

Criterion 4: Technical, Management, and Facility Capabilities (Weight: 15 percent)

Specific considerations are:

- Credentials, capabilities, experience (technical and managerial), availability, and performance record of key personnel;
- Type, quality, availability, and appropriateness of facilities, equipment, and supplies; and
- Extent to which the roles and responsibilities of key personnel are clearly defined.

PRIORITY CONSIDERATIONS

The peer review panel shall give priority consideration to applications that:

1. Involve a consortia of experts from multiple institutions;
2. Encourage the integration of disciplines and application of the best technical resources; and
3. Increase the geographic diversity of demonstration projects.

The peer review panel will not take the offer or availability of matching funds into consideration (7 U.S.C. §7613(a)).

Other Selection Factors: Post Peer Review

For full applications, DOE and USDA-NIFA will conduct independent program policy factor reviews. DOE's will be conducted by DOE Headquarters for consideration by the DOE Selection Official.

For applications selected for award by DOE, additional program policy factors will include:

Balance of the overall portfolio of DOE investments in biomass research and development and relevance to the specific DOE barriers and pathways as outlined in the Program Multi-year Program Plan:

http://www1.eere.energy.gov/biomass/pdfs/mypp_november_2011.pdf

- Projects that best leverage DOE resources.

For applications selected for award by USDA-NIFA, additional program policy factors will include:

- Involve a consortia of experts from multiple institutions;
- Encourage the integration of disciplines and application of the best technical resources;
- Diversity of funded feedstocks and conversion technologies;
- Geographic diversity of research and/or development projects; as well as demonstration projects; and
- Balance among the value chain components (e.g., feedstock development and growth; feedstock harvesting and preparation; feedstock logistics and transportation; feedstock storage and handling; biomass pre-processing (as appropriate); biomass conversion; production of biofuels/bioenergy/biobased products; product logistics and handling; product delivery and distribution.

C. Conflicts of Interest and Confidentiality

During the peer evaluation process, extreme care will be taken to prevent any actual or perceived conflicts of interest that may impact review or evaluation. For the purpose of determining conflicts of interest, the academic and administrative autonomy of an institution shall be determined by reference to the current Higher Education Directory, published by Higher Education Publications, Inc., 1801 Robert Fulton Drive, Suite 340, Reston, Virginia 20191. Phone: (888) 349-7715. Web site: <http://www.hepinc.com>.

Names of submitting institutions and individuals, as well as application content and peer evaluations, will be kept confidential, except to those involved in the review process, to the extent permitted by law. In addition, the identities of peer reviewers will remain confidential throughout the entire review process. Therefore, the names of the reviewers will not be released to applicants.

D. Organizational Management Information

Specific management information relating to an applicant shall be submitted on a one time basis, with updates on an as needed basis, as part of the responsibility determination prior to the award of a grant identified under this RFA, if such information has not been provided previously under this or another NIFA program. NIFA will provide copies of forms recommended for use in fulfilling these requirements as part of the preaward process. Although an applicant may be eligible based on its status as one of these entities, there are factors which may exclude an applicant from receiving Federal financial and nonfinancial assistance and benefits under this program (e.g., debarment or suspension of an individual involved or a determination that an applicant is not responsible based on submitted organizational management information).

PART VI—AWARD ADMINISTRATION

A. General

Within the limit of funds available for such purpose, the awarding official of NIFA shall make grants to those responsible, eligible applicants whose applications are judged most meritorious under the procedures set forth in this RFA. The date specified by the awarding official of NIFA as the effective date of the grant shall be no later than September 30 fiscal year in which the project is approved for support and funds are appropriated for such purpose, unless otherwise permitted by law. It should be noted that the project need not be initiated on the grant effective date, but as soon thereafter as practical so that project goals may be attained within the funded project period. All funds granted by NIFA under this RFA shall be expended solely for the purpose for which the funds are granted in accordance with the approved application and budget, the regulations, the terms and conditions of the award, the applicable Federal cost principles, and the Department's assistance regulations (parts 3015 and 3019 of 7 CFR).

B. Award Notice

Notice of Award - USDA

The award document will provide pertinent instructions and information including, at a minimum, the following:

1. Legal name and address of performing organization or institution to whom the Director has issued an award under the terms of this request for applications;
2. Title of project;
3. Name(s) and institution(s) of PDs/PIs chosen to direct and control approved activities;
4. Identifying award number assigned by the Department;
5. Project period, specifying the amount of time the Department intends to support the project without requiring recompetition for funds;
6. Total amount of Departmental financial assistance approved by the Director during the project period;
7. Legal authority(ies) under which the award is issued;
8. Appropriate Catalog of Federal Domestic Assistance (CFDA) number;
9. Applicable award terms and conditions (see <http://www.nifa.usda.gov/business/awards/awardterms.html> to view NIFA award terms and conditions);

10. Approved budget plan for categorizing allocable project funds to accomplish the stated purpose of the award; and
11. Other information or provisions deemed necessary by NIFA to carry out its respective awarding activities or to accomplish the purpose of a particular award.

Notice of Award – DOE

A Financial Assistance Award or Assistance Agreement issued by the Contracting Officer is the authorizing award document. It normally includes, either as an attachment or by reference:

- (1) Special Terms and Conditions;
- (2) Applicable program regulations, if any;
- (3) Application as approved by DOE;
- (4) DOE assistance regulations at 10 CFR Part 600;
- (5) National Policy Assurances To Be Incorporated As Award Terms;
- (6) Budget Summary; and
- (7) Federal Assistance Reporting Checklist, which identifies the reporting requirements.

