DE-FOA-0001840 Solar Energy Technologies Office FY2018 FOA
Topic 4: Improving and Expanding the Solar Industry through Workforce Initiatives
Webinar Script

Slide 1: Good afternoon everyone and welcome to our webinar. Thank you for your interest in the U.S. Department of Energy's efforts on renewable energy and energy efficiency. You are joining us for the Informational Webinar for Applicants and other interested parties for the Solar Energy Technologies Office FY2018 Funding Opportunity Announcement, or FOA, which was issued on Monday April 16, 2018. **Specifically, this webinar is meant to cover the content of Topic 4 of the FOA, *Improving and Expanding the Solar Industry through Workforce Initiatives***, which includes two subtopics. My name is Dave Rench McCauley and I am a technical adviser in the solar office within the DOE's Office of Energy Efficiency and Renewable Energy.

Before we begin, I'd like to draw your attention to the email address on the left hand side of this cover page. This is the official mailbox to direct all of your questions during the entire FOA process. Please do not contact EERE individuals directly with questions, including myself. All questions received at this mailbox are posted publicly at the Q&A section of the FOA page on EERE Exchange in an anonymous way. The official answers to your questions will typically also be posted within 3 business days. Please be careful not to submit any language that might be business sensitive, proprietary or confidential.

In addition to emailing this inbox, you may type in the chat bar any questions you have as they come up. Again, please be careful not to submit any language that might be business sensitive, proprietary