

**FINANCIAL ASSISTANCE
FUNDING OPPORTUNITY ANNOUNCEMENT**



**U.S. Department of Energy
Golden Field Office**

Photovoltaic (PV) Manufacturing Initiative

Concept Paper Application

Funding Opportunity Announcement Number: DE-FOA-0000237

Announcement Type: Initial

CFDA Number: 81.087, Renewable Energy Research and Development

Issue Date: 4/21/2010

Concept Paper Application Due Date: 6/3/2010, 11:59 PM Eastern Time

There are two submission phases. See Section IV – Application and Submission Information, for further information. Applicants must have submitted a Concept Paper Application by the required due date, passed the Concept Paper Application initial compliance review, and received DOE feedback to be eligible to submit a Full Application. Once the Concept Paper Application FOA closes and DOE has provided feedback on the initial Concept Paper Application, a separate FOA with the Adobe Application Package for the Full Applications will be provided at www.grants.gov.

NOTE: A Webinar will be held on April 29, 2010, from 11:00 am to 12:30 pm (Mountain Daylight Time). The purpose is to provide clarification and answer questions on this FOA. See Appendix H to this FOA for full information.

REGISTRATION AND APPLICATION SUBMISSION REQUIREMENTS

Registration Requirements: Allow at least 21 days to complete the required registrations.

To submit an application under this announcement, complete the following registrations:

1. Obtain a Dun and Bradstreet Data Universal Numbering System (DUNS) number, at <http://fedgov.dnb.com/webform>.
2. Register in the Central Contractor Registration (CCR) system, at <https://www.ccr.gov/>. Designating an E-Business Point of Contact (EBiz POC) and obtaining a special password called an MPIN are important steps in CCR registration. These items are needed to submit applications in Grants.gov. Update your CCR registration annually.
3. Register in Grants.gov at <http://www.grants.gov/>. See the Organization Registration User Guide at <http://www.grants.gov/assets/OrgRegUserGuide.pdf>. The Applicant User Guide is at <http://www07.grants.gov/assets/ApplicantUserGuide.pdf>.
4. Register in FedConnect at <https://www.fedconnect.net/>; use "Register as a Vendor" link. To create an organization account, your organization's CCR MPIN is required.

Where to Download the Adobe Application Package:

Download the Adobe Application Package for this announcement at <http://www.grants.gov/>. Click on the "Apply for Grants" link; then, click on the "Download a Grant Application Package" link. Enter the appropriate CFDA Number OR Funding Opportunity Announcement Number (DE-FOA-xxxxxxx) and click the "Download Package" button.

Where to Submit the Adobe Application Package:

APPLICATIONS MUST BE SUBMITTED THROUGH GRANTS.GOV TO BE CONSIDERED FOR AWARD. Follow instructions in the Grants.gov User's Guide for application submissions. Applicants are responsible for verifying successful transmission, prior to the Application due date and time.

Where to Ask Questions About the Funding Opportunity Announcement Content:

Questions about the Funding Opportunity Announcement must be submitted through the FedConnect Portal at <https://www.fedconnect.net/>. You must be a registered user in the FedConnect system to submit questions and to receive responses to questions. It is recommended that you register as soon after release of the FOA as possible to have the benefit of all responses. More information is available at https://www.fedconnect.net/Fedconnect/PublicPages/FedConnect_Ready_Set_Go.pdf. Part VII of this announcement explains how to submit questions to the Department of Energy (DOE).

Where to Submit Questions About the Registrations or Systems:

DUN & Bradstreet: govt@dnb.com

Central Contractor Registration (CCR) system: <https://www.bpn.gov/ccr/contactccr.aspx>
By phone: 866-606-8220 or 334-206-7828 (8:00 a.m. to 8:00 p.m., Eastern Time)

Grants.gov: support@grants.gov
By phone: 1-800-518-4726 (7:00 a.m. to 9:00 p.m., Eastern)

FedConnect: support@FedConnect.net
By phone: 1-800-899-6665 (8:00 a.m. to 8:00 p.m., Eastern)

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SECTION I – FUNDING OPPORTUNITY DESCRIPTION

BACKGROUND:

The mission of the Department of Energy's (DOE) Solar Energy Technologies Program (SETP) is to accelerate the widespread adoption of solar electric technologies across the United States (U.S.) through a program of applied research and development (R&D), demonstration, and market transformation activities. This mission aims to diversify the Nation's electricity supply options, increase national security, and improve the environment. The SETP mission is consistent with the Energy Policy Act of 2005 §931 and DOE's Strategic Plan.

Worldwide demand for and production of photovoltaic (PV) energy systems has been growing at a compound annual growth rate of more than 30% over the last decade. This growth has taken place in response to cost and efficiency improvements and to government support programs in Germany, Spain, and other countries outside the U.S. Demand for PV products has the potential to also grow in the U.S. due to new and emerging Federal and State support programs and favorable solar conditions, as well as declining system costs.

The U.S. has been a leader in the research and development of PV technologies. Currently there are over 100 startup companies developing diverse new PV technologies as the result of an active venture capital network, research at leading universities, and a strong national laboratory system. Funding through the DOE has also had a very significant impact on these advances. This leadership in R&D has not followed through to leadership in manufacturing, as U.S.-made products constitute less than 10% of the world output. Only one U.S.-based company is among the top worldwide PV manufacturers and many of the U.S.-based PV companies are producing from facilities outside the U.S. While the development of the U.S. market may increase domestic manufacturing, a potentially significant portion of this market may be met by non-U.S. manufactured products, keeping the U.S. from fully benefitting in this new industry. Current financial conditions are also making it more difficult for startup companies to raise the capital required to transition new technologies to manufacturing, potentially also limiting the development of domestic PV manufacturing.

The U.S., however, does have leadership positions in several areas of the supply chain that are important to the manufacturing of photovoltaics. These include significant capabilities in polysilicon production, encapsulants and films, glass and optics, and process and handling equipment. These capabilities can be further strengthened to allow greater U.S. participation and leveraged to develop a strong U.S. PV manufacturing industry. Technology differentiation is likely to be one important factor in determining where supply chain manufacturing facilities are located, with production located close to centers of technology expertise in order to tap into the development cycle.

The "PV Manufacturing Initiative" is intended to accelerate the coordination of stakeholders and fund technology development efforts across the solar industry and, with other state and federal policy incentives, facilitate the development of a strong PV manufacturing industry and supply chain in the U.S. The ultimate goals of this initiative are to support the creation of a robust U.S. PV manufacturing base, develop a highly trained workforce with the critical required skills, and speed the implementation of new cutting edge technologies. Toward that end, the Department of Energy is interested in receiving proposals covering a broad range of technologies and development models which can meet the PVMI's goals.

DESCRIPTION:

There are two submission phases: 1) Submission of the Concept Paper Application for DOE feedback (FOA No. DE-FOA-0000237) and 2) Submission of the Full Application (FOA No. DE-FOA-0000259). See Section IV – Application and Submission Information, for further information. Applicants must have submitted a Concept Paper Application by the required due date, passed the Concept Paper Application initial compliance review, and received DOE feedback to be eligible to submit a Full Application. Once the Concept Paper Application FOA closes and DOE has provided feedback on the initial Concept Paper Application, the FOA with the Adobe Application Package for the Full Applications will be provided at www.grants.gov.

This Funding Opportunity Announcement (FOA) will enable DOE to launch a PV Manufacturing Initiative that will support accelerated development for the U.S. PV industry. Applications under two separate topics are being sought: (1) University-Focused: designed to allow Universities to conduct industry-relevant research and development projects related to PV manufacturing; and (2) Industry-Focused: designed to allow Industry to accelerate the development and implementation of PV manufacturing-related technologies through both collaborative and non-collaborative models. The Industry-Focused topic is intended to also allow for the integration of university and workforce development initiatives; likewise, activities under the University-Focused topic are intended to have explicit industry support.

DOE anticipates that up to \$30M annually will be available to fund the PV Manufacturing Initiative projects. Of that, DOE anticipates that approximately \$5M annually will be devoted to a single or multiple awards for University-Focused Development. The remaining \$25M may be used to fund single or multiple awards for other Industry-Focused Development.

All full applications will be evaluated using a panel of independent evaluators and according to a competitive award process (see Section V.B.1). In all cases, successful applications will be expected to maximize the number of non-Federal funding sources and address a significant part of the PV industry. All PV technologies (e.g., silicon wafer, thin-film, III-V multi-junction, organics, nano-structures) and combinations of PV technologies may be considered longer-term technologies may be particularly well-suited to collaborative research models. However, the complexity and/or cost of managing multiple technologies within the scope of a single application must be addressed within each application.

The two topics are sufficiently broad as to allow for a range of different potential approaches to be considered under this initiative. DOE envisions a newly formed lead entity to be proposed that addresses the Initiative's objectives, manages the funded program, and coordinates stakeholders. If an existing entity is proposed as the lead, then the application must show a clear delineation and segregation of proposed activities from the existing ones, including clear traceability through a separate accounting structure for all funding provided under this Initiative.

Both topics are intended to allow for the technical participation of national laboratories, as defined in Section 2 of the Energy Policy Act of 2005, although not as the lead managing entity.

Applications for either of the topics may include a broad range of associations or relationships with other entities. Further, applications for either of the topics may include a potential association or relationship with an entity that may be funded under the other topic. Applications should provide information on the nature of the relationship and how it will be managed by the entity under a given topic. Applications for each topic are to be submitted separately and no application should combine both Topic I and II. Further, an application selected for funding for one topic should not assume funding of an application submitted for the other topic. Information not relevant to a specific topic may result in the application being judged as non-compliant if the additional information prevents a thorough evaluation under the topic for which it was submitted.

Topic I: University-Focused:

The University-Focused topic is intended to provide universities with a competitive funding source to perform industry-relevant R&D, guided by direct industry input and oversight. Concept Paper Applications and Full Applications under this topic should be based on a consortium structure providing funding to multiple universities and involving PV manufacturing and supply chain companies as advisors. A consortium structure is intended to allow increased responsiveness to dynamic PV industry conditions and create the potential for additional sources of funding to be leveraged with Federal funds. Universities are expected to be the recipients of a majority of the funding, and to be the central focus for research activities, but not necessarily the lead or administrator of the consortium. Industry members are expected to provide significant guidance and feedback. To this end, at least 75% of the research work is required to be performed by universities in university facilities. The remaining 25% could be performed in the facilities of partner companies, in shared consortium facilities, in fee-for-use manufacturing facilities, and/or in other facilities deemed appropriate. Such facilities could include a Manufacturing Development Facility as described below. Members contributing funds and/or participating in the consortium could

include companies, national laboratories, state government agencies, and other organizations. It is highly desirable that Federal government funding for the consortia be leveraged with industry financial support as well as other funding sources, to demonstrate industry interest and relevance.

Consortium management would be responsible for developing research topics in consultation with industry members, soliciting and awarding R&D applications for university members, and managing and monitoring progress and results. The consortium would also facilitate information exchange among the universities and companies participating. The R&D topics to be addressed will be identified through an assessment of industry-relevant needs and opportunities, in the technology areas of interest that would have demonstrable impact on PV manufacturing performance, cost, or operations in one or more areas of the supply chain. R&D applications submitted to the consortia should show clear support from industry (either industry members of the consortium or other companies). It is expected that funded projects would result in commercialized technologies within five years, though consortia members may allow for projects with longer development timelines assuming industry support.

At least 75% of the research work is required to be performed by universities in university facilities. The remaining 25% could be performed in the facilities of partner companies, in shared consortium facilities, in fee-for-use manufacturing facilities, and/or in other facilities deemed appropriate. Such facilities could include a Manufacturing Development Facility as described below. The consortium itself is intended to be a not-for-profit entity, although its membership is likely to include for-profit PV companies. If the proposed University-Focused consortium is administered by a university, then a discussion of conflict of interest issues relative to other members' interests needs to be presented.

Successful applications will demonstrate how they will provide workforce development for graduate and post-graduate-level students through direct experience in research and development projects, hands-on training in industrially relevant manufacturing processes, and interactions with technical experts in industry.

Applications should detail the consortium structure and how consortium membership will be defined and managed. Applications should also contain a plan and procedures for soliciting, selecting, and managing projects. A specific plan for IP access and sharing within the consortium is also to be defined.

Subject to annual appropriations, DOE expects to maintain a constant level of funding over the first five years for each consortium under this topic. Consortia should expect to provide a minimum of 20% cost share through industry participants (e.g., membership dues or direct sponsorship), universities, or other non-federal funding sources. Plans for increasing the funding from non-Federal sources over the course of the Initiative would be considered advantageous for demonstrating and increasing the industrial impact of the consortium. This increased funding for consortia projects could come from industry partners, universities, competitive funding opportunities independent from the PV Manufacturing Initiative, or additional non-federal sources.

In accordance with 10 CFR 603.215, to the maximum extent practicable, non-Federal parties carrying out a RD&D project under a Technology Investment Agreement (TIA) (see Sect. IIA) are to provide at least 50% cost sharing, even though the statutory cost sharing requirement may be less. The Contracting Officer will consider the amount of cost sharing proposed in determining if a TIA, instead of a cooperative agreement, is the appropriate instrument for a particular project.

Topic II: Industry-Focused:

Funding under the Industry-Focused topic is intended to provide the U.S. PV industry with a resource to rapidly develop pre-competitive and competitive manufacturing technologies. By way of illustration, applications under this topic may follow two different model structures or a combination of each, explained below.

Industry Consortia Model:

Applications under this model would be based on a consortium where participants would define and pursue pre-competitive and collaborative industry product and process development projects. A

consortium structure is intended to allow increased responsiveness to dynamic PV industry conditions and create the potential for additional sources of funding to be leveraged with Federal funds. The primary consortium participants would be industry members from PV manufacturing companies and their associated supply chains. PV manufacturing and supply chain companies are anticipated to be collectively best suited to understand the near-term manufacturing R&D needs of the industry. The national labs, universities, and other organizations could also participate as additional members. Workforce development through universities associated with the consortium is an additional goal associated with this model.

The consortium would define industry product and process opportunities and programs, choose and implement relevant R&D projects, manage the funding for the selected projects, and monitor their progress and results. The intent is for the industry members to identify areas for collaboration with the highest need within the PV manufacturing supply chain, and in dynamic response to new technology developments and to shifting market conditions. Because of the anticipated membership of diverse companies across the PV industry, these consortia could also serve as a major resource for and leading contributor to industry-wide standards and roadmap development.