For grants and cooperative agreements made to universities, non-profits and other entities subject to OMB Circular A-110, the Award also includes the Research Terms and Conditions and the DOE Agency Specific Requirements located at:

<http://www.nsf.gov/bfa/dias/policy/rtc/index.jsp>.

C. Administrative and National Policy Requirements

1. DOE Administrative Requirements

The administrative requirements for DOE grants and cooperative agreements are contained in Title 2 CFR (See: <http://ecfr.gpoaccess.gov>). Grants and cooperative agreements made to universities, non-profits and other entities subject to Title 2 CFR are subject to the Research Terms and Conditions located on the National Science Foundation web site at: <http://www.nsf.gov/bfa/dias/policy/rtc/index.jsp>.

DUNS and CCR Requirements

Additional administrative requirements for DOE grants and cooperative agreements are contained in 2 CFR Part 25 (See: <http://ecfr.gpoaccess.gov>). Prime awardees must keep their data at CCR current. Subawardees at all tiers must obtain DUNS numbers and provide the DUNS to the prime awardee before the subaward can be issued.

Subaward and Executive Reporting

Additional administrative requirements necessary for DOE grants and cooperative agreements to comply with the Federal Funding and Transparency Act of 2006 (FFATA) are contained in 2 CFR Part 170. (See: <http://ecfr.gpoaccess.gov>). Prime awardees must register with the new FSRS database and report the required data on their first tier subawardees. Prime awardees must report the executive compensation for their own executives as part of their registration profile in the CCR.

Special Terms and Conditions and National Policy Requirements

The DOE Special Terms and Conditions for Use in Most Grants and Cooperative Agreements are located at:

<http://energy.gov/management/downloads/special-terms-and-conditions-use-most-grants-and-cooperative-agreements>

The National Policy Assurances To Be Incorporated As Award Terms are located at

<http://energy.gov/management/downloads/national-policy-assurances-be-incorporated-award-terms>

By submitting an application in response to this RFA the Applicant certifies that:

- (1) It is **not** a corporation that has been convicted (or had an officer or agent of such corporation acting on behalf of the corporation convicted) of a felony criminal violation under any Federal law within the preceding 24 months,
- (2) It is **not** a corporation that has any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability,
- (3) If the Applicant's financial assistance application is chosen for award and the award is in excess of \$1,000,000, the applicant will, by the end of the fiscal year, upgrade the efficiency of their facilities by replacing any lighting that does not meet or exceed the energy efficiency standard for incandescent light bulbs set forth in Section 325 of the Energy Policy and Conservation Act (42 U.S.C. 6295).

Intellectual Property Provisions

The standard DOE financial assistance intellectual property provisions applicable to the various types of recipients are located at:

<http://energy.gov/gc/standard-intellectual-property-ip-provisions-financial-assistance-awards>

Reporting

Reporting requirements are identified on the Federal Assistance Reporting Checklist, DOE F 4600.2, attached to the award agreement.

2. USDA-NIFA Administrative Requirements

Several Federal statutes and regulations apply to grant applications considered for review and to project grants awarded under this program. These include, but are not limited to:

2 CFR Part 220—Cost Principles for Educational Institutions (OMB Circular A-21).

2 CFR Part 225—Cost Principles for State, Local, and Indian Tribal governments (OMB Circular A-87)

2 CFR Part 230 – Cost Principles for Non-profit Organizations (OMB Circular A-122).

7 CFR Part 1, subpart A—USDA implementation of the Freedom of Information Act.

7 CFR Part 3—USDA implementation of OMB Circular No. A-129 regarding debt collection.

7 CFR Part 15, subpart A—USDA implementation of Title VI of the Civil Rights Act of 1964, as amended.

7 CFR Part 331 and 9 CFR Part 121—USDA implementation of the Agricultural Bioterrorism Protection Act of 2002.

7 CFR Part 3015—USDA Uniform Federal Assistance Regulations, implementing OMB directives (i.e., OMB Circular Nos. A-21, A-87, and A-122, now codified at 2 CFR Parts 220, 225, and 230) and incorporating provisions of 31 U.S.C. 6301-6308 (formerly the Federal Grant and Cooperative Agreement Act of 1977, Pub. L. No. 95-224), as well as general policy requirements applicable to recipients of Departmental financial assistance.

7 CFR Part 3016—USDA Implementation of Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments.

7 CFR Part 3017—USDA implementation of Governmentwide Debarment and Suspension (Nonprocurement).

7 CFR Part 3018—USDA implementation of Restrictions on Lobbying. Imposes prohibitions and requirements for disclosure and certification related to lobbying on recipients of Federal contracts, grants, cooperative agreements, and loans.

7 CFR 3019—USDA Implementation of OMB Circular A-110, Uniform Administrative Requirements for Grants and Other Agreements with Institutions of Higher Education, Hospitals, and other non-Profit Organizations (2 CFR Part 215).

7 CFR Part 3021—USDA Implementation of Governmentwide Requirements for Drug-Free Workplace (Grants).

7 CFR Part 3052—USDA implementation of OMB Circular No. A-133, Audits of States, Local Governments, and Non profit Organizations.

7 CFR Part 3407—USDA procedures to implement the National Environmental Policy Act of 1969, as amended.

7 CFR 3430—Competitive and Noncompetitive Non-formula Grant Programs--General Grant Administrative Provisions.

29 U.S.C. 794 (section 504, Rehabilitation Act of 1973) and 7 CFR Part 15b (USDA implementation of statute) —prohibiting discrimination based upon physical or mental handicap in Federally assisted programs.

35 U.S.C. 200 et seq. —Bayh Dole Act, controlling allocation of rights to inventions made by employees of small business firms and domestic nonprofit organizations, including universities, in Federally assisted programs (implementing regulations are contained in 37 CFR Part 401)

Intellectual Property Provisions.

Financial assistance intellectual property provisions for DOE and USDA-NIFA will be specified in the award documents for each project. The standard DOE financial assistance intellectual property provisions applicable to the various types of recipients are located at <http://energy.gov/gc/standard-intellectual-property-ip-provisions-financial-assistance-awards>. Intellectual property regulations applicable to USDA-NIFA awards are described at <http://www.nifa.usda.gov/business/awards/intellprop.html>, including USDA-NIFA use of Interagency Edison for the disclosure of inventions.

PLEASE NOTE: All technical reports provided to USDA are held confidential for a period covering four years after the termination of the project. As such, proprietary information should be included in all reports when necessary to provide the USDA Staff adequate information to evaluate the outcome of the project. 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,” including the legend described in 7 CFR 3430.21 (see Part VI.

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; extra copies will be destroyed. Public release of information for any application submitted will be subject to existing statutory and regulatory requirements. 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.

D. Expected Program Outputs and Reporting Requirements for USDA NIFA Awards

Grantees are to submit initial project information and annual and summary reports to NIFA's electronic, Web-based inventory system 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. Please note the vital importance of preparing well written progress and technical reports. Information reported into this system is used extensively by NIFA for describing the work NIFA funds, in planning and assessing its programs, and communicating project results.

Projects selected for funding by USDA will be requested to allow for a 3rd party site visit and review near the termination of the grant. The results of the third party evaluation will be integrated into USDA NIFA's BRDI program evaluation activities and reported to USDA, OMB, and Congressional leadership.

Life-Cycle Inventories (LCI) and non-proprietary unit process data developed in NIFA BRDI projects are expected to be submitted to the USDA- National Agricultural Library Life-Cycle Assessment Digital Commons.

PART VII—AGENCY CONTACT

Applicants and other interested parties are encouraged to contact Carmela Bailey; National Program Leader – Agricultural Materials; telephone: (202) 401-6443; e-mail: cbailey@nifa.usda.gov.

OR

Peter Arbuckle, Program Specialist for Energy and Biobased Products; (202) 401-5741; parbuckle@nifa.usda.gov.

PART VIII—OTHER INFORMATION

A. Access to Review Information

Copies of reviews, not including the identity of reviewers, and a summary of the panel comments will be sent to the applicant PD/PI after the review process has been completed.

B. Use of Funds; Changes

1. Delegation of Fiscal Responsibility

Unless the terms and conditions of the award state otherwise, the awardee may not in whole or in part delegate or transfer to another person, institution, or organization the responsibility for use or expenditure of award funds.

2. Changes in Project Plans

a. The permissible changes by the awardee, PD(s)/PI(s), or other key project personnel in the approved project shall be limited to changes in methodology, techniques, or other similar aspects of the project to expedite achievement of the project's approved goals. If the awardee or the PD(s)/PI(s) is uncertain as to whether a change complies with this provision, the question must be referred to the Authorized Departmental Officer (ADO) for a final determination. The ADO is the signatory of the award document, not the program contact.

b. Changes in approved goals or objectives shall be requested by the awardee and approved in writing by the ADO prior to effecting such changes. In no event shall requests for such changes be approved which are outside the scope of the original approved project.

c. Changes in approved project leadership or the replacement or reassignment of other key project personnel shall be requested by the awardee and approved in writing by the ADO prior to effecting such changes.

d. Transfers of actual performance of the substantive programmatic work in whole or in part and provisions for payment of funds, whether or not Federal funds are involved, shall be requested by the awardee and approved in writing by the ADO prior to effecting such transfers, unless prescribed otherwise in the terms and conditions of the award.

e. The project period may be extended by NIFA without additional financial support, for such additional period(s) as the ADO determines may be necessary to complete or fulfill the purposes of an approved project, but in no case shall the total project period exceed any applicable statutory limit or expiring appropriation limitation. Any extension of time shall be conditioned upon prior request by the awardee and approval in writing by the ADO, unless prescribed otherwise in the terms and conditions of award.

f. Changes in Approved Budget: Unless stated otherwise in the terms and conditions of award, changes in an approved budget must be requested by the awardee and approved in writing by the

ADO prior to instituting such changes, if the revision will involve transfers or expenditures of amounts requiring prior approval as set forth in the applicable Federal cost principles, Departmental regulations, or award.

C. Confidential Aspects of Applications and Awards

When an application results in an award, it becomes a part of the record of NIFA transactions, available to the public upon specific request. Information that the Secretary determines to be of a confidential, privileged, or proprietary nature will be held in confidence to the extent permitted by law. Therefore, any information that the applicant wishes to have considered as confidential, privileged, or proprietary should be clearly marked within the application. The original copy of an application that does not result in an award will be retained by the Agency for a period of three years. Other copies will be destroyed. Such an application will be released only with the consent of the applicant or to the extent required by law. An application may be withdrawn at any time prior to the final action thereon.

D. Regulatory Information

For the reasons set forth in the final Rule related Notice to 7 CFR part 3015, subpart V (48 FR 29114, June 24, 1983), this program is excluded from the scope of the Executive Order 12372 which requires intergovernmental consultation with State and local officials. Under the provisions of the Paperwork Reduction Act of 1995 (44 U.S.C. chapter 35), the collection of information requirements contained in this Notice have been approved under OMB Document No. 0524-0039.