Projects could be performed in the facilities of member companies, in shared consortium facilities, in fee-for-use manufacturing facilities, and/or in other facilities deemed appropriate. Such facilities could include a Manufacturing Development Facility as described below. The consortium is intended to be a not-for-profit entity.

DOE recognizes that implementation of an industry consortium model has significant challenges given the current competitive structure of the PV industry. Notably, most PV companies derive significant competitive advantages from proprietary materials and processes, making the PV industry different from the semiconductor and other industries where a consortium approach has already been used successfully. A consortium model is being considered, however, based on the expectation that meeting the goal of making PV electricity cost competitive with conventional sources – without subsidy – will take increased levels of collaboration and standardization throughout the supply chain. The implementation of a consortium organization can provide an accelerated path to reach these goals.

Successful applicants will demonstrate a thorough understanding of issues in consortium organizations in general and related to the PV industry, as well as specific technical opportunities for collaboration. Applications should also detail the consortium structure, how consortium membership will be defined and managed, and the plan for soliciting, selecting, and managing projects. A specific plan for Intellectual Property (IP) access and sharing within the consortium is also required. Applications should also provide specific evidence of potential member interest and a sufficiently large member base.

Based on the development opportunities identified, the consortia will fund development projects with the expectation of delivering new offerings to market within five years though members may direct funding at longer term projects. The offerings are expected to have a demonstrable impact on PV manufacturing performance, cost, or operations in one or more areas of the supply chain.

The establishment of a sustainable, self-funded, and broadly relevant consortium is a primary goal under this model. DOE support for each Industry Consortium would fund projects at a decreasing level over five years with industry, and other parties assuming a greater share over that time span. After five years, the consortium or consortia are expected to be self-sufficient in funding collaborative R&D opportunities. Consortia should expect to provide a minimum of 50% cost share through either consortium participants, state government agencies, or other non-federal funding sources.

Manufacturing Development Facility Model:

Applications under this model would address a multi-user facility to enable demonstration of manufacturing-scale commercial viability of new PV Device tools or process technologies. Such a facility could be a valuable incubator for start-up companies developing new highly innovative PV technologies. The entity managing the facility will define a fee structure and a scheduling procedure for facility use by interested companies. The IP from this facility is expected to be owned by individual users, and the managing entity will be responsible for defining how IP is to be handled and protected

under this model. Funding for capital and operating expenses would be provided by the organizing entity, user fees, contributions from equipment and materials companies, and other participants, in addition to the portion of initial funding provided by this award.

The facility could be managed as a not-for-profit or a for-profit entity but is expected to be clearly separated from any existing entity. For-profit entities should not expect to return investment to shareholders until DOE funding has terminated. Any program income generated during the DOE funding period would be reinvested in the facility. While startup PV companies are expected to be primary users, the facilities should provide services to a wide range of PV companies and suppliers to assist them in making the transition to commercial production or demonstrating new process technologies. Broad facility utilization will be important to maximizing the impact of the facility on domestic PV manufacturing capabilities. Either new or retooled manufacturing development facilities could be used for this purpose.

Successful applicants will demonstrate a thorough understanding of materials, equipment, and process development needs within the defined technology areas, as well as of the intended user base and their needs and constraints. Applications should also provide specific evidence of potential user interest and a sufficiently large customer base.

Under the Manufacturing Development Facility model, DOE envisions reducing funding over five years, with other participants assuming a greater share of the expenses. After five years, or sooner, the facilities are expected to be financially viable and self-sufficient, providing a sustainable test-bed resource to the PV manufacturing industry and supply chain. The Manufacturing Development Facility should expect to provide a minimum of 50% cost share either through user fees, state government agencies, equipment providers, or other non-federal funding sources.

In accordance with 10 CFR 603.215, to the maximum extent practicable, non-Federal parties carrying out a RD&D project under a TIA are to provide at least 50% cost sharing, even though the statutory cost sharing requirement may be less. The Contracting Officer will consider the amount of cost sharing proposed in determining if a TIA is the appropriate instrument for a particular project.

Hybrid Models:

Both of the above model approaches are meant to be illustrative of two points on a spectrum that incorporates varying degrees of collaborative R&D and exclusive IP development in a multi-user facility. Applicants are also encouraged to combine the relevant points of the two listed approaches as they deem appropriate to best achieve the goals of the Initiative to improve the strength and competitiveness of U.S. PV manufacturing.

Special Requirements:

Entities that apply for multiple awards must demonstrate that all work for each application can be completed as a standalone effort. There must be a single prime recipient identified in each application.

Applicants must indicate the Topic to which they are applying in their concept paper application or full application narrative. Applicants may submit applications to multiple Topics; however, separate applications must be submitted for each Topic. If your organization is submitting more than one Application to different topic areas, you must identify an application number and the Topic Area Number at the end of each file name (e.g., Company-1-Topic1).

SECTION II – AWARD INFORMATION

A. Type of Award Instrument:

Cooperative Agreements, or Technology Investment Agreements

- DOE anticipates awarding cooperative agreements (See Part VI.B.4 Statement of Substantial Involvement), or Technology Investment Agreements (TIAs) under this announcement.

TIAs are 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 Code of Federal Regulations (C.F.R.) part 603). The primary purposes for including TIAs in the type of available award instruments are to encourage non-traditional Government contractors to participate in this Research, Development and Demonstration (RD&D) program and to facilitate new relationships and business practices. A TIA can be particularly useful for awards to consortia (see 10 C.F.R. 603.225(b) and 603.515, Qualification of a consortium).

An applicant may request a TIA if it believes that using a TIA could benefit the RD&D objectives of the program (see section 603.225) and can document these benefits. After an applicant is selected for award, the Contracting Officer will determine if awarding a TIA would benefit the RD&D objectives of the program in ways that likely would not happen if another type of assistance instrument were used (i.e., cooperative agreement subject to all the requirements of 10 C.F.R. part 600). The Contracting Officer will use the criteria in 10 C.F.R. 603, Subpart B to make this determination.

Other Requirements for a TIA. In accordance with 10 C.F.R. 603.215, to the maximum extent practicable, non-Federal parties carrying out a RD&D project under a TIA are to provide at least 50% cost sharing, even though the statutory cost sharing requirement may be less. The Contracting Officer will consider the amount of cost sharing proposed in determining if a TIA is the appropriate instrument for a particular project.

The DOE regulations for Technology Investment Agreements, 10 C.F.R. 603, can be found at the following website http://www.access.gpo.gov/nara/cfr/waisidx_06/10cfr603_06.html.

B. Estimated Funding

Amount New Awards

- Approximately \$125,000,000 is expected to be available for new awards under this announcement over five years.

Amount Multiple Year Awards

- Approximately \$15,000,000 is expected to be available for new awards in FY 2010 and an additional \$110,000,000 is expected to be available for awards made under this announcement in years FY 2011 through FY2015.

C. Expected Number of Awards

Number of Awards Depending on Size

- DOE anticipates making at least two, and up to five, awards under this announcement depending on the size of the awards. DOE reserves the right, without qualification, to reject any or all applications received in response to this announcement and to select any application, in whole or in part, as a basis for negotiation and/or award.

Number of Awards per Program/Topic Area

- Under this announcement, DOE expects to make the following number of awards for each Program/Topic Area:

Program/Topic Area	Anticipated Number of Awards
Topic I: University-Focused	1-2
Topic II: Industry-Focused	1-3

D. Anticipated Award Size

Award Size per Program Area

- The anticipated total award size over five years, per award, for projects under each Program/Topic Area in this announcement is:

Program/Topic Area	Anticipated Award Amount
Topic I: University-Focused	\$12.5M - \$25M
Topic II: Industry-Focused	\$33M - \$100M

E. Period of Performance

Period of Performance per Program Area

- The anticipated period of performance for projects under each Program/Topic Area in this announcement is:

Program/Topic Area	Period of Performance
Topic I: University-Focused	Up to five Years
Topic II: Industry-Focused	Up to five Years

F. Annual Performance Review

- Organizations will be reviewed on an annual basis. Funding adjustments may be made based on funding availability and progress towards program goals. Annual performance criteria will be based on financial, intellectual property/licensing, technological and scientific progress, as well as educational metrics consistent with the Merit Review Process as detailed in Section V.A.2.

G. Type of Application

- DOE will accept only new Concept Paper Applications under DE-FOA-0000237 and only new Full Applications under DE-FOA-0000259. (i.e., Applications for renewals of existing DOE funded projects will not be considered).

SECTION III - ELIGIBILITY INFORMATION

A. Eligible Applicants

- The following domestic entities are eligible to apply under both topic areas for this announcement: (1) institutions of higher education; (2) nonprofit and for-profit private entities; (3) State and local governments; and (4) consortia of entities (1) through (3). All types of domestic entities are eligible to apply, except other Federal agencies, Federally Funded Research and Development Center (FFRDC) Contractors, and nonprofit organizations described in section 501(c)(4) of the Internal Revenue Code of 1986 that engaged in lobbying activities after December 31, 1995.
- The intent is for the proposed work to be managed by a lead entity that is a newly formed organization, or a clearly delineated and separate aspect of an existing organization. The entity could be either nonprofit or for-profit, and if it is for-profit then no returns are to be provided to investors during the DOE funding period. If the lead entity (e.g. a University) intends to conduct consortium sponsored research, then it must clearly discuss conflict of interest issues relative to other members' interests.

B. Cost Sharing

The cost share must be at least in accordance with the following:

- Topic I: University-Focused - The cost share must be at least 20% of the total allowable costs for research and development projects (i.e., the sum of the Government share, including FFRDC contractor costs if applicable, and the recipient share of allowable costs equals the total allowable cost of the project) and must come from non-Federal sources unless otherwise allowed by law. (See 10 C.F.R. Part 600 for the applicable cost sharing requirements.) The mandatory cost share must be achieved on an annual basis.
- Topic II: Industry-Focused - The cost share must be at least 50% of the total allowable costs (i.e., the sum of the Government share, including FFRDC contractor costs if applicable, and the recipient share of allowable costs equals the total allowable cost of the project) and must come from non-Federal sources unless otherwise allowed by law. (See 10 C.F.R. Part 600 for the applicable cost sharing requirements.) DOE may agree to share at a higher rate in the early stages of the project, with the expectation that the recipient shall share at a higher rate during later stages, in order to achieve the required overall recipient cost share percentage of the total allowable project costs, as required by DOE. By accepting Federal funds under the award, the Recipient would agree that, notwithstanding the budget period cost share percentages, the recipient is liable for the required percentage of the total allowable project costs, even if the project is terminated early or is not funded to completion. If the recipient has not achieved required cost sharing at the time of project termination or discontinuance, the recipient shall refund sufficient funds to the Government in order to achieve the required cost-share percentage based on total allowable project cost.

The cost share must be determined based on the total allowable project costs (i.e., the sum of the Government share, including FFRDC contractor costs if applicable, and the recipient share of allowable costs equals the total allowable cost of the project) and must come from non-Federal sources unless otherwise allowed by law. (See 10 C.F.R. Part 600 for the applicable cost sharing requirements.) Also, see Appendix C for a more detailed discussion of “Cost Share”.

In accordance with 10 CFR 603.215, to the maximum extent practicable, non-Federal parties carrying out a RD&D project under a TIA are to provide at least 50% cost sharing, even though the statutory cost sharing requirement may be less. The Contracting Officer will consider the amount of cost sharing proposed in determining if a TIA is the appropriate instrument for a particular project.

C. Other Eligibility Requirements

Federally Funded Research and Development Center (FFRDC) Contractors

FFRDC contractors may be proposed as a team member 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 and must not place the FFRDC contractor in direct competition with the private sector.

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 the 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.

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:

The scope of work to be performed by the FFRDC contractor may not be more significant than the scope of work to be performed by the applicant.

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.

D. Bayh-Dole Act, Federal Non Nuclear Energy Act of 1974, Technology Investment Agreement (TIA)

The application is required to be in compliance with Federal IP law and policy. Unless the applicant requests a TIA, the statutes governing disposition of title to new inventions under Government agreements will be followed:

- i. The Bayh-Dole Act, 35 U.S.C. 200 et seq., requires that Universities, Non-Profits and small business who are participating under a funding agreement will have the option to retain title to their own employees' inventions.
- ii. The Federal Non Nuclear Energy Act of 1974, 42 U.S.C. 5908, will govern disposition of title for all other parties, regardless of whether they receive government funding and requires that the Government obtains title to new inventions unless a waiver is granted. DOE regulations at 10 C.F.R. 784 address the factors that are considered in the granting of waivers, including whether the waiver is needed to secure participation, private investment being made or likely to be made, the commercial position of the waiver requestor, etc.
- iii. Inventions made by employees of an FFRDC will be subject to the Management and Operations (M&O) contract terms and conditions with respect to ownership of inventions made by lab employees.

This FOA allows applicants to request a TIA. In a TIA the intellectual property rights are not subject to the requirements of the Bayh-Dole Act or 42 U.S.C. 5908 and are negotiable. If the applicant requests a TIA and DOE determines it is appropriate to award a TIA, patent rights will be negotiated pursuant to the guidance set out in 10 C.F.R. 603.840 through 10 C.F.R. 603.875

SECTION IV – APPLICATION AND SUBMISSION INFORMATION

A. Address to Request Application Forms

Application forms and instructions are available at Grants.gov. To access these materials, go to <http://www.grants.gov>, select "Apply for Grants," and then select "Download Application Package." Enter the CFDA and/or the funding opportunity number (DE-FOA-0000237) and then follow the prompts to download the application package. (Also see H of this Part below.)

B. Concept Paper Application Structure and Submission Information (DE-FOA-0000237)

1. Letters of Intent

Letters of Intent are not required.

2. Concept Paper Application

Applicants are required to submit the Concept Paper Application by **06/03/2010, 11:59 PM Eastern Time** in order to be eligible to submit a Full Application to the subsequently issue FOA. The purpose of the Concept Paper Application is to enable DOE to provide feedback to applicants with regard to the perceived overall viability of the proposed effort. Applicants that submit a responsive Concept Paper Application that passes the initial review (See Section V – Application Review Information) may submit a corresponding full application. DOE will not use the Concept Paper Applications for down selection purposes.

The Adobe Application Package is provided at www.grants.gov. Click on the “Apply for Grants” link; then, click on the “Download a Grant Application Package” link. Enter the appropriate CFDA Number OR Concept Paper Application Funding Opportunity Announcement Number (DE-FOA-0000237) and click the "Download Package" button. Please see paragraph H. Submission and Registration Requirements below for submission instructions.