E. Definitions

Please refer to [7 CFR 3430, Competitive and Noncompetitive Non-formula Grant Programs--General Grant Administrative Provisions](#), and Subpart K of 7 CFR 3430 for the applicable administrative regulations and definitions for this NIFA grant program.

Additional BRDI specific definitions include:

“Advanced Biofuel” means fuel derived from renewable biomass other than corn kernel starch, including:

- (i) biofuel derived from cellulose, hemicellulose, or lignin;
- (ii) biofuel derived from sugar and starch (other than ethanol derived from corn kernel starch);
- (iii) biofuel derived from waste material, including crop residue, other vegetative waste material, animal waste (including manure), food waste, food processing waste, and yard waste;
- (iv) diesel-equivalent fuel derived from renewable biomass, including algae oils, oil seed crops, re-claimed vegetable oils and animal fat;
- (v) biogas (including landfill gas and sewage waste treatment gas) produced through the conversion of organic matter from renewable biomass;

- (vi) butanol or other alcohols produced through the conversion of organic matter from renewable biomass; and
- (vii) other fuel derived from cellulosic biomass.

“Amendment” means a revision to a Funding Opportunity Announcement.

"Applicant" means the legal entity or individual signing the Application. This entity or individual may be one organization or a single entity representing a group of organizations (such as a Consortium) that has chosen to submit a single Application in response to a Funding Opportunity Announcement.

"Application" means the documentation submitted in response to a Funding Opportunity Announcement.

“Authorized Departmental Officer or ADO” means the Secretary of Agriculture or any employee of the Department with delegated authority to issue or modify award instruments on behalf of the Secretary.

“Authorized Organization Representative (AOR)” is the person with assigned privileges who is authorized to submit grant applications through Grants.gov on behalf of an organization. *The privileges are assigned by the organization’s E-Business Point of Contact designated in the CCR.*

"Award" means the written documentation executed by a DOE Contracting Officer, after an Applicant is selected, which contains the negotiated terms and conditions for providing Financial Assistance to the Applicant. A Financial Assistance Award may be either a Grant or a Cooperative Agreement.

“Biofuel” means a fuel derived from renewable biomass.

“Biobased Product” means:

- (A) an industrial product (including chemicals, materials, and polymers) produced from biomass; or
- (B) a commercial or industrial product (including animal feed and electric power) derived in connection with the conversion of biomass to fuel.

“Bioenergy” means power generated in the form of electricity or heat using biomass as a feedstock.

“Biomass Conversion Facility” means a facility that converts or proposes to convert renewable biomass into:

- (A) heat;
- (B) power;
- (C) biobased products; or
- (D) advanced biofuels.

“Biorefinery” means a facility (including equipment and processes) that:
(A) converts renewable biomass into biofuels and biobased products; and
(B) may produce electricity

"Budget" means the cost expenditure plan submitted in the Application, including both the DOE contribution and the Applicant Cost Share.

“Cellulosic Biofuel” means renewable fuel derived from any cellulose, hemicellulose, or lignin that is derived from renewable biomass and that has lifecycle greenhouse gas emissions, as determined by the Administrator of the Environmental Protection Agency (EPA), that are at least 60 percent less than the baseline lifecycle greenhouse gas emissions.

“Central Contractor Registration (CCR)” is the primary database which collects, validates, stores and disseminates data in support of agency missions. Funding Opportunity Announcements which require application submission through FedConnect or Grants.gov require that the organization first be registered in the CCR at <https://www.bpn.gov/CCR/default.aspx>.

“Commercial” means, for the purposes of this program, a project that is commercially viable, but the technology is implemented in a new or novel way.

"Consortium (plural consortia)" means the group of organizations or individuals that have chosen to submit a single Application in response to a Funding Opportunity Announcement.

"Contracting Officer" means the DOE official authorized to execute Awards on behalf of DOE and who is responsible for the business management and non-program aspects of the Financial Assistance process.

"Cooperative Agreement" means a Financial Assistance instrument used by DOE to transfer money or property when the principal purpose of the transaction is to accomplish a public purpose of support or stimulation authorized by Federal statute, and Substantial Involvement (see definition below) is anticipated between DOE and the Applicant during the performance of the contemplated activity.

"Cost Sharing" means the respective share of Total Project Costs to be contributed by the Applicant and by DOE/USDA. The percentage of Applicant Cost Share is to be applied to the Total Project Cost (i.e., the sum of Applicant plus DOE/USDA Cost Shares) rather than to the DOE/USDA contribution alone.

“Data Universal Numbering System (DUNS) Number” is a unique nine-character identification number issued by Dun and Bradstreet (D&B). Organizations must have a DUNS number prior to registering in the CCR. Call 1-866-705-5711 to receive one free of charge. <http://fedgov.dnb.com/webform/displayHomePage.do>

“Demonstration” means demonstration of technology in a pilot plant or semi-works scale facility, including a plant or facility located on a farm.

“E-Business Point of Contact (POC)” is the individual who is designated as the Electronic Business Point of Contact in the CCR registration. This person is the sole authority of the organization with the capability of designating or revoking an individual’s ability to conduct CCR transactions.

“E-Find” is a Grants.gov webpage where you can search for Federal Funding Opportunities in FedGrants. <http://www.grants.gov/search/searchHome.do>

"Financial Assistance" means the transfer of money or property to an Applicant or Participant to accomplish a public purpose of support authorized by Federal statute through Grants or Cooperative Agreements and sub-awards. For DOE, it does not include direct loans, loan guarantees, price guarantees, purchase agreements, Cooperative Research and Development Agreements (CRADAs), or any other type of financial incentive instrument.