You must complete the mandatory forms and any applicable optional forms (e.g., SF-LLL, Disclosure of Lobbying Activities) in accordance with the instructions on the forms and the additional instructions below, as required by this FOA. **Files that are attached to the forms must be in Adobe Portable Document Format (PDF), unless otherwise specified in this announcement.**

Once the forms below have been completed, save the Adobe Application Package in a single file, using up to 10 letters of the Applicant’s Organization Name as the file name (e.g., Company). If your organization is submitting more than one Application, you must identify an application number at the end of each file name (e.g., Company-1). If your organization is submitting more than one Application to different topic areas, you must identify an application number and the Topic Area Number at the end of each file name (e.g., Company-1-Topic1).

1. SF 424 - Application for Federal Assistance

Complete this form first to populate data in other forms. Complete all required fields in accordance with the instructions on the form. In Block 15, “Descriptive Title of Applicant’s Project”, also indicate the topic area to which you are applying. The list of certifications and assurances referenced in Field 21 can be found at http://management.energy.gov/business_doe/business_forms.htm, under Certifications and Assurances.

2. Project/Performance Site Location(s)

Indicate the primary site where the work will be performed. If a portion of the project will be performed at any other site(s), identify the site location(s) in the blocks provided.

Note that the Project/Performance Site Congressional District is entered in the format of the 2 letter state code followed by a dash and a 3 digit Congressional district code; for example, VA-001. In the form, hover over this field for additional instructions.

Use the “Next Site” button to expand the form to add additional Project/Performance Site Locations.

3. Other Attachments Form

Submit the following files with your application and attach them to the Other Attachments Form. Click on “Add Mandatory Other Attachment” to attach. Click on “Add Optional Other Attachment,” to attach the other files.

4. Concept Paper

The Concept Paper must not exceed 10 pages, including, charts, graphs, maps, photographs, and other pictorial presentations, when printed using standard 8.5” by 11” paper with 1 inch margins (top, bottom, left, and right), single spaced. A cover page that includes the project title, point of contact and topic area must be included at the beginning of the concept paper but will not count against the page limit. The font must not be smaller than 11 point. Concept Papers must contain all pertinent information – no external data sources (e.g., websites) should be included for Concept Paper review. See Section VIII.D for instructions on how to mark proprietary information. **Save the information in a single file named “Concept Paper.pdf,” and click on “Add Mandatory Other Attachment”**

in the Adobe Application Package to attach.

The following should be addressed within the Concept Paper:

Organizational Objectives:

Research and review of case studies has shown that successful consortium or collaborative private-public partnerships, such as envisioned through the PV Manufacturing Initiative, will have well stated goals and frameworks that address specific industry needs. Relevant examples include the SEMATECH consortium, which leveraged public and private funding to address the significant technical and financial challenges associated with the next generation of lithography equipment required for the U.S. semiconductor industry to be globally competitive. Specific activities funded to achieve this objective included advances in stepper motors, UV optics and sources, masks, resists and alignment processes.

- For the Concept Paper required for the PVMI, Applicants therefore should provide a detailed statement of the strategic technical objectives of the proposed organization, the specific strategy and operational framework for meeting these objectives, and how meeting these objectives will address deficiencies in U.S. PV manufacturing. Objectives should be technically detailed at the sub-module, sub-cell materials, and/or process level and also linked to the structure and dynamics of the U.S. PV industry. Quantifying activities and objectives in each specific area is desired.
- The Concept Paper should include a detailed description of the parts of the supply chain which are expected to be the main participants in the proposed organization and how they will commercialize or otherwise implement the technologies or advancements developed through the organization. Any specific assumptions of future industry dynamics or structure should be stated.

Capabilities and Resources:

- For the Concept Paper, Applicants should specify in tabular form the members that have committed or otherwise stated strong interest in sponsoring the proposed organization. The level of interest should be categorized. The general capabilities, expertise, and/or resources of each member should also be included.
- Applicants should also provide an initial P/L estimate for the organization with expected funding sources and expenses. Funding sources should include the estimated need for DOE funding along with other sources of funding broken out by type. This should include member or user fees, funding from state organizations, or other sources. Estimates of expenses should also be included and be broken down between capital and operations. These estimates should be provided for the initial 5 years of the organization and include the request for DOE funding. Any in-kind resources provided as part of the proposed organization should be described and quantified.

Except where otherwise noted, the term “organization” applies equally to any of the organizational models described in Section I, under either the University-Focused Topic or the Industry-Focused Topic. Concept Paper review will be based on the review criteria in Section V.A.1.

C. Full Application Structure and Submission Information (DE-FOA-0000259)

Applicants must have submitted a Concept Paper Application by the required due date, passed the Concept Paper Application initial compliance review, and received DOE feedback to be eligible to submit a Full Application. Once the Concept Paper Application FOA closes and DOE has provided feedback on the initial Concept Paper Application, the Adobe Application Package for the Full Applications will be provided at www.grants.gov.

Click on the “Apply for Grants” link; then, click on the “Download a Grant Application Package” link. Enter the appropriate CFDA Number OR Full Application Funding Opportunity Announcement Number (DE-FOA-0000259) and click the "Download Package" button.

You must complete the mandatory forms and any applicable optional forms (e.g., SF-LLL, Disclosure of Lobbying Activities) in accordance with the instructions on the forms and the additional instructions below, as required by this FOA. **Files that are attached to the forms must be in Adobe Portable Document Format (PDF), unless otherwise specified in this announcement.**

Once the forms below have been completed, save the Adobe Application Package in a single file, using up to 10 letters of the Applicant's Organization Name as the file name (e.g., Company). If your organization is submitting more than one Application, you must identify an application number at the end of each file name (e.g., Company-1). If your organization is submitting more than one Application to different topic areas, you must identify an application number and the Topic Area Number at the end of each file name (e.g., Company-1-Topic1).

1. SF 424 - Application for Federal Assistance

Complete this form first to populate data in other forms. Complete all required fields in accordance with the instructions on the form. In Block 15, "Descriptive Title of Applicant's Project", also indicate the topic area to which you are applying. The list of certifications and assurances referenced in Field 21 can be found at http://management.energy.gov/business_doe/business_forms.htm, under Certifications and Assurances.

2. Project/Performance Site Location(s)

Indicate the primary site where the work will be performed. If a portion of the project will be performed at any other site(s), identify the site location(s) in the blocks provided.

Note that the Project/Performance Site Congressional District is entered in the format of the 2 letter state code followed by a dash and a 3 digit Congressional district code; for example, VA-001. In the form, hover over this field for additional instructions.

Use the "Next Site" button to expand the form to add additional Project/Performance Site Locations.

3. Other Attachments Form

Submit the following files with your application and attach them to the Other Attachments Form. Click on "Add Mandatory Other Attachment" to attach the Project Narrative. Click on "Add Optional Other Attachment," to attach the other files.

a. Project Summary/Abstract File

The project summary/abstract must contain a summary of the proposed activity suitable for dissemination to the public. It should be a self-contained document that identifies the name of the applicant, the project director/principal investigator(s), the project title, the topic area, the objectives of the project, a description of the project, including methods to be employed, the potential impact of the project (i.e., benefits, outcomes), and major participants (for collaborative projects). This document must not include any proprietary or sensitive business information, as the Department may make it available to the public. The project summary must not exceed 1 page when printed using standard 8.5" by 11" paper with 1" margins (top, bottom, left and right), single spaced, with font not smaller than 11 point. **Save this information in a file named "Summary.pdf," and click on "Add Optional Other Attachment" in the Adobe Application Package to attach.**

b. Executive Summary

The executive summary should summarize the content of the Project Narrative section in **3 to 5 pages**. The executive summary must contain a summary of the proposed activity and will **NOT** be disseminated to the public. This summary may include proprietary or sensitive business information that will help describe the proposed activity. The Department will **NOT** make this document available to the public. However, Applicants may choose to mark proprietary information following the guidelines in Section VIII.D. and Appendix B. **Save this information in a file named "ExecSummary.pdf," and click on "Add Optional**

Other Attachment” in the Adobe Application Package to attach.

c. Project Narrative File - Mandatory Other Attachment

See Appendix B for restrictions on Personally Identifiable Information

The project narrative must not exceed 30 pages, including cover page, table of contents, charts, graphs, maps, photographs, and other pictorial presentations, when printed using standard 8.5” by 11” paper with 1 inch margins (top, bottom, left, and right), single spaced. A cover page and table of contents must be included at the beginning of the project narrative but neither will count against the page limit. Furthermore, information required in Appendices 1 through 12, except as otherwise noted, is not subject to the above project narrative page limit. The Appendices to the Project Narrative are limited to 50 pages. EVALUATORS WILL REVIEW ONLY THE NUMBER OF PAGES SPECIFIED IN THE PRECEDING SENTENCE. The font must not be smaller than 11 point. Do not include any Internet addresses (URLs) that provide information necessary to review the application. See Section VIII.D. and Appendix B for instructions on how to mark proprietary application information, and for restrictions on Personally Identifiable Information. **Save the information in a single file named “Project.pdf,” and click on “Add Mandatory Other Attachment” in the Adobe Application Package to attach.**

The project narrative must include the following section:

- Topic Area
- Merit Review Criterion Discussion:
The section should be formatted to address each of the merit review criterion and sub-criterion listed in Part V.A. below. Provide sufficient information so that reviewers will be able to evaluate the application in accordance with these merit review criteria. DOE WILL EVALUATE AND CONSIDER ONLY THOSE APPLICATIONS THAT ADDRESS SEPARATELY EACH OF THE MERIT REVIEW CRITERION AND SUB-CRITERION.
- The review criteria are based on the narrative requirements stated below that specifically delineate the expected scope of the narrative based on the specific topics of the PV Manufacturing Initiative. Except where otherwise noted, the term “organization” applies equally to any of the organizational models described in Section I, under either University-Focused or Industry-Focused.

Organization Objectives:

Research and review of case studies has shown that successful consortium or collaborative private-public partnerships, such as envisioned through the PV Manufacturing Initiative, will have well stated goals and frameworks that address specific industry needs. Relevant examples include the SEMATECH consortium which leveraged public and private funding to address the significant technical and financial challenges associated with the next generation of lithography equipment required for the U.S. semiconductor industry to be globally competitive. Specific activities funded to achieve this objective included advances in stepper motors, UV optics and sources, masks, resists and alignment processes.

This section will provide the basis for and description of the goals for the organization. The organization’s objectives should be aligned with the stated goal of the PV Manufacturing Initiative, which is to accelerate development of the U.S. PV Industry through focused research and development in topics relevant to high volume manufacturing. The organization’s detailed description of the technology focus, the motivation for that focus, and a demonstration of a detailed understanding of industry needs, including the potential areas for high impact research, will be important factors in evaluating applications.

- Describe in detail the strategic technical objectives of the proposed organization, the

specific strategy and operational framework for meeting these objectives, and how meeting these objectives will address deficiencies in U.S. PV manufacturing and thereby help develop a more robust domestic PV manufacturing base. Objectives should be technically detailed at the sub-module, sub-cell materials, and/or process level and also linked to the structure and dynamics of the U.S. PV industry and global market conditions. Quantifying activities and objectives in each specific area is desired.

- Describe the organization's technology focus and how it is aligned with the needs of the broad U.S. PV manufacturing industry and with industry and market trends. Describe how the organization's scope of work will be commercialized, will thereby strengthen the competitiveness of domestic PV manufacturing, and will translate into increased U.S. PV and supply chain manufacturing and employment that remain in the U.S.
- Describe in detail the parts of the supply chain that are expected to be the main participants in the proposed organization and how they will commercialize or otherwise implement the technologies or advances developed through the organization. Any specific assumptions of future industry dynamics or structure should be stated.
- In the context of the organization's objectives, address the synergies among universities, the national labs, and the PV industry in advancing PV manufacturing innovation, education, and workforce development.

Management and Business Plan:

A well managed organization will be able to efficiently use Initiative funds to accomplish the organization's objectives and serve the needs of its members. Creation of a financially viable organization that will have a significant and enduring impact on the U.S. PV manufacturing industry is a key goal of the Initiative. The business plan should include projected annual budgets, and also include realistic strategies to increase revenue in later years in order to achieve financial self-sufficiency within five years.

- Describe the potential challenges and issues inherent in the type of organization proposed.
- Describe the structure of the organization and its membership and differences, if any, between membership categories. Describe how members will be recruited and managed to maximize industry impact.
- For Topic I applications, describe how industry involvement will be maximized while still allowing research consistent with an academic environment. Provide a plan for how to solicit research participation from a broad range of academic institutions. Describe how communication, collaboration, and mentorship opportunities between university participants and industry technical leaders will be fostered.
- For Topic II applications, describe how university involvement will be maximized and will be supportive of industry research objectives.
- Describe how the participation of foreign-based entities in support of domestic manufacturing, if any, will be handled.
- Describe the governance and leadership structures and roles within the organization, including lead organization(s) and executive officers, governing boards and/or advisory boards, and decision-making processes and responsiveness to members' needs.
- Describe the approach for management of the organization, including budget authority, periodic reviews, and formal and informal communications among

organizational management and membership.

- Describe the mechanisms by which the organization's focus and objectives will be periodically reviewed and modified. Describe how the success of the organization will be measured and tracked.
- Provide detailed background information supporting the viability and effectiveness of the proposed organizational structure. Any referenced historical examples of successful organizations must be supported with significant details addressing the value and applicability of their organizational components.
- For Topic II, describe how the need for capital equipment will be assessed and how this equipment will be procured, including the role of equipment and tool manufacturers participating in (or associated with) the organization.
- Provide a business plan with cash flow projections. Provide a P/L estimate for the organization with expected funding sources and expenses. Funding sources should include the estimated need for DOE funding along with other sources of funding broken out by type. This list should include member or user feeds, funding from state organizations, or other sources. Any in-kind resources provided as part of the proposed organization should be described and quantified. Estimates of expenses should also be included and should be broken down between capital and operations. The P/L estimates should be provided for the initial five years of the organization and should include the request for DOE funding.

R&D Management Plan:

The PV Manufacturing Initiative recognizes that industry members may be best suited to understand many of the manufacturing research and development needs of the industry. Therefore a goal of the Initiative is not to prescribe what research to perform, but rather to ensure that there is a good plan by which to solicit, evaluate, and fund high impact research applications. Oversight of research is expected to be performed, and mechanisms to monitor R&D projects need to be discussed.