“FedConnect” is where federal agencies post opportunities and make awards via the web. Any Applicant can view public postings without registering. However, registered users have numerous added benefits including the ability to electronically submit Applications / Responses to the government directly through this site. <https://www.fedconnect.net/FedConnect/>

“Federally Funded Research and Development Center (FFRDC)” means a research laboratory as defined by Federal Acquisition Regulation 35.017.

“Funding Opportunity Announcement (FOA)” is a publicly available document by which a Federal agency makes known its intentions to award discretionary grants or cooperative agreements, usually as a result of competition for funds. Funding opportunity announcements may be known as program announcements, notices of funding availability, solicitations, or other names depending on the agency and type of program.

"Grant" means a Financial Assistance instrument used by DOE to transfer money or property when the principal purpose of the transaction is to accomplish a public purpose of support or stimulation authorized by Federal statute, and no Substantial Involvement is anticipated between DOE and the Applicant during the performance of the contemplated activity.

“Grants.gov” is the “storefront” web portal which allows organizations to electronically find grant opportunities from all Federal grant-making agencies. Grants.gov is THE single access point for over 900 grant programs offered by the 26 Federal grant-making agencies. <http://www.grants.gov>

“Indian Tribe” means any Indian tribe, band, nation, or other organized group or community, including Alaska Native village or regional or village corporation, as defined in or established pursuant to the Alaska Native Claims Settlement Act (85 Stat. 688)[43 U.S.C. § 1601 et seq.], which are recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians.

“Institutions of higher education” has the meaning given the term in section 102 of the Higher Education Act of 1965 (20 U.S.C. 1002(a)).

“Integration of technical areas” means a continuum or linking of activities or objectives that are within the scope of feedstocks development, biofuels and biobased products development, and biofuels development analysis as defined in the Project Description section of this document.

“Intermediate Ingredient or Feedstock” means a material or compound made in whole or in significant part from biological products, including renewable agricultural materials (including plant, animal, and marine materials) or forestry materials, that are subsequently used to make a more complex compound or product.

"Key Personnel" mean the individuals who will have significant roles in planning and implementing the proposed Project on the part of the Applicant and Participants, including FFRDCs.

“Life cycle assessment” means the comprehensive examination of a product’s environmental and economic aspects and potential impacts throughout its lifetime, including raw material extraction, transportation, and manufacturing, use, and disposal.

“Life cycle cost” means the amortized annual cost of a product, including capital costs, installation costs, operating costs, maintenance costs, and disposal costs discounted over the lifetime of the product.

“Marketing Partner Identification Number (MPIN)” is a very important password designated by your organization when registering in CCR. The E-Business Point of Contact will need the MPIN to assign privileges to the individual(s) authorized to perform CCR transactions on behalf of your organization. The MPIN must have 9 digits containing at least one alpha character (must be in capital letters) and one number (no spaces or special characters permitted).

"Participant" for purposes of this Funding Opportunity Announcement only, means any entity, except the Applicant substantially involved in a Consortium, or other business arrangement (including all parties to the Application at any tier), responding to the Funding Opportunity Announcement.

“Pilot Plant” means an integrated chemical processing system that includes the processing units necessary to convert biomass feedstock into biofuels/bioenergy/biobased products at a minimum feed rate of 1 ton/day of biomass feedstock.

“Preliminary data” means data and results generated by prior research, development, and demonstration and/or unstructured and structured interviews and literature reviews.

“Primary data” means data observed or collected directly from research, development, and demonstration activities.

“Principal Investigator” refers to the technical point of contact/Project Manager for a specific project award.

“Private sector entities” include companies, corporations, farms, ranches, cooperatives, and others that compete in the marketplace.

"Project" means the set of activities described in an Application, State plan, or other document that is approved by DOE for Financial Assistance (whether such Financial Assistance represents all or only a portion of the support necessary to carry out those activities).

“Proposal” is the term used to describe the documentation submitted in response to a Funding Opportunity Announcement. Also see Application.

“Recipient” means the organization, individual, or other entity that receives a Financial Assistance Award from DOE, is financially accountable for the use of any DOE funds or property provided for the performance of the Project, and is legally responsible for carrying out the terms and condition of the award.

“Recovered materials” means waste materials and by-products that have been recovered or diverted from solid waste, but such term does not include those materials and by-products generated from, and commonly reused within, and original manufacturing process (42 U.S.C. 6903(19)).

“Recycling” means the series of activities, including collection separation, and processing, by which products or other materials are recovered from the solid waste stream for use in the form of raw materials in the manufacture of new products other than fuel for producing heat or power by combustion.

“Renewable Biomass” means

(1) Materials, pre-commercial thinnings, or invasive species from National Forest System land (as defined in section 11(a) of the Forest and Rangeland Renewable Resources Planning Act of 1974 (16 U.S.C. 1609(a)) and public lands (as defined in section 103 of the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1702)) that—

- (i) are byproducts of preventive treatments that are removed to reduce hazardous fuels; to reduce or contain disease or insect infestation; or to restore ecosystem health;
- (ii) would not otherwise be used for higher-value products; and
- (iii) are harvested in accordance with—

- (I) applicable law and land management plans; and the requirements for H. R. 2419—383
 - (A) old-growth maintenance, restoration, and management direction of paragraphs (2), (3), and (4) of subsection (e) of section 102 of the Healthy Forests Restoration Act of 2003 (16 U.S.C. 6512); and
 - (B) large-tree retention of subsection (f) of section 102 of the Healthy forests Restoration Act of 2003 (10 U.S.C. 6512); or

(2) any organic matter that is available on a renewable or recurring basis from non-Federal land or land belonging to an Indian or Indian tribe that is held in trust by the United States or subject to a restriction against alienation imposed by the United States, including—

- (i) renewable plant material, including feed grains; other agricultural commodities; other plants and trees; algae; and

(ii) waste material, including crop residue; other vegetative waste material (including wood waste and wood residues); animal waste and byproducts (including fats, oils, greases, and manure); and food waste and yard waste.