- Describe the overall R&D timeline within the proposed technology area(s), including the major R&D goals, milestones, and decision points presented in the project timetable in Appendix 6.
- Describe the methodology that will be used to determine which R&D projects will be funded by the organization and/or supported in a manufacturing development facility, including how these activities will be prioritized and managed in a transparent and unbiased manner. What guidelines will be used for submission, screening, and selection of potential projects? How will R&D awards be made, including application solicitation and review? How will the review process include individuals with highly qualified and distinguished backgrounds? How will potential conflicts be identified and managed? How will relevance to industry and to manufacturing be determined? How will cost-share funds be managed and segregated, if necessary, to meet the requirements of different cost-share partners?
- Describe how the research and development plan will be reviewed and, modified, and evolve to adapt to new technical developments and to changing industry needs and market conditions.
- For organizations that are adopting portions of a Manufacturing Development Facility model, describe the methodology for allocating facility time among different projects and users.
- Describe how oversight and monitoring of R&D projects will be implemented, including stage-gate and milestone review and other criteria for choosing when to continue, complete, or terminate ongoing projects. What specific metrics will be

utilized to gauge project success?

Intellectual Property (IP) Management Plan:

The PV Manufacturing Initiative anticipates that IP issues, if not well thought out and agreed upon, can greatly hinder the success of a collaborative organization or multi-user facility and limit membership or users. A good IP management plan will support the needs of the organization, its members, and the broader U.S. PV manufacturing industry through considered approaches to IP ownership, licensing/cross licensing, and timely publication of results. The quality of the IP agreement and IP management plan is an indicator that the organization has developed an approach to handle the tough IP issues that can arise without limiting the free exchange of ideas amongst members necessary to make rapid progress in the field of research.

- Describe how the IP management plan will support achievement of the organization's goals, including creating opportunities for collaborative R&D and fostering an environment of trust amongst members.
- Describe the overall approach to IP management, including IP ownership, IP security, and IP licensing. Describe how the organization will provide a clear and streamlined process for negotiating and settling IP concerns, creating IP agreements, and adding new members. Attach in Appendix 3, signed IP agreements if available at the time of submission. Otherwise, attach a draft version that will form the basis for final IP agreements. At a minimum, the IP agreement needs to address ownership of inventions, prior art IP owned by organization members, licensing/cross licensing, protection of IP, and IP issues relating to changes in organization membership.
- Describe how the IP management plan will minimize barriers to company involvement and help provide an acceptable value proposition to members and/or facility users. Discuss the mechanism to distribute the benefits (royalties and equity) after any licensing expenses, among appropriate organization members and how current and former members are handled.
- Describe how results of research completed by the consortium will be made available and transferred to organization members; and/or describe how the results of proprietary work in a Manufacturing Development Facility will be protected and safe-guarded. Describe how research results will be published and disseminated to the scientific community, the PV industry, and the public.

Capabilities and Resources:

The capabilities and resources available to the organization will be key factors in judging the merit of the application. The managing organization's leadership and expertise are expected to be a predictor for success, and experience in the areas outlined in the preceding sections will be highly valued. Additionally, access to R&D and manufacturing-scale facilities will be critical for effectively developing, commercializing, and scaling up new technologies of high impact.

- Provide an overview of the initial organization members and their general capabilities, expertise, and/or resources, referencing the letters of commitment in Appendix 12 as needed. Specify in tabular form the members that have committed or otherwise stated strong interest in sponsoring the proposed organization. The level of interest should be categorized.
- Summarize the capabilities and experience of the organization's primary executive officer(s) and leadership team in managing technology organizations, consortia, and/or manufacturing facilities, including successfully managing IP in a collaborative and/or multi-user facility environment.
- Describe, as appropriate to the application topic, the R&D and manufacturing

facilities, capabilities, and personnel that will be available for performing R&D projects and/or manufacturing development, including access to manufacturing-scale equipment and pilot lines for evaluating and demonstrating the viability and scalability of technology innovations. Describe how these capabilities will enable the organization to achieve its objectives.

All the components of your Project Narrative (listed above) must be within the Narrative page limit specified in paragraph b. above.

Appendices

In addition to the contents of the Project Narrative described above, Appendices identified below (1 through 12) must be attached to the Project Narrative and are limited to 50 pages, and do NOT count in the Project Narrative page limit, unless otherwise noted. Except where otherwise noted, the term “organization” applies equally to any of the organizational models describe in Section I, under either University-Focused or Industry-Focused.

Appendix 1: Bibliography & References Cited

Provide a bibliography of any references cited in the project narrative. Please provide this information as an appendix to your project narrative. Each reference must include the names of all authors (in the same sequence in which they appear in the publication), the article and journal title, book title, volume number, page numbers, and year of publication. Include only bibliographic citations. Applicants should be especially careful to follow scholarly practices in providing citations for source materials relied upon when preparing any section of the application. **Appendix 1 is not subject to the Appendices page limitation mentioned in paragraph c. above.**

Appendix 2: Budget Summary

In simple tabular form, provide a high-level summary of the proposed budget for the proposed organization that includes the DOE and Cost Share funding by year for each institution participating in the project, beginning with the lead institution. Budget information should be presented as both annual funding and the cumulative funding over the five-year initial award period. Please see Appendix F – Sample High-Level Budget Summary. This Budget Summary is required in addition to the Budget (SF424A) and Budget Justification.

Appendix 3: Intellectual Property (IP) Agreements

Attach in Appendix 3, signed IP agreements if available at the time of submission, otherwise, attach a draft version that will form the basis for final IP agreements. At a minimum, the IP agreement needs to address ownership of inventions, prior art IP owned by organization members, licensing/cross licensing, protection of IP, and IP issues relating to changes in organization membership. **Appendix 3 is not subject to the Appendices page limitation mentioned in paragraph c. above.**

Appendix 4: Site, Acquisition, Design and Development Plan

Discuss the plans for locating any proposed Consortia or facility. This includes identification of the site or sites where the major activities of the organization will take place and how the site(s) will be acquired (use of space provided by the host institution(s), leased space, or combinations of these and other options) and prepared for use by the organization. The application should describe the proposed size, conceptual layout, and development strategy (including summary-level scope, schedule and cost estimates including alteration and/or renovations for the space, i.e., the estimated cost to build out the space) for the space needed to house and support the program(s) identified in the narrative. Plans for acquisition of major equipment and instrumentation (items costing \$1 million or more) should be included.

Appendix 5: Funding Plan

Provide a detailed strategy for development of funding for the proposed organization including,

but not limited to, cost sharing (if applicable) and DOE funding.

Appendix 6: Project Timetable

This section should outline as a function of time, year by year, all the major activities or phases of the proposed organization. The successful applicant will be expected to employ standard project management discipline and must use this project timetable to report progress.

Appendix 7: Biographical Sketches

Provide a resume for each key person proposed, including subawardees and consultants if they meet the definition of key person. A key person is any individual who contributes in a substantive, measurable way to the management of the consortia. Resumes should be tailored to provide information relevant to the specific organizational role. The biographical information for each resume must not exceed 2 pages when printed on 8.5" by 11" paper with 1 inch margins (top, bottom, left, and right), single spaced, with font not smaller than 11 point and should include the following information, if applicable:

For key personnel identified in this file, indicate the intended position in the management structure, including the primary executive officer(s) or consortium coordinator(s).

Education and Training. Undergraduate, graduate and postdoctoral training; provide institution, major/area, degree and year.

Professional Experience: Beginning with the current position list, in chronological order, management and technical positions with a description of responsibilities and accomplishments. Emphasize experience that is relevant to the person's position within the proposed organization.

Publications. List publications related to the proposed organization only. For each publication, identify the names of all authors (in the same sequence in which they appear in the publication), the article title, book or journal title, volume number, page numbers, year of publication, and website address, if available electronically. Patents, copyrights and software systems developed may be provided in addition to, or substituted for, publications.

Synergistic Activities. List no more than five professional activities related to the effort proposed.

Appendix 7 is not subject to the Appendices page limitation mentioned in paragraph c. above.

Appendix 8A: Organization Director Statement of Employment

For the Organization Director, submit documentation stating that the proposed Organization Director is either currently an employee of the prime applicant, or has committed to accept employment with the prime applicant, if the applicant receives an award. The statement of employment, or letter of commitment to accept employment, is limited to one page and must be signed by both the Organization Director and an authorized representative of the prime applicant.

Appendix 8B: Individual Commitment Statements

For each senior/key person, provide a current signed and dated commitment statement that reflects their commitment to this project, including their individual level of time commitment, for a minimum period of five years. Multiple personnel representing the same institution may sign the same letter of commitment, as applicable. Each letter of commitment is limited to one page.

Appendix 9: Current and Pending Support

Provide a list of all current and pending support (both Federal and non-Federal) for the organization Director, senior/key persons, and identified Principal Investigator(s), including subawardees and consultants, for ongoing projects and pending applications as an appendix to the project narrative. For each organization providing support, show the total award amount for the

entire award period (including indirect costs) and the number of person-months per year to be devoted to the project by the senior/key person. Concurrent submission of an application to other organizations for simultaneous consideration will not prejudice its review.

Appendix 10: Facilities & Other Resources

This information will be used to assess the capability of the organizational resources, including subawardee resources, available to perform the effort proposed. Identify the facilities to be used (e.g. Laboratory, Computer, Office, and Other). If appropriate, indicate their capacities, pertinent capabilities, relative proximity, and extent of availability to the project. Describe only those resources that are directly applicable to the proposed work. Describe other resources available to the project (e.g., machine shop, electronic shop) and the extent to which they would be available to the project.

List major items of equipment already available for this project and, if appropriate, identify location and pertinent capabilities.

To facilitate evaluation, respondents should also prepare a matrix showing Equipment and Team/Researcher Capabilities listed along the vertical axis and Technology Topics/Objectives listed along the horizontal axis. The intersection on this grid should be marked appropriately, to indicate access to capabilities and resources needed to fulfill each objective. The sample templates are provided in Appendix G, Equipment Team Matrix Template and Team Matrix Template.

Appendix 11: Statement of Conflict of Interest

Identify potential, apparent, or actual organizational and individual conflicts of interest and proposed mitigation. This shall include applicants, their team members, and senior/key personnel named in the application. Negative responses are also required. Prior to award, DOE reserves the right to require the submission of a Conflict of Interest Management Plan describing the applicant's approach to managing conflicts of interest.

Appendix 12: Commitment Letters from Third-Parties Contributing to Cost Sharing

You must have a letter from each third-party contributing cost share (i.e., a party other than the organization submitting the application) stating that the third-party is committed to providing a specific minimum dollar amount of cost share. Identify the following information for each third-party contributing cost share: (1) the name of the organization; (2) the proposed dollar amount to be provided; and (3) the proposed type of cost share – cash, services, or property. Letters of Commitment from parties participating in the project, exclusive of vendors, who will not be contributing cost share, but will be integral to the success of the project, must be included as part of this Appendix to the Narrative. **Appendix 12 is not subject to the Appendices page limitation mentioned in paragraph c. above.**

d. Budget File:

SF 424 A Excel, Budget Information – Non-Construction Programs File

You must provide a separate budget for each year of support requested and a cumulative budget for the total project period. Use the SF 424 A Excel, “Budget Information – Non Construction Programs” form on the DOE Financial Assistance Forms Page at http://management.energy.gov/business_doe/business_forms.htm.

You may request funds under any of the Object Class Categories as long as the item and amount are necessary to perform the proposed work, meet all the criteria for allowability under the applicable Federal cost principles, and are not prohibited by the funding restrictions in this announcement (see Section IV.G). **Save the information in a single file named “SF424A.xls,” and click on “Add Optional Other Attachment” in the Adobe Application Package to attach.**

e. Budget Justification File – See Appendix E for more information

You must justify the costs proposed in each Object Class Category/Cost Classification category (e.g., identify key persons and personnel categories and the estimated costs for each person or category; provide a list of equipment and cost of each item; describe purpose of proposed travel, number of travelers and number of travel days; list general categories of supplies and amount for each category; and provide any other information you wish to support your budget). Provide the name of your cognizant/oversight agency, if you have one, and the name and phone number of the individual responsible for negotiating your indirect rates. **Save the budget justification information in a single file named “BudgetJustification.pdf,” and click on “Add Optional Other Attachment” in the Adobe Application Package to attach.**

See Appendix E for more information on the level of detail required.

f. Sub-award Budget File(s)

You must provide a separate budget (i.e., budget for each budget year and a cumulative budget) for each subawardee that is expected to perform work estimated to be greater than or equal to \$100,000 or 50 percent of the total work effort (whichever is less). Use the SF 424A Budget Information for Non Construction Programs or the SF 424 C Budget Information for Construction Programs. These forms are found on the DOE Financial Assistance Forms Page at http://management.energy.gov/business_doe/business_forms.htm. Save each Subaward budget in a separate file. Use up to 10 letters of the subawardee’s name (plus 424.xls) as the file name (e.g., company424.xls). **Click on “Add Optional Other Attachment” in the Adobe Application Package to attach each file.**

A budget justification for the subaward budget is also required. The budget justification must include the same justification information described in paragraph e. above. Please see Appendix E for more information on the level of detail for the budget justification.

g. Budget for DOE Federally Funded Research and Development Center (FFRDC) Contractor File, if applicable

If a DOE FFRDC contractor is to perform a portion of the work, you must provide a DOE Field Work Proposal in accordance with the requirements in DOE Order 412.1 Work Authorization System. The DOE Order 412.1, Work Authorization System and the DOE O 412.1, Field Work Proposal form are available at the following link, under “DOE Budget Forms”:

http://management.energy.gov/business_doe/business_forms.htm

Use up to 10 letters of the FFRDC name (plus .pdf) as the file name (e.g., lanl.pdf or anl.pdf), and click on “Add Optional Other Attachment” in the Adobe Application Package to attach.

h. Authorization for non-DOE or DOE FFRDCs

Save the Authorization for non-DOE or DOE FFRDCs, as specified in Section III.C. Other Eligibility Requirements, in a single file named “FFRDC_Auth.pdf” and click on “Add Optional Other Attachment” in the Adobe Application Package to attach.

i. Non-Disclosure Agreement (NDA):

The members of the proposed organization should recognize that some material disclosed during the operation of the organization will be proprietary to the disclosing party. Therefore, all members are expected to sign a Nondisclosure Agreement (NDA). Government personnel will not be required to sign the NDA because they are subject to 18 U.S.C. 1905 (The Trade Secrets Act). It is the Government’s responsibility to ensure that those personnel acting on the Government’s behalf are contractually obligated to not disclose proprietary information.