“Request for Application (RFA)” is a document by which a Federal agency makes known its intentions to award discretionary grants or cooperative agreements. RFAs, Funding Opportunity Announcements (FOAs), Program Announcements (PAs), or other solicitation instruments used with similar intent are developed in accordance with the Office of Management and Budget (OMB) policy directive, 68 FR 37370–37379 (June 23, 2003), which establishes a standard format for Federal agency announcements (i.e., program solicitations or RFAs) of funding opportunities under programs that award discretionary grants or cooperative agreements.

“Research” means any systematic study directed toward new or fuller knowledge and understanding of the subject studied.

“Research and Development (R&D)” means any activity which is: a systematic study directed at applying new knowledge to meet a recognized need; or 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.

“Rural” means any area other than; (1) a city or town that has a population of greater than 50,000 inhabitants, or (2) the urbanized areas contiguous and adjacent to such a city or town.

“Selection” means the determination by the DOE Selection Official that negotiations take place for certain Projects with the intent of awarding a Financial Assistance instrument.

“Selection Official” means the DOE official designated to select Applications for negotiation toward Award under a subject Funding Opportunity Announcement.

“Semi-works” means a combination of chemical processing units that constitute a subset of the fully integrated system and are used to develop process flow diagrams and mass and energy balances for the purposes of scaling up to a demonstration scale facility.

“Substantial Involvement” means involvement on the part of the Government. DOE's involvement may include shared responsibility for the performance of the Project; providing technical assistance or guidance which the Applicant is to follow; and the right to intervene in the conduct or performance of the Project. Such involvement will be negotiated with each Applicant prior to signing any agreement.

“Technology Investment Agreement (TIA)” is a type of assistance instrument used to support or stimulate research projects involving for-profit firms, especially commercial firms that do business primarily in the commercial marketplace. TIAs are different from grants and cooperative agreements in that the award terms may vary from the Government-wide standard terms (See DOE TIA regulations at 10 CFR Part 603). The primary purposes for including a TIA in the type of available award instruments are to encourage non-traditional Government contractors to participate in an R&D program and to facilitate new relationships and business

practices. A TIA can be particularly useful for awards to consortia (See 10 CFR 603.225(b) and 603.515, Qualification of a consortium).

"Total Project Cost" means all the funds to complete the effort proposed by the Applicant, including DOE funds (including direct funding of any FFRDC) plus all other funds that will be committed by the Applicant as Cost Sharing.

"Transportation fuel" means fuel for use in motor vehicles, motor vehicle engines, nonroad vehicles, or nonroad engines (except for ocean-going vessels).

"Tribal Energy Resource Development Organization or Group" means an "organization" of two or more entities, at least one of which is an Indian Tribe (see "Indian Tribe" above) that has the written consent of the governing bodies of all Indian Tribes participating in the organization to apply for a grant or loan, or other assistance under 25 U.S.C. § 3503.

APPENDIX A- Federally Funded Research and Development Center (FFRDC) Contractors

DOE/NNSA National Laboratory Contractors and Other Federally Funded Research and Development Center (FFRDC) Contractors.

A DOE National Laboratory Contractor is eligible to apply for funding under this announcement if its cognizant contracting officer provides written authorization and this authorization is submitted with the application. If a DOE National Laboratory Contractor is selected for award, the proposed work will be authorized under the DOE work authorization process and performed under the laboratory's Management and Operating (M&O) contract. The following wording is acceptable for the authorization:

“Authorization is granted for the _____ Laboratory to participate in the proposed project. The work proposed for the laboratory is consistent with or complementary to the missions of the laboratory, will not adversely impact execution of the DOE assigned programs at the laboratory, and will not place the laboratory in direct competition with the domestic private sector.”

FFRDC contractors may be proposed as team members on another entity's application, subject to the following guidelines:

Authorization for non-DOE FFRDCs. The Federal agency sponsoring the FFRDC contractor must authorize in writing the use of the FFRDC contractor on the proposed project and this authorization must be submitted with the application. The use of a FFRDC contractor must be consistent with the contractor's authority under its award.

Authorization for DOE FFRDCs. The cognizant contracting officer for the FFRDC must authorize in writing the use of a DOE FFRDC contractor on the proposed project and this authorization must be submitted with the application. The following wording is acceptable for this authorization:

“Authorization is granted for the _____ Laboratory to participate in the proposed project. The work proposed for the laboratory is consistent with or complementary to the missions of the laboratory, will not adversely impact execution of the DOE assigned programs at the laboratory, and will not place the laboratory in direct competition with the domestic private sector.”

Value/Funding. The value of, and funding for, the FFRDC contractor portion of the work will not normally be included in a DOE award to a successful applicant. Usually, DOE will fund a DOE FFRDC contractor through the DOE field work proposal system and other FFRDC contractors through an interagency agreement with the sponsoring agency. NIFA awards will strictly follow all applicable cost principles referenced in Part VI. C. of this announcement.

Cost Share. The applicant's cost share requirement will be based on the total cost of the project, including the applicant's and the FFRDC contractor's portions of the effort.

FFRDC Contractor Effort:

- For projects funded by DOE, the FFRDC contractor effort, in aggregate, may be up to 100%

of the total estimated cost of the project, including the applicant's and the FFRDC contractor's portions of the effort.

Responsibility. The applicant, if successful, will be the responsible authority regarding the settlement and satisfaction of all contractual and administrative issues, including but not limited to, disputes and claims arising out of any agreement between the applicant and the FFRDC contractor.

APPENDIX B – Cost Share Information

Cost Sharing or Cost Matching

The terms “cost sharing” and “cost matching” are often used synonymously. Even the DOE Financial Assistance Regulations, 10 CFR Part 600, use both of the terms in the titles specific to regulations applicable to cost sharing. DOE almost always uses the term “cost sharing,” as it conveys the concept that **non-federal share is calculated as a percentage of the Total Project Cost**. An exception is the State Energy Program Regulation, 10 CFR 420.12, State Matching Contribution. Here “cost matching” for the non-federal share is calculated as a percentage of the federal funds only, rather than the Total Project Cost.

How Cost Sharing Is Calculated

As stated above, cost sharing is calculated as a percentage of the Total Project Cost. Following is an example of how to calculate cost sharing amounts for a project with \$1,000,000 in federal funds with a minimum 20% non-federal cost sharing requirement:

Formula: Federal share (\$) divided by Federal share (%) = Total Project Cost

Example: \$1,000,000 divided by 80% = \$1,250,000

Formula: Total Project Cost (\$) minus Federal share (\$) = Non-federal share (\$)

Example: \$1,250,000 minus \$1,000,000 = \$250,000

Formula: Non-federal share (\$) divided by Total Project Cost (\$) = Non-federal share (%)

Example: \$250,000 divided by \$1,250,000 = 20%

See the sample cost share calculation for a blended cost share percentage below. **Keep in mind that FFRDC funding is DOE funding.**

What Qualifies For Cost Sharing

While it is not possible to explain what specifically qualifies for cost sharing in one or even a couple of sentences, in general, if a cost is allowable under the cost principles applicable to the organization incurring the cost and is eligible for reimbursement under a DOE grant or cooperative agreement, then it is allowable as cost share. Conversely, if the cost is not allowable under the cost principles and not eligible for reimbursement, then it is not allowable as cost share. In addition, costs may not be counted as cost share if they are paid by the Federal Government under another award unless authorized by Federal statute to be used for cost sharing.

The rules associated with what is allowable as cost share are specific to the type of organization that is receiving funds under the grant or cooperative agreement, though are generally the same for all types of entities. The specific rules applicable to:

- Institutions of Higher Education, Hospitals, and Other Nonprofit Organizations are found at 10 CFR 600.123;
- State and Local Governments are found at 10 CFR 600.224;
- For-profit Organizations are found at 10 CFR 600.313.

In addition to the regulations referenced above, other factors may also come into play such as timing of donations and length of the project period. For example, the value of ten years of donated maintenance on a project that has a project period of five years would not be fully allowable as cost share. Only the value for the five years of donated maintenance that corresponds to the project period is allowable and may be counted as cost share.

Additionally, DOE generally does not allow pre-award costs for either cost share or reimbursement when these costs precede the signing of the appropriation bill that funds the award. In the case of a competitive award, DOE generally does not allow pre-award costs prior to the signing of the Selection Statement by the DOE Selection Official.

Following is a link to the DOE Financial Assistance Regulations. You can click on the specific section for each Code of Federal Regulations reference mentioned above.

USDA Cost Sharing

The non-Federal share of the cost of a research or development project under BRDI shall be not less than 20 percent of the total allowable cost. The non-Federal share of the cost of a demonstration project under BRDI shall be not less than 50 percent of the total allowable cost. The total project cost is equal to the sum of Federal funds requested and non-Federal matching funds. Cost share should be calculated as illustrated above. Applicant cost share must come from non-Federal sources unless otherwise allowed by law. Refer to Section VI.B.2 for costs allowable on NIFA grants. **USDA-NIFA DOES NOT PERMIT BLENDING OF RESEARCH AND DEVELOPMENT WITH DEMONSTRATION COST SHARE.**

DOE Financial Assistance Regulations:

<http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=98a996164312e8dcf0df9c22912852b0&rgn=div5&view=text&node=10:4.0.1.3.9&idno=10>

As stated above, the rules associated with what is allowable cost share are generally the same for all types of organizations. Following are the rules found to be common, but again, the specifics are contained in the regulations and cost principles specific to the type of entity:

(A) *Acceptable contributions.* All contributions, including cash contributions and third party in-kind contributions, must be accepted as part of the recipient's cost sharing if such contributions meet all of the following criteria:

- (1) They are verifiable from the recipient's records.

- (2) They are not included as contributions for any other federally-assisted project or program.
- (3) They are necessary and reasonable for proper and efficient accomplishment of project or program objectives.
- (4) They are allowable under the cost principles applicable to the type of entity incurring the cost as follows:

(a) *For-profit organizations.* Allowability of costs incurred by for-profit organizations and those nonprofit organizations listed in Attachment C to OMB Circular A-122 is determined in accordance with the for-profit costs principles in 48 CFR Part 31 in the Federal Acquisition Regulation, except that patent prosecution costs are not allowable unless specifically authorized in the award document.