One NDA signed by all members of the proposed organization must be submitted with the application. DOE recommends using the example provided in Appendix D, without substantial changes. However, if the document requires amending, submit a red-lined version of the document with the changes shown. Applicants may also use a different version of the NDA, but is discouraged. DOE expects the members to conduct business among themselves in a manner that facilitates the free flow of information within the organization. The required NDA will assist in this effort.

Save this plan in a single file named “NDA.pdf” and click on “Add Optional Other Attachments” in the Adobe Application Package to attach.

j. SF-LLL Disclosure of Lobbying Activities:

If applicable, complete the SF- LLL. Applicability: If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the cooperative agreement/TIA, you must complete and submit Standard Form - LLL, "Disclosure Form to Report Lobbying." The form is available in the optional document box on the Adobe Application Package attached to this FOA.

Summary of Required Forms/Files for Concept Paper Application: DE-FOA-0000237

Your application must include the following documents:

Name of Document	Format	File Name
SF 424 - Application for Federal Assistance	Part of Adobe Application Package	
Project/Performance Site Location(s)	Part of Adobe Application Package	
Other Attachments Form: Attach the following files to this form:	Part of Adobe Application Package	See Instructions
Concept Paper	PDF	ConceptPaper.pdf

Summary of Required Forms/Files for Full Application: DE-FOA-0000259

Applicants must have submitted a Concept Paper Application by the required due date, passed the Concept Paper Application initial compliance review, and received DOE feedback to be eligible to submit a Full Application. Once the Concept Paper Application FOA closes and DOE has provided feedback on the initial Concept Paper Application, the FOA with the Adobe Application Package for the Full Applications will be provided at www.grants.gov.

Your application must include the following documents:

Name of Document	Format	File Name
SF 424 - Application for Federal Assistance	Part of Adobe Application Package	
Project/Performance Site Location(s)	Part of Adobe Application Package	
Other Attachments Form: Attach the following files to this form:	Part of Adobe Application Package	See Instructions
Project Summary/Abstract File	PDF	Summary.pdf

Executive Summary	PDF	ExecSummary.pdf
Project Narrative File	PDF	Project.pdf
SF 424A Excel – Budget Information for Non-Construction Programs File	Excel	SF424A.xls
Budget Justification File	PDF	BudgetJustification.pdf
Subaward Budget File(s), if applicable Budget Justification(s), if applicable	Excel for Budget PDF for Justification	See Instructions
Budget for Federally Funded Research and Development Center (FFRDC) Contractor File, if applicable.	PDF	See instructions
Authorization from cognizant Contracting Officer for FFRDC, if applicable.	PDF	FFRDC_Auth.pdf
Signed NDA	PDF	NDA.pdf
SF-LLL Disclosure of Lobbying Activities	PDF	SF-LLL.pdf
Project Narrative	PDF	Project.pdf
The Appendices below must be attached to the Project Narrative		
Appendix 1: Bibliography & References Cited	PDF	Appendix1.pdf
Appendix 2: Budget Summary	PDF	Appendix2.pdf
Appendix 3: Intellectual Property (IP) Agreements	PDF	Appendix3.pdf
Appendix 4: Site, Acquisition, Design and Development Plan	PDF	Appendix4.pdf
Appendix 5: Funding Plan	PDF	Appendix5.pdf
Appendix 6: Project Timetable	PDF	Appendix6.pdf
Appendix 7: Biographical Sketches	PDF	Appendix7.pdf
Appendix 8A: Organization Director Statement of Employment	PDF	Appendix8A.pdf
Appendix 8B: Individual Commitment Statements	PDF	Appendix8B.pdf
Appendix 9: Current and Pending Support	PDF	Appendix9.pdf
Appendix 10: Facilities & Other Resources	PDF	Appendix10.pdf
Appendix 11: Statement of Conflict of Interest	PDF	Appendix11.pdf
Appendix 12: Commitment Letters from Third-Parties Contributing to Cost Sharing	PDF	Appendix12.pdf

D. Submissions from Successful Applicants

If selected for award, DOE reserves the right to request additional or clarifying information for any reason deemed necessary, including, but not limited to:

- Indirect cost information
- Other budget information
- Commitment Letter from Third-Parties Contributing to Cost Share, if applicable
- Environmental Questionnaire
- Statement of Project Objectives

DOE reserves the right, without qualification, to reject any or all applications received in response to this announcement and to select any application, in whole or in part, as a basis for negotiation and/or award.

E. Submission Dates and Times

1. Letter of Intent Due Date

Letters of Intent are not required.

2. Concept Paper Application Due Date (DE-FOA-0000237)

Concept Paper Applications must be received by 06/03/2010 11:59 PM Eastern Time. You are encouraged to transmit your concept paper application well before the deadline. **CONCEPT PAPER APPLICATIONS RECEIVED AFTER THE DEADLINE WILL NOT BE REVIEWED OR CONSIDERED FOR AWARD.**

Applicants must have submitted a Concept Paper Application by the required due date, passed the Concept Paper Application initial compliance review, and received DOE feedback to be eligible to submit a Full Application. Once the Concept Paper Application FOA closes and DOE has provided feedback on the initial Concept Paper Application, the FOA with the Adobe Application Package for the Full Applications will be provided at www.grants.gov.

3. Full Application Due Date (DE-FOA-0000259)

Full Applications must be received by the specified due date. You are encouraged to transmit your full application well before the deadline. **FULL APPLICATIONS RECEIVED AFTER THE DEADLINE WILL NOT BE REVIEWED OR CONSIDERED FOR AWARD.**

F. Intergovernmental Review

Program Not Subject to Executive Order 12372

This program is not subject to Executive Order 12372 – Intergovernmental Review of Federal Programs.

G. Funding Restrictions

Cost Principles. Costs must be allowable in accordance with the applicable Federal cost principles referenced in 10 C.F.R. Part 600. The cost principles for commercial organization 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 C.F.R. 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.

You are restricted from taking any action using Federal funds, which would have an adverse effect on the environment or limit the choice of reasonable alternatives prior to DOE providing either a National Environmental Protection Act (NEPA) clearance or a final NEPA decision regarding this project. If you move forward with activities that are not authorized for Federal funding by the DOE Contracting Officer in advance of the final NEPA decision, you are doing so at risk of not receiving Federal funding and such costs may not be recognized as allowable cost share.

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.

H. Submission and Registration Requirements

Where to Submit

APPLICATIONS MUST BE SUBMITTED THROUGH GRANTS.GOV, TO BE CONSIDERED FOR AWARD UNDER THIS ANNOUNCEMENT. You cannot submit an application through Grants.gov unless you are registered. Please read the registration requirements below carefully and start the process immediately. Submit electronic applications through the "Apply for Grants" function at www.Grants.gov. You will be directed to connect to the internet and will need to login to Grants.gov using your username and password.

If you have problems completing the registration process or submitting your application, call Grants.gov at 1-800-518-4726 (7:00 a.m. to 9:00 p.m., Eastern) or send an email to support@grants.gov. It is the responsibility of the applicant to verify successful transmission, prior to the Application due date and time.

Registration Process Requirements

To submit an application in response to this FOA, Applicants must be registered with Grants.gov. Register in Grants.gov at <http://www.grants.gov/>. See the Organization Registration User Guide at <http://www.grants.gov/assets/OrgRegUserGuide.pdf>.

The Applicant User Guide is at <http://www07.grants.gov/assets/ApplicantUserGuide.pdf>.

Allow at least 21 days to complete all registration requirements.

Before you can register with Grants.gov, you will need the following:

- a. Your organization's Dun and Bradstreet Data Universal Numbering System (DUNS) (including plus 4 extension if applicable). To check whether your organization has a DUNS search for the organization name, number, or request one at <http://fedgov.dnb.com/webform/displayHomePage.do>.
- b. A federal Central Contractor Registration (CCR) account. If your organization is not currently registered with CCR, please register at www.ccr.gov before continuing with your Grants.gov registration. Designating an Electronic Business Point of Contact (EBiz POC) and obtaining a special password called an MPIN are important steps in CCR registration. These items are needed to submit applications in Grants.gov. Update your CCR registration annually.
- c. Registration in FedConnect at <https://www.fedconnect.net/>; use "Register as a Vendor" link. To create an organization account, your organization's CCR MPIN is required; obtain the MPIN from your organization's Electronic Business Point of Contact. Refer to the FedConnect Quick Start guide at the website.
- d. Electronic Authorization of Applications and Award Documents.

Submission of an application and supplemental information under this announcement through electronic systems used by the Department of Energy, including Grants.gov and FedConnect, constitutes the authorized representative's approval and electronic signature.

Submissions of award documents, including modifications, are made through electronic systems used by the Department of Energy, including FedConnect. Award acknowledgement via FedConnect constitutes the Authorized Representative's electronic signature, and constitutes the Authorized Representative's approval and acceptance of the terms and conditions of the award.

SECTION V - APPLICATION REVIEW INFORMATION

A. Criteria

1. CONCEPT PAPER APPLICATION

Initial Review Criteria

Application Award Eligibility

DOE will perform an initial review of the concept paper applications to determine that: (1) the applicant is eligible for an award; (2) the information required by the announcement has been submitted; (3) all mandatory requirements are satisfied; and (4) the proposed project is responsive to the objectives of the funding opportunity announcement.

Applicants must have submitted a Concept Paper Application by the required due date, passed the Concept Paper Application initial compliance review, and received DOE feedback to be eligible to submit a Full Application. Once the Concept Paper Application FOA closes and DOE has provided feedback on the initial Concept Paper Application, the FOA with the Adobe Application Package for the Full Applications will be provided at www.grants.gov.

Concept Papers will be reviewed for perceived overall viability of the proposed effort , utilizing the following criteria:

- Degree to which the proposed concept addresses the objectives of the PV Manufacturing Initiative and represents a well thought-out and detailed understanding of how such an initiative can benefit the PV industry.
- Extent and scope of resources and partnerships that will be applied when addressing the proposed objectives.

Concept Papers will not be evaluated against each other. Potential applicants should **invest sufficient time and address the above criteria to the greatest extent possible, as DOE may use the information to make** decisions on whether or not the FOA should be modified or withdrawn. Applicants must pass the initial compliance review and receive Concept Paper feedback from DOE, prior to submitting a full Application. DOE anticipates providing feedback on the Concept Papers within 15 business days of the Concept Paper FOA closing date.

2. FULL APPLICATION EVALUATION CRITERIA

Initial Review Criteria

Application Award Eligibility

Prior to a comprehensive merit evaluation, DOE will perform an initial review to determine that (1) the applicant is eligible for an award; (2) the information required by the announcement has been submitted; (3) all mandatory requirements are satisfied; and (4) the proposed project is responsive to the objectives of the funding opportunity announcement. If an application fails to meet these requirements, it may be deemed non-responsive and eliminated from full Merit Review.

Merit Review Criteria for Full Applications

Applications for both Topics 1 and 2 will be evaluated against the merit review criteria shown below:

Criteria 1: Organization Objectives

Weight: [20%]

- Degree to which the applicant demonstrates a deep and technical understanding of the domestic PV industry's needs. Adequacy of the description of technology barriers, scale-up challenges, and collaborative opportunities for the proposed technology focus.

- Extent to which the organization’s objectives and technology development goals will meet industry needs, strengthen the competitiveness of domestic PV manufacturing, and translate into increased PV and supply chain manufacturing and employment that remain in the U.S. Degree to which the organization’s technical objectives, strategy, and operational framework would successfully address deficiencies in U.S. PV manufacturing and thereby help develop a more robust domestic PV manufacturing base.
- Likelihood that the main participants in the proposed organization will be able to commercialize or otherwise implement the technologies or advances developed through the organization. Reasonableness of any assumptions about future industry dynamics or structure made in support of this commercialization or implementation plan.
- Extent to which the organization addresses potential synergies among universities, the national labs, and the PV industry for advancing PV manufacturing innovation, education, and workforce development.

Criteria 2: Management and Business Plan

Weight: [25%]

- Extent to which the management plan presents a thorough understanding of the issues and challenges associated with the proposed organization structure.
- Extent to which the organization and membership structure maximizes industry impact within the scope of the organization objectives. Adequacy and appropriateness of plans for developing and optimizing membership.
 - Topic I applications: Extent to which how industry involvement will be maximized while still allowing research consistent with an academic environment. Credibility of plan to solicit research participation from a broad range of academic institutions. Likelihood of significant interaction, collaboration, and mentorship between university participants and industry technical leaders.
 - Topic II applications: Extent to which university involvement will be maximized and be supportive of industry research objectives.
- As appropriate, the extent to which participation of foreign-based entities, in the context of supporting domestic manufacturing, has been addressed.
- Adequacy and credibility of the project timetable, including well-developed key milestones and decision points.
- Effectiveness of governance and leadership structures for achieving organization objectives. Extent to which the roles within the organization, including lead organization(s) and executive officers, governing boards and/or advisory boards have been identified. Adequacy of structure and processes for supporting decision-making and ensuring responsiveness to members’ needs.
- Strength of the management approach and of strategy for communication and information exchange among management and membership.
- Adaptability of organization to changing industry conditions and needs, including the adequacy of periodic review processes and decision criteria.
 - For Topic II, appropriateness of the proposed budget, including capital equipment requirements and the degree to which equipment manufacturer participation is leveraged.
- Financial viability of applicant’s business plan. Extent to which plans for developing non-federal revenue streams are viable and achievable. For Topic II, likelihood that the project can achieve financial self-sufficiency within 5 years.

Criteria 3: Research and Development (R&D) Management Plan

Weight: [20%]

- Appropriateness of methodology for selecting and prioritizing R&D projects that will be funded by the organization and/or supported in a manufacturing development facility. Effectiveness of plan to manage R&D funding, including from multiple cost-share partners where relevant.
- Quality of proposed R&D management plan. Extent to which plan will evolve to meet changing industry needs and market conditions.
- For applications that include Manufacturing Development Facilities: Adequacy and appropriateness of methodology for allocating facility time among different projects and users.
- Robustness of the approach for R&D project oversight and monitoring, including the conduct of stage-gate reviews, implementation of review findings, and project termination. Appropriateness of metrics for gauging project success.

Criteria 4: Intellectual Property (IP) Management Plan **Weight: [15%]**

- Adequacy of the IP management plan for supporting the needs of the organization, its members, the broader PV manufacturing industry, and the Department of Energy. Viability of approach to managing IP ownership, IP security, and IP licensing. Appropriateness of approach for negotiating and settling IP concerns, creating IP agreements, and adding new members.
- Extent to which the IP agreements attached in Appendix 3 demonstrates that the IP issues inherent with collaborations are addressed.
- Extent to which the IP management plan will support achievement of the organization's goals, including creating opportunities for collaborative R&D and fostering an environment of trust amongst members.
- Extent to which the IP management plan will minimize barriers to company involvement and help provide an acceptable value proposition to members and/or facility users. Appropriateness of royalty distribution plan amongst organization members, former members, and new members.
- Appropriateness and viability of the approach for disseminating results of research to organization members, the scientific community and the public.

Criteria 5: Capabilities and Resources **Weight: [20%]**

- Extent to which the capabilities, experience, and qualifications of the organization and its members are consistent with and support the proposed scope of work and the organization's objectives. Caliber, leadership capability, and successful track record of organization's primary executive officer(s) or director(s). Extent to which the necessary management, business, technical, and intellectual property personnel for supporting a high likelihood of success have been identified. Adequacy of experience in successfully managing IP in a collaborative and/or multi-user facility environment.
- Adequacy of the facilities, facility staffing and assignees and resources for executing the proposed scope of work and their relevance for supporting high volume PV manufacturing and the evaluation of viability and scalability of new technologies.
- Degree of support as evidenced by letters of commitment from anticipated organization members, suppliers, and customers. Extent to which the application includes commitments from multiple leading members from the PV industry that indicate strong support and an increased likelihood of reaching self-sufficiency.

Other Selection Factors

Program Policy Factors

The Selection Official may consider the following program policy factors in the selection process:

- Leveraging of projects to maximize programmatic objectives.
- Significance of Organizations' and Facilities' Impact. DOE Solar Program will use the proposed organizations' and facilities' impact as a determining factor for selection. For example, do the proposed consortia and facilities, taken together, maximize impact on the entire PV Industry or is their impact limited to only a specific part of the industry and supply chain or only a specific technology type (e.g. wafer silicon PV, CdTe, etc.)
- Geographic Diversity.
- Program Diversity. DOE Solar Program intends to fashion a mix of organizations and facilities that best addresses the overall needs of the entire solar PV industry.

B. Concept Paper Review and Full Application Selection Process

1. Feedback of Concept Papers

Concept Papers that pass the initial compliance review will receive feedback from DOE as to the perceived viability of the proposed effort, which is anticipated to be provided within 15 business days of the Concept Paper due date and will be mailed and emailed to the individual identified in the SF 424, Application for Federal Assistance, Block 8.f. Name and contact information of person to be contacted on matters involving this application.

Full Applications Subject to Merit Review

Applicants that have submitted a Concept Paper, passed the initial Concept Paper compliance review, received feedback from DOE, and submitted a Full Application that passed the initial compliance review will be subjected to a merit review in accordance with the guidance provided in the "Department of Energy Merit Review Guide for Financial Assistance". This guide is available at: <http://www.management.energy.gov/documents/meritrev.pdf>.

2. Notice for Oral or Written Presentation

The Applicants with the most highly rated full applications may be required to provide an oral or written presentation of the proposed project to the DOE Solar Program. Oral or written presentation scope and format will be provided at the time of notification. This notice is not an indication that the applicant has been selected for award.

3. Selection

Selection Official Consideration

The Selection Official may consider the merit review recommendation, results of the oral or written presentation, program policy factors, and the amount of funds available.

4. Discussions and Award

Government Discussions with Selected Applicants

The Government may enter into discussions with a selected applicant for any reason deemed necessary, including, but not limited to: (1) the budget is not appropriate or reasonable for the requirement; (2) only a portion of the application is selected for award; (3) the Government needs additional information to determine that the recipient is capable of complying with the requirements in 10 C.F.R. part 600 or 10 C.F.R. 603; and/or (4) special terms and conditions are required. Failure to resolve satisfactorily the issues identified by the Government will preclude award to the applicant.

C. Anticipated Notice of Selection and Award Dates

Selection and Award Date

DOE anticipates notifying applicants selected for award by end of September 2010.

Award Date

DOE is striving to make awards within six months. The time interval begins on the date applications are due, if there is no specified due date/deadline.

SECTION VI - AWARD ADMINISTRATION INFORMATION

A. Award Notices

Notice of Selection

Selected Applicants Notification

Based on the results of the merit review, oral or written presentation, and program policy factors, DOE will notify applicants selected for award. This notice of selection is not an authorization to begin performance. (See Section IV.G. with respect to the allowability of pre-award costs.)

Non-selected Applicants Notification

Organizations whose applications have not been selected will be advised as promptly as possible. This notice will explain why the application was not selected.

Notice of Award

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 C.F.R. part 600 or 10 C.F.R. 603; (5) National Policy Assurances To Be Incorporated As Award Terms; (6) Budget Summary; (7) Federal Assistance Reporting Checklist, which identifies the reporting requirements; and (8) Statement of Project Objectives.

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>.

B. Administrative and National Policy Requirements

1. Administrative Requirements

The administrative requirements for DOE cooperative agreements are contained in 10 C.F.R. part 600 (See: <http://ecfr.gpoaccess.gov>). Cooperative agreements made to universities, non-profits and other entities subject to OMB Circular A-110 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>.

Special Terms and Conditions and National Policy Requirements

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

http://management.energy.gov/business_doe/business_forms.htm

<http://www.management.energy.gov/documents/specialtermsandcondition308.pdf>.

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

http://management.energy.gov/business_doe/business_forms.htm

http://management.energy.gov/business_doe/1374.htm.

Intellectual Property Provisions

The standard DOE financial assistance intellectual property provisions applicable to the various types of recipients are located at http://www.gc.doe.gov/financial_assistance_awards.htm.

Statement of Substantial Involvement

DOE, in providing project management oversight of the organization, will be substantially

involved in the project by participating in the following, including but not limited to: observer on management boards; review and approval of projects planned by the organization to reach programmatic goals; review of organization progress based on metrics; and participation in Stage-Gate Reviews (go/no go decision points) and peer reviews – any of which may lead to redirecting efforts – as the organizations work toward focusing on specific technological pathways leading to the increased strength and growth of the U.S. PV manufacturing base. If a consortium includes DOE FFRDCs, DOE will be substantially involved to ensure the efficient and effective interaction between the organization and the lab(s).

C. Reporting

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

<http://management.energy.gov/documents/DOEF46002PolicyVersion.pdf>

SECTION VII - QUESTIONS/AGENCY CONTACTS

A. Questions

Questions regarding the content of the announcement must be submitted through the FedConnect system. You must register with FedConnect to respond as an interested party, to submit questions, and to review responses to questions. It is recommended that you register as soon after release of the FOA as possible to have the benefit of all responses. More information is available at https://www.fedconnect.net/Fedconnect/PublicPages/FedConnect_Ready_Set_Go.pdf. DOE will try to respond to a question within 3 business days, unless a similar question and answer have already been posted on the website.

Questions pertaining to the **submission of applications through Grants.gov** should be directed by e-mail to support@grants.gov or by phone to 1-800-518-4726. The Grants.gov Helpdesk is available 7:00 a.m. to 9:00 p.m. Eastern Time.

SECTION VIII - OTHER INFORMATION

A. Modifications

Notices of any modifications to this announcement will be distributed through the FedConnect portal. You can receive an email when a modification or an announcement message is posted by registering with FedConnect as an interested party for this FOA. It is recommended that you register as soon after the release of the FOA as possible to ensure you receive timely notice of any modifications or other announcements. More information is available at <http://www.fedconnect.net> and https://www.fedconnect.net/Fedconnect/PublicPages/FedConnect_Ready_Set_Go.pdf.

B. Government Right to Reject or Negotiate

DOE reserves the right, without qualification, to reject any or all applications received in response to this announcement and to select any application, in whole or in part, as a basis for negotiation and/or award.

C. Commitment of Public Funds

The Contracting Officer is the only individual who can make awards or commit the Government to the expenditure of public funds. A commitment by other than the Contracting Officer, either explicit or implied, is invalid.

D. Proprietary Application Information

Patentable ideas, trade secrets, proprietary or confidential commercial or financial information, disclosure of which may harm the applicant, should be included in an application only when such

information is necessary to convey an understanding of the proposed project. The use and disclosure of such data may be restricted, provided the applicant includes the following legend on the first page of the project narrative and specifies the pages of the application which are to be restricted:

“The data contained in pages _____ of this application have been submitted in confidence and contain trade secrets or proprietary information, and such data shall be used or disclosed only for evaluation purposes, provided that if this applicant receives an award as a result of or in connection with the submission of this application, DOE shall have the right to use or disclose the data herein to the extent provided in the award. This restriction does not limit the government’s right to use or disclose data obtained without restriction from any source, including the applicant.”

To protect such data, each line or paragraph on the pages containing such data must be specifically identified and marked with a legend similar to the following:

“The following contains proprietary information that (name of applicant) requests not be released to persons outside the Government, except for purposes of review and evaluation.”

E. Evaluation and Administration by Non-Federal Personnel

In conducting the merit review evaluation, the Government may seek the advice of qualified non-Federal personnel as reviewers. The Government may also use non-Federal personnel to conduct routine, nondiscretionary administrative activities. The applicant, by submitting its application, consents to the use of non-Federal reviewers/administrators. Non-Federal reviewers must sign conflict of interest and non-disclosure agreements prior to reviewing an application. Non-Federal personnel conducting administrative activities must sign a non-disclosure agreement.

F. Intellectual Property Developed under this Program

Patent Rights.

It is DOE’s goal to promote the commercialization of technologies developed through its funding opportunities to the maximum extent possible. As covered previously, funding under this proposed award may be made either through a cooperative agreement or through a TIA. The discussion of patent rights below pertains to the consortium or other proposed organizations that will receive government funding, and it addresses only the government’s share in patent rights relative to that organization. The organization may in turn have additional terms and conditions by which it will award or retain patent rights for its members. These terms and conditions should be covered separately, as detailed in Section V.

In a cooperative agreement, the government will have certain statutory rights in an invention that is conceived or first actually reduced to practice under a DOE award. For a cooperative agreement, the Bayh-Dole Act (35 U.S.C. 202) assures that a domestic small business, university or a non-profit awardee will have the option to retain title to their own inventions, subject to the Government retaining a government purpose license, march-in rights and a U.S. preference in licensing. The patent clause that will apply may be found at 10 C.F.R. Part 600 Appendix A to Subpart D, PATENT RIGHTS-SMALL BUSINESS FIRMS AND NONPROFIT ORGANIZATIONS. For awardees who are not subject to the Bayh-Dole Act, 42 U.S.C. 5908 provides that title to such inventions vests in the U.S., unless DOE grants a patent waiver pursuant to 10 C.F.R. 784. For this FOA, DOE intends to issue a class patent waiver that will assure that those awardees who are not subject to the Bayh-Dole Act will also have the option to retain title to their own inventions, subject to the same government retained rights identified above and provided they are cost sharing at least 20 percent and they agree to substantially manufacture new technology created under an award resulting from this FOA in the U.S. or provide other economic benefits to the U.S. The patent clause that will apply may be found at <http://www.gc.doe.gov/documents/patwaivclau.pdf>.

Those who are not subject to Bayh-Dole or do not meet the criteria of the class waiver, may still request a waiver of all or any part of the rights of the U.S. in inventions conceived or first actually reduced to practice in performance of an agreement as a result of this announcement, in advance of or within 30 days after the effective date of the award. Even if such advance waiver is not requested or

the request is denied, the recipient will have a continuing right under the award to request a waiver of the rights of the U.S. in the title to identified inventions, i.e., individual inventions conceived or first actually reduced to practice in performance of the award. Any individual patent waiver that may be granted is subject to certain terms and conditions in 10 C.F.R. 784; <http://www.gc.doe.gov/documents/patwaivclau.pdf>.

This FOA allows applicants to request a TIA. In a TIA the patent rights are negotiable and are not subject to the requirements of the Bayh-Dole Act or 42 U.S.C. 5908. If a TIA is awarded, therefore, a patent waiver will not be needed. If DOE determines it is appropriate to award a TIA, patent rights will be negotiated pursuant to the guidance set out in 10 C.F.R. 603.840 through 10 C.F.R. 603.875.

Rights in Technical Data.

Except as may be otherwise expressly provided or directed in writing by the DOE Patent Counsel, DOE shall have ownership of and unlimited rights in technical data first produced under the Agreement. Delivery or third-party licensing of proprietary software or data developed solely at private expense will not normally be required except as specifically negotiated in a particular agreement to satisfy DOE's own needs or to ensure the commercialization of technology developed under a DOE agreement. For FFRDCs and National Laboratories that may be members of consortia, the terms and conditions of the M&O Contract will govern patent and data rights, unless otherwise negotiated in a TIA.

For this FOA, DOE has determined that special protected data rights may apply. The provisions provide for the protection from public disclosure, for a period of up to five years from the development of the information, of data that would be trade secret, or commercial or financial information that is privileged or confidential, if the information had been obtained from a non-Federal party. The provision entitled, Rights in Data – Programs Covered Under Special Protected Data Statutes, (10 C.F.R. 600 Appendix A to Subpart D), will apply, but will be modified to list and identify data or categories of data first produced in the performance of the award that will be made available to the public, notwithstanding the statutory authority to withhold data from public dissemination, and will identify data that will be recognized by the parties as protected data.

If DOE determines it is appropriate to award a TIA, Technical Data rights will be negotiated pursuant to the guidance set out at 10 C.F.R. 603.840 and 10 C.F.R. 603.845. As indicated at 10 C.F.R. 603.845 (b), under a TIA, the provision entitled Rights in Data – Programs Covered Under Special Protected Data Statutes, (10 C.F.R. 600 Appendix A to Subpart D) will apply. The provisions provide for the protection from public disclosure, for a period of up to five years from the development of the information, of data that would be trade secret, or commercial or financial information that is privileged or confidential, if the information had been obtained from a non-Federal party. The provisions may be modified to accommodate particular circumstances (e.g., access to or expanded use rights in protected data among consortium or team members), or to list and identify data or categories of data first produced in the performance of the award that will be made available to the public, notwithstanding the statutory authority to withhold data from public dissemination, and may also identify data that will be recognized by the parties as protected data. Applicants should understand; however, that certain information arising out of the Consortium will be made publicly available consistent with DOE policy (e.g., general test results and data that tend to show progress toward meeting DOE's technical goals related to the Solar Energy Technology Program).