(b) *Other types of organizations.* Allowability of costs incurred by other types of organizations that may be subrecipients under a prime award is determined as follows:

(i) *Institutions of higher education.* Allowability is determined in accordance with OMB Circular No. A-21 -- Cost Principles for Educational Institutions

(ii) *Other nonprofit organizations.* Allowability is determined in accordance with OMB Circular A-122, Cost Principles for Non-Profit Organizations

(iii) *Hospitals.* Allowability is determined in accordance with the provisions of 45 CFR Part 74, Appendix E, Principles for Determining Costs Applicable to Research and Development Under Grants and Contracts with Hospitals

(iv) *Governmental organizations.* Allowability for State, local, or federally recognized Indian tribal government is determined in accordance with OMB Circular No. A-87, Cost Principles for State, Local, and Indian Tribal Governments

- (5) They are not paid by the Federal Government under another award unless authorized by Federal statute to be used for cost sharing or matching.
- (6) They are provided for in the approved budget.

(B) *Valuing and documenting contributions*

- (1) *Valuing recipient's property or services of recipient's employees.* Values are established in accordance with the applicable cost principles, which mean that amounts chargeable to the project are determined on the basis of costs incurred. For real property or equipment used on the project, the cost principles authorize

depreciation or use charges. The full value of the item may be applied when the item will be consumed in the performance of the award or fully depreciated by the end of the award. In cases where the full value of a donated capital asset is to be applied as cost sharing or matching, that full value must be the lesser or the following:

- (a) The certified value of the remaining life of the property recorded in the recipient's accounting records at the time of donation; or
 - (b) The current fair market value. If there is sufficient justification, the Contracting Officer may approve the use of the current fair market value of the donated property, even if it exceeds the certified value at the time of donation to the project. The Contracting Officer may accept the use of any reasonable basis for determining the fair market value of the property.
- (2) *Valuing services of others' employees.* If an employer other than the recipient furnishes the services of an employee, those services are valued at the employee's regular rate of pay, provided these services are for the same skill level for which the employee is normally paid.
- (3) *Valuing volunteer services.* Volunteer services furnished by professional and technical personnel, consultants, and other skilled and unskilled labor may be counted as cost sharing or matching if the service is an integral and necessary part of an approved project or program. Rates for volunteer services must be consistent with those paid for similar work in the recipient's organization. In those markets in which the required skills are not found in the recipient organization, rates must be consistent with those paid for similar work in the labor market in which the recipient competes for the kind of services involved. In either case, paid fringe benefits that are reasonable, allowable, and allocable may be included in the valuation.
- (4) *Valuing property donated by third parties.*
- (a) Donated supplies may include such items as office supplies or laboratory supplies. Value assessed to donated supplies included in the cost sharing or matching share must be reasonable and must not exceed the fair market value of the property at the time of the donation.
 - (b) Normally only depreciation or use charges for equipment and buildings may be applied. However, the fair rental charges for land and the full value of equipment or other capital assets may be allowed, when they will be consumed in the performance of the award or fully depreciated by the end of the award, provided that the Contracting Officer has approved the charges. When use charges are applied, values must be determined in accordance with the usual accounting policies of the recipient, with the following qualifications:

- (i) The value of donated space must not exceed the fair rental value of comparable space as established by an independent appraisal of comparable space and facilities in a privately-owned building in the same locality.
 - (ii) The value of loaned equipment must not exceed its fair rental value.
- (5) *Documentation.* The following requirements pertain to the recipient's supporting records for in-kind contributions from third parties:
- (a) Volunteer services must be documented and, to the extent feasible, supported by the same methods used by the recipient for its own employees.
 - (b) The basis for determining the valuation for personal services and property must be documented.

**SAMPLE COST SHARE CALCULATION
FOR BLENDED COST SHARE PERCENTAGE (*FOR DOE PROJECTS ONLY*)**

The following example shows the math for calculating required cost share for a project with \$2,000,000 in Federal funds with four tasks requiring different Non-federal cost share percentages:

Task	Proposed Federal Share	Required		Non-federal
		Federal Share %	Cost Share %	
Task 1 (R&D)	\$1,000,000	80%		20%
Task 2 (R&D)	500,000	80%		20%
Task 3 (Demonstration)	400,000	50%		50%
Task 4 (Outreach)	<u>100,000</u>		100%	
	\$2,000,000			0%

Federal share (\$) divided by Federal share (%) = Task Cost

Each task must be calculated individually as follows:

Task 1

\$1,000,000 divided by 80% = \$1,250,000 (Task 1 Cost)

Task 1 Cost minus federal share = Non-federal share

\$1,250,000 - \$1,000,000 = **\$250,000 (Non-federal share)**

Task 2

\$500,000 divided 80% = \$625,000 (Task 2 Cost)

Task 2 Cost minus federal share = Non-federal share

\$625,000 - \$500,000 = **\$125,000 (Non-federal share)**

Task 3

\$400,000 / 50% = \$800,000 (Task 3 Cost)

Task 3 Cost minus federal share = Non-federal share

\$800,000 - \$400,000 = **\$400,000 (Non-federal share)**

Task 4

Federal share = \$100,000

Non-federal cost share is not mandated for outreach = **\$0 (Non-federal share)**

The calculation may then be completed as follows:

Task	Proposed Federal Share	Federal Share %	Required		Total
			Non-federal Cost Share \$	Non-federal Cost Share %	
Task 1	\$1,000,000	80%	\$250,000	20%	\$1,250,000
Task 2	500,000	80%	125,000	20%	625,000
Task 3	400,000	50%	400,000	50%	800,000
Task 4	<u>100,000</u>	100%	<u>0</u>	0%	<u>100,000</u>
	\$2,000,000		\$775,000		\$2,775,000

Blended Cost Share %

Non-federal share (\$775,000) divided by Total Project Cost (\$2,775,000) = 27.9% (Non-federal)

Federal share (\$2,000,000) divided by Total Project Cost (\$2,775,000) = 72.1% (Federal)