G. Notice Regarding Eligible/Ineligible Activities

Eligible activities under this program include those which describe and promote the understanding of scientific and technical aspects of specific energy technologies, but not those which encourage or support political activities such as the collection and dissemination of information related to potential, planned or pending legislation.

H. Notice of Right to Conduct a Review of Financial Capability

DOE reserves the right to conduct an independent third-party review of financial capability for applicants that are selected for negotiation of award (including personal credit information of

principal(s) of a small business if there is insufficient information to determine financial capability of the organization).

I. Notice of Potential Disclosure under Freedom of Information Act

Applicants should be advised that identifying information regarding all applicants, including applicant names and/or points of contact, may be subject to public disclosure under the Freedom of Information Act, whether or not such applicants are selected for negotiation of award.

REFERENCE MATERIAL

Appendix A – Definitions

“**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 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.

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

“**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 <http://www.grants.gov/CCRRegister>.

"**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. The percentage of Applicant Cost Share is to be applied to the Total Project Cost (i.e., the sum of Applicant plus DOE Cost Shares) rather than to the DOE contribution alone.

“**Credential Provider**” is an organization that validates the electronic identity of an individual through electronic credentials, PINS, and passwords for Grants.gov. Funding Opportunity Announcements which require application submission through Grants.gov require that the individual applying on behalf of an organization first be registered with the Credential Provider at <https://apply.grants.gov/OrcRegister>.

“**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://www.grants.gov/applicants/request_duns_number.jsp

“**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 U.S. to Indians because of their status as Indians.

“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.

“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.

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

“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 meaning 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.

"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.

"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 C.F.R. 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 C.F.R. 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.

"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 B – Personally Identifiable Information

In responding to this Announcement, Applicants must ensure that Protected Personally Identifiable Information (PII) is not included in the following documents: Project Abstract, Project Narrative, Biographical Sketches, Budget or Budget Justification. These documents will be used by the Merit Review Committee in the review process to evaluate each application. PII is defined by the Office of Management and Budget (OMB) and DOE as:

Any information about an individual maintained by an agency, including but not limited to, education, financial transactions, medical history, and criminal or employment history and information that can be used to distinguish or trace an individual's identity, such as their name, social security number, date and place of birth, mother's maiden name, biometric records, etc., including any other personal information that is linked or linkable to an individual.

This definition of PII can be further defined as: (1) Public PII and (2) Protected PII.

- 1) **Public PII:** PII found in public sources such as telephone books, public websites, business cards, university listing, etc. Public PII includes first and last name, address, work telephone number, email address, home telephone number, and general education credentials.
- 2) **Protected PII:** PII that requires enhanced protection. This information includes data that if compromised could cause harm to an individual such as identity theft.

Listed below are examples of Protected PII that Applicants must not include in the files listed above to be evaluated by the Merit Review Committee.

- Social Security Numbers in any form
- Place of Birth associated with an individual
- Date of Birth associated with an individual
- Mother's maiden name associated with an individual
- Biometric record associated with an individual
- Fingerprint
- Iris scan
- DNA
- Medical history information associated with an individual
- Medical conditions, including history of disease
- Metric information, e.g. weight, height, blood pressure
- Criminal history associated with an individual
- Ratings
- Disciplinary actions
- Performance elements and standards (or work expectations) are PII when they are so intertwined with performance appraisals that their disclosure would reveal an individual's performance appraisal
- Financial information associated with an individual
- Credit card numbers
- Bank account numbers
- Security clearance history or related information (not including actual clearances held)

Listed below are examples of Public PII that Applicants may include in the files listed above to be evaluated by the Merit Review Committee:

- Phone numbers (work, home, cell)
- Street addresses (work and personal)
- Email addresses (work and personal)
- Digital pictures
- Medical information included in a health or safety report
- Employment information that is not PII even when associated with a name
- Resumes, unless they include a Social Security Number
- Present and past position titles and occupational series
- Present and past grades
- Present and past annual salary rates (including performance awards or bonuses, incentive awards, merit pay amount, Meritorious or Distinguished Executive Ranks, and allowances and differentials)
- Present and past duty stations and organization of assignment (includes room and phone numbers, organization designations, work email address, or other identifying information regarding buildings, room numbers, or places of employment)
- Position descriptions, identification of job elements, and those performance standards (but not actual performance appraisals) that the release of which would not interfere with law enforcement programs or severely inhibit agency effectiveness
- Security clearances held
- Written biographies (e.g., to be used in a program describing a speaker)
- Academic credentials
- Schools attended
- Major or area of study
- Personal information stored by individuals about themselves on their assigned workstation or laptop unless it contains a Social Security Number

Appendix C – 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 C.F.R. 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 C.F.R. Part 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 a detailed description of what specifically qualifies for cost sharing is provided below, 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, cooperative agreement, or TIA 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 or TIA, 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 C.F.R.600.123;
- State and Local Governments are found at 10 C.F.R.600.224;
- For-profit Organizations are found at 10 C.F.R.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.

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>

<http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr;sid=4f45aca5e58dc798227f2d1ae57e5c4b;rgn=div5;view=text;node=10%3A4.0.1.3.12;idno=10;cc=ecfr>

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 C.F.R. 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 C.F.R. 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

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:

<u>Task</u>	<u>Proposed Federal Share</u>	<u>Federal Share %</u>	<u>Required Non-federal Cost Share %</u>
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%	0%
	\$2,000,000		

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:

<u>Task</u>	<u>Proposed Federal Share</u>	<u>Federal Share %</u>	<u>Required Non-federal Cost Share \$</u>	<u>Required Non-federal Cost Share %</u>	<u>Total Project Cost</u>
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)

Appendix D - Example Non-Disclosure Agreement (NDA)

To protect certain Protected Data and Proprietary Information,

INSERT NAMES OF MEMBERS HERE

all of the above hereinafter referred to individually as “Member” or collectively as “Members” hereby agree:

1. Disclosing Member/Receiving Member: Proprietary Information and Protected Data may be mutually shared by the Members, which may include subcontractors to the Members and Limited Members.
2. “Employee” includes professors, principal investigators, visiting scholars, trainees, postdoctoral appointees, graduate students, undergraduate student assistants, support services contractors, and staff employees.
3. “Award” means each Member’s agreement with the U.S. Department of Energy for this PV Manufacturing Initiative award entitled [INSERT NAME OF AWARD HERE]
4. "Proprietary Information" means Limited Rights Data and Restricted Computer Software, which are defined in each Member’s award as follows: Limited Rights Data means data (other than computer software) developed at private expense that embody trade secrets or are commercial or financial and confidential or privileged. Restricted Computer Software means computer software developed at private expense and that is a trade secret; is commercial or financial and confidential or privileged; or is published copyrighted computer software; including modifications of such computer software.
5. “Protected Data” is defined in each Member’s award as technical data or commercial or financial data first produced in the performance of the award which, if it had been obtained from and first produced by a non-federal Member, would be a trade secret or commercial or financial information that is privileged or confidential under the meaning of 5 U.S.C. 552(b)(4) and which data is marked as being protected data by a Member to the award.
6. “Consortium” means a team composed of a prime awardee and one or more subawardees under this Award.
7. “Consortium Lead” means the prime awardee under this Award.
8. Protected Data and Proprietary Information disclosed hereunder may not be used by any Member other than the Disclosing Member for any purpose other than as stated herein.
9. Receiving Member shall protect only Disclosing Member's Protected Data and Proprietary Information, which is either:
 - a. disclosed in writing or other tangible form and plainly marked as the Disclosing Member's Protected Data or Proprietary Information.
 - b. disclosed in another manner and identified as business sensitive or proprietary at the time of disclosure, and summarized and designated business sensitive or proprietary in a written memorandum delivered to Receiving Member within thirty (30) days of the disclosure; in which case the information contained in the summary (not information contained solely in the non-tangible disclosure) shall be subject to the restrictions herein.
10. Receiving Member shall:
 - a. protect the Disclosing Member's Protected Data and Proprietary Information by using the same degree of care, but no less than a reasonable degree of care, as Receiving Member uses to protect its own Protected Data and Proprietary Information of a like nature.
 - b. not disclose the Disclosing Member's Protected Data or Proprietary Information to any third Member without the written consent of the Disclosing Member.
 - c. restrict disclosure of the Disclosing Member's Protected Data and Proprietary Information to employees or contractors who have a need to know the same and who have been advised of

Receiving Member's obligations under this Agreement.

- d. not remove the restrictive markings from any of the Disclosing Member's Protected Data or Proprietary Information.
11. The Members acknowledge that U.S. Government employees have the right to inspect all written Protected Data and Proprietary Information provided to any Management & Operating Contractor for a National Laboratory or Federally Funded Research and Development Center upon reasonable notice and that such information shall be protected against further disclosure by U.S. Government employees under 18 USC 1905.
 12. The obligations of nonuse and nondisclosure set forth in this Agreement shall not apply to any information which:
 - a. is or becomes part of the public domain otherwise than as a consequence of breach of obligations under this Agreement;
 - b. was already known to the Receiving Member prior to receipt from the Disclosing Member;
 - c. is lawfully disclosed by the Disclosing Member to a third-party without restriction;
 - d. is disclosed by a third-party to the Receiving Member without restriction and otherwise than as a consequence of breach of obligations of a nondisclosure Agreement; or
 - e. is at any time developed by Receiving Member independently without the use of Disclosing Member Protected Data or Proprietary Information.
 13. No license to a Member, under any patent, trademark, copyright, mask work or any other intellectual property right, is either granted or implied by the conveying of Protected Data or Proprietary Information to such Member. None of the Protected Data or Proprietary Information which may be disclosed or exchanged by the Members shall constitute any representation, warranty, assurance, guarantee or inducement by a Member to any other Member of any kind, and, in particular, with respect to the non-infringement of patents or any other intellectual property rights, or other rights of third persons or of the Members hereto.
 14. Neither this Agreement nor the disclosure or receipt of Protected Data or Proprietary Information shall constitute or imply any promise or intention to make any purchase of products or services by any Member, or any commitment by any Member with respect to the present or future marketing of any product or service.
 15. Upon termination or expiration of this Agreement as to any Member, such Member will, within a reasonable period of time thereafter and upon receipt of a written request to do so by the Disclosing Member, return to such Disclosing Member all Protected Data and Proprietary Information received from that Disclosing Member under this Agreement and copies made thereof, or certify by written memorandum that all such Protected Data and Proprietary Information has been destroyed; provided, however, that the terminating Member may retain an archival copy to be used only in case of a dispute concerning this Agreement.
 16. The Receiving Members acknowledge that they will not export or disclose to any non-resident foreign person or entity, any technical data without first complying with U.S. Government export control laws and regulations such as the International Traffic Arms Regulations and the Export Administration Regulations, including requirements for obtaining export licenses, regardless of whether the transfer occurs within the U.S. or abroad. Each Receiving Member further agrees that it will not export, directly or indirectly, any Protected Data or Proprietary Information it receives under this Agreement without the written consent of the Disclosing Member.
 17. This Agreement shall be in full force and effect for as long as the Consortium exists. Each Member may terminate this Agreement by giving thirty (30) days' prior written notice to the other Members. However, the obligations undertaken by a Receiving Member with respect to specific items of Proprietary Information received hereunder shall survive until the passage of five (5) years after the date of disclosure regardless of the expiration of the Agreement or the exercise of the right to

terminate upon thirty-days' written notice by a Member hereto.

18. The obligations undertaken by a Receiving Member with respect to specific items of Protected Data received hereunder shall survive until the passage of five (5) years after the date of disclosure, or the date upon which the data are no longer protected under the Award, whichever comes sooner, regardless of the expiration of the Agreement or the exercise of the right to terminate upon thirty-days' written notice by a Member hereto.
19. Addition of new Members: When a new Member is proposed to be added to the Consortium and this Agreement, the Consortium Lead shall transmit an abstract via fax or electronic mail regarding the new Member to all current Members to the Agreement for a comment and consent period not to exceed 30 days from the date the abstract is transmitted. The Consortium Lead shall collate and disseminate to all Members all comments regarding the addition. All Members shall make a good-faith effort to resolve any issues regarding the addition, and shall not unreasonably withhold their consent to the addition. The Consortium shall reach a decision regarding the addition based on the delineated procedure in its organizational charter. Upon acceptance of the addition, the Consortium Lead shall provide the Agreement for the new Member's signature. Members will not be required to re-circulate the Agreement for signing by all Members when a new Member is added. Upon addition of a new Member, the Consortium Lead shall send a courtesy copy to all Members of the Agreement reflecting the addition.
20. This Agreement will be binding on Members, and their professors, principal investigators, visiting scholars, trainees, postdoctoral appointees, graduate students, undergraduate student assistants, support services contractors, subcontractors, and staff employees.
21. All notices and/or correspondence hereunder, shall be mailed, faxed or hand-delivered and addressed to:

INSERT MEMBERS' CONTACT INFO HERE

22. This Agreement shall be construed in accordance with the laws of the United States of America.
23. The Members acknowledge that, with respect to National Laboratory and Federally Funded Research and Development Centers Management & Operating Contractors, this Agreement and all information received hereunder by said Members, may be transferred to their respective successor contractors if the Management & Operating Contracts are terminated.
24. This Agreement contains the entire understanding of the Members regarding the treatment of Protected Data and Proprietary Information. Any previous agreements or understanding regarding the Protected Data and Proprietary Information, whether written or oral, are superseded. The waiver, amendment or modification of this Agreement will not be effective unless in writing signed by authorized representatives of all of the Members. Amendments and modifications as discussed in this Paragraph do not include the addition of new Members, which will be conducted pursuant to Paragraph 19.
25. Reproduction of this agreement, with all signatures affixed, shall be deemed a duplicate executed original of this agreement.

IN WITNESS WHEREOF, the authorized representatives of the Members have executed this Agreement as set forth below.

INSERT SIGNATURE BLOCKS HERE

Appendix E – Budget Justification Information

Using the “Object Class Categories” in the SF-424A Budget form, justify the costs in each category **for each budget period of the project.**

The SF424A Budget form and the Budget Justification must include both Federal (DOE), and Non-Federal (cost share) funds, thereby reflecting TOTAL PROJECT COSTS proposed.

The award recipient must complete a budget and budget justification. In addition, for each sub-recipient with total project costs greater than or equal to \$100,000 or 50% of the total work effort (whichever is less), a separate SF-424A budget and budget justification form must be submitted. The support to justify the budgets of sub-recipients with estimated costs less than \$100,000, provide what Statement of Project Objectives task(s) are being performed, the purpose/need for the effort, and a basis of the estimated costs that is considered sufficient for DOE evaluation.

All costs incurred by the Applicant’s sub-recipients, vendors, contractors, consultants and Federal Research and Development Centers (FFRDCs), should be entered only in section f. Contractual. All other sections are for the costs of the Applicant only.

Personnel

List costs solely for employees of the Applicant. Identify positions to be supported. Key personnel should be identified by title. All other personnel should be identified either by title or a group category. State the amounts of time (e.g., hours or % of time) to be expended, the composite base pay rate, total direct personnel compensation and identify the rate basis (e.g., actual salary, labor distribution report, technical estimate, state civil service rates, etc.). Identify the number of employees (on a Full Time Equivalent) that will be employed in each position or group category. See example below.

Task # and Title	Position Title	Budget Period 1			Budget Period 2			Budget Period 3			Project Total Hours	Project Total Dollars	Rate Basis
		Time (Hours)	Pay Rate (\$/Hr)	Total Budget Period 1	Time (Hours)	Pay Rate (\$/Hr)	Total Budget Period 2	Time (Hours)	Pay Rate (\$/Hr)	Total Budget Period 3			
Task 1 – Task Name	Sr. Engineer (1)	2000	\$85.00	\$170,000	200	\$50.00	\$10,000	200	\$50.00	\$10,000	2400	\$190,000	Actual Salary
Task 2 – Task Name	Process engineers (3)	6200	\$35.00	\$217,000	400	\$35.00	\$14,000	600	\$35.00	\$21,000	7200	\$252,000	Actual Salary
Task 3 – Task Name	Technician (1)	1800	\$20.00	\$36,000	0	\$0.00	\$0	0	\$0.00	\$0	1800	\$36,000	Actual Salary

Fringe

A federally approved fringe benefit rate agreement, or a proposed rate supported and agreed upon by DOE for estimating purposes is required if reimbursement for fringe benefits is requested. If a fringe benefit rate has been negotiated with, or approved by, a federal government agency, a copy of the latest rate agreement must be included with this application. If there is not a current, federally approved rate agreement negotiated and available, provide a copy of the proposal with the application. If selected, the rate agreement will be finalized during award negotiations. Calculate the fringe rate and enter the total amount in Section B, line 6.b. (“Fringe Benefits”) of form SF-424A.

IMPORTANT: Provide all fringe rates, along with a complete explanation and the full calculations used to derive the total fringe costs. If the total fringe costs are a cumulative amount of more than one

calculation or rate application, the explanation and calculations should identify all rates used, along with the base they were applied to (and how the base was derived), and a total for each (along with grand total). The rates and how they are applied should not be averaged to get one fringe rate. NOTE: The fringe rate should be applied to both the Federal Share and Recipient Cost Share.

Travel

See example of travel detail below. Identify total Foreign and Domestic Travel as separate items. Purpose of travel are items such as professional conferences, DOE sponsored meetings, project management meetings, etc. Identify number of travelers, estimated cost per traveler, and duration of trip. The Basis for Estimating Costs could be items such as past trips, current quotations, Federal Travel Regulations, etc. All listed travel must be necessary for performance of the Statement of Project Objectives. NOTE: All projects should include travel for 1-2 travelers to a DOE project review during each year of the project. Each review will take approximately 2-3 days.

Purpose of travel	No. of Travelers	Depart From	Destination	No. of Days	Cost per Traveler	Cost per Trip	Basis for Estimating Costs
Budget Period 1							
Domestic Travel							
Visit to reactor mfr. to set up vendor agreement	2	Denver CO	Dallas TX	2	\$650	\$1,300	Internet prices
Domestic Travel subtotal						\$1,300	
International Travel							
Visit to technology provider to discuss IP agreement	2	Denver CO	Berlin Germany	5	\$4,000	\$8,000	Previous experience
International Travel subtotal						\$8,000	
Budget Period 1 Total						\$9,300	
(repeat as necessary for each Budget Period)							

Equipment

Equipment is generally defined as an item with an acquisition cost greater than \$5,000 and a useful life expectancy of more than one year. All proposed equipment should be identified, providing a basis of cost such as vendor quotes, catalog prices, prior invoices, etc., and briefly justifying its need as it applies to the Statement of Project Objectives. If it is existing equipment, and the value of its contribution to the project budget is being shown as cost share, provide logical support for the estimated value shown. If it is new equipment which will retain a useful life upon completion of the project, provide logical support for the estimated value shown. For equipment over \$50,000 in price, also include a copy of the associated vendor quote or catalog price list. See example below.

Equipment Item	Qty	Unit Cost	Total Cost	Basis of Cost	Justification of need
Budget Period 1					
EXAMPLE ONLY!!! Thermal shock chamber	2	\$20,000	\$40,000	Vendor Quote	Reliability testing of PV modules- Task 4.3
Budget Period 1 Total			\$40,000		
(repeat as necessary for each Budget Period)					

Supplies

Supplies are generally defined as an item with an acquisition cost of \$5,000 or less and a useful life expectancy of less than one year. Supplies are generally consumed during the project performance.

Further definitions can be found in 10 C.F.R. 600.

Proposed supplies should be identified, providing a basis of cost such as vendor quotes, catalog prices, prior invoices, etc., and briefly justifying the need for the Supplies as they apply to the Statement of Project Objectives. Note that Supply items must be direct costs to the project at this budget category, and not duplicative of supply costs included in the indirect pool that is the basis of the indirect rate applied for this project.

General Category of Supplies	Qty	Unit Cost	Total Cost	Basis of Cost	Justification of need
Budget Period 1					
EXAMPLE ONLY!!! Wireless DAS components	10	\$360.00	\$3,600	Catalog price	For Alpha prototype - Task 2.4
Budget Period 1 Total			\$3,600		
(repeat as necessary for each Budget Period)					

Contractual

The applicant must provide and justify all costs related to sub-recipients, vendors, contractors, consultants and FFRDC partners. See example below.

Sub-recipients (partners, sub-awardees):

For each sub-recipient with total project costs greater than or equal to \$100,000 or 50% of the total work effort (whichever is less), a separate SF-424A budget and budget justification form must be submitted. The support to justify the budgets of sub-recipients with estimated costs less than \$100,000, provide what Statement of Project Objectives task(s) are being performed, the purpose/need for the effort, and a basis of the estimated costs that is considered sufficient for DOE evaluation.

Vendors (includes contractors and consultants):

Identify all vendors, contractors and consultants supplying commercial supplies or services used to support the project. The support to justify vendor costs (in any amount) should provide the purpose for the products or services and a basis of the estimated costs that is considered sufficient for DOE evaluation.

Federal Research and Development Centers (FFRDCs):

For FFRDC partners, the applicant should provide a Field Work Proposal. Also, if the total project costs of the FFRDC is greater than or equal to \$100,000 or 50% of the total work effort (whichever is less), a SF-424A budget and budget justification must also be submitted.

Sub-Recipient Name/Organization	Purpose/Tasks in SOPO	Budget Period 1 Costs	Budget Period 2 Costs	Budget Period 3 Costs	Project Total
EXAMPLE ONLY!!! XYZ Corp.	Partner to develop optimal Fresnel lens for Gen 2 product - Task 2.4	\$48,000	\$32,000	\$16,000	\$96,000
	Sub-total	\$48,000	\$32,000	\$16,000	\$96,000
Vendor Name/Organization	Product or Service, Purpose/Need and Basis of Cost (Provide additional support at bottom of page as needed)	Budget Period 1 Costs	Budget Period 2 Costs	Budget Period 3 Costs	Project Total
EXAMPLE ONLY!!! ABC Corp.	Vendor for developing custom robotics to perform lens inspection, alignment, and placement (Task 4). Required for expanding CPV module mfg. capacity. Cost is from competitive quotes.	\$32,900	\$86,500		\$119,400
	Sub-total	\$32,900	\$86,500	\$0	\$119,400
FFRDC Name/Organization	Purpose	Budget Period 1 Costs	Budget Period 2 Costs	Budget Period 3 Costs	Project Total

					\$0
	Sub-total	\$0	\$0	\$0	\$0
Total Contractual		\$80,900	\$118,500	\$16,000	\$215,400

Construction

Construction, for the purpose of budgeting, is defined as all types of work done on a particular facility, including erecting, altering, or remodeling. Construction conducted by the award recipient should be justified in this category. Any construction work that is performed by a vendor or subrecipient to the award recipient should be entered under “Contractual.”

Identify all proposed construction, providing a basis of cost such as engineering estimates, prior construction, etc., and briefly justify its need as it applies to the Statement of Project Objectives. For major endeavors, a copy of the engineering estimate or quote should also be provided. See example below.

Overall description of construction activities:			
Example Only!!! - Build wind turbine platform			
General Description	Cost	Basis of Cost	Justification of need
Budget Period 1			
Three days of excavation for platform site EXAMPLE ONLY!!!	\$28,000	Engineering estimate	Site must be prepared for construction of platform.
Budget Period 1 Total	\$28,000		
(repeat as necessary for each Budget Period)			

Other Direct Costs

Other direct costs are direct cost items required for the project which do not fit clearly into other categories, and are not included in the indirect pool for which the indirect rate is being applied to this project. Basis of cost are items such as vendor quotes, prior purchases of similar or like items, published price list, etc.

General description	Cost	Basis of Cost	Justification of need
Budget Period 1			
EXAMPLE ONLY!!! Grad student tuition	\$16,000	Established UCD costs	Support of graduate students working on project
Budget Period 1 Total	\$16,000		
(repeat as necessary for each Budget Period)			

Indirect Costs

A federally approved indirect rate agreement, or rate proposed supported and agreed upon by DOE for estimating purposes is required if reimbursement of indirect benefits is requested. If there is a federally approved indirect rate agreement, a copy must be provided with this application and if selected, must be provided electronically to the Contracting Officer for this project. If there is no current, federally approved indirect rate agreement or if the federally approved indirect rate agreement has been changed or updated, a rate proposal must be included with the application. If selected, the rate agreement will be

finalized during award negotiations. Calculate the indirect rate dollars and enter the total in the Section B., line 6.j. (Indirect Charges) of form SF 424A.

IMPORTANT: Provide a complete explanation and the full calculations used to derive the total indirect costs. If the total indirect costs are a cumulative amount of more than one calculation or rate application, the explanation and calculations should identify all rates used, along with the base they were applied to (and how the base was derived), and a total for each (along with grand total). The rates and how they are applied should not be averaged to get one indirect cost percentage. **NOTE:** The indirect rate should be applied to both the Federal Share and Recipient Cost Share.

Cost Share

A detailed presentation of the cash or cash value of all cost share proposed for the project must be provided. Identify the source and amount of each item of cost share proposed by the Applicant and each sub-recipient. Letters of commitment must be submitted for all third-party cost share (other than award recipient).

Note that "cost-share" is not limited to cash investment. Other items that may be assigned value in a budget as incurred as part of the project budget and necessary to performance of the project, may be considered as cost share, such as: contribution of services or property; donated, purchased or existing equipment; buildings or land; donated, purchased or existing supplies; and/or unrecovered personnel, fringe benefits and indirect costs, etc. For each cost share contribution identified as other than cash, identify the item and describe how the value of the cost share contribution was calculated.

Funds from other Federal sources MAY NOT be counted as cost share. This prohibition includes FFRDC sub-recipients. Non-Federal sources include private, state or local Government, or any source not originally derived from Federal funds.

Fee or profit will not be paid to the award recipients or subrecipients of financial assistance awards. Additionally, foregone fee or profit by the applicant shall not be considered cost sharing under any resulting award. Reimbursement of actual costs will only include those costs that are allowable and allocable to the project as determined in accordance with the applicable cost principles prescribed in 10 C.F.R. 600.127, 10 C.F.R. 600.222 or 10 C.F.R. 600.317. Also see 10 C.F.R. 600.318 relative to profit or fee. See example below.

Organization/Source	Type (cash or other)	Cost Share Item	Budget Period 1 Cost Share	Budget Period 2 Cost Share	Budget Period 3 Cost Share	Total Project Cost Share
ABC Company EXAMPLE ONLY!!!	Cash	Project partner ABC Company will provide 40 PV modules for product development at 50% off the of the retail price of \$680	\$13,600			\$13,600
		Totals	\$0	\$0	\$0	\$0
Total Project Cost:		\$312,300	Cost Share Percent of Award:			0.0%

Appendix F – Sample High-Level Budget Summary

	Team Member A		Team Member B		Team Member C		Team Member D		Team Member E		Team Member F		Task Totals
	DOE	Cost Share	DOE	Cost Share	DOE	Cost Share	DOE	Cost Share	DOE	Cost Share	DOE	Cost Share	
Year 1													
Year 2													
Year 3													
Year 4													
Year 5													
TEAM TOTALS													GRAND TOTAL

Appendix H – Webinar Information

Photovoltaic (PV) Manufacturing Initiative Funding Opportunity Announcement Number: DE-FOA-0000237

PURPOSE: Provide clarification and answer questions

QUESTION DUE DATE: Questions must be received in FedConnect by Friday, April 23, 2010, at 6:00 PM Mountain Daylight Time to be included in the Webinar. The questions and the respective answers will be provided during the Webinar. See Section VII of the FOA on how to submit questions in FedConnect.

Only those questions received by date/time specified above will be answered during the webinar. There will be an opportunity to ask questions live and to receive immediate responses to questions. So the webinar can be completed within the allotted time it is encouraged that questions be submitted to FedConnect rather answered live.

All questions and answers from the Webinar will be posted on FedConnect after April 29, 2010.

Applicants are reminded that questions regarding the FOA may continue to be submitted in FedConnect until the FOA closing and will be answered as described in Section VII of the FOA.

DATE OF WEBINAR: Thursday, April 29, 2010

TIME: 11:00 am - 12:30 pm Mountain Daylight Time

HOW TO JOIN THE WEBINAR:

Reserve your Webinar seat now at:

<https://www1.gotomeeting.com/register/687576944>

Or download the presentation as a PDF from this FOA's Q&A section in FedConnect (available on 4/29/10).

Once you register for the webinar you will be provided a phone number to dial in and listen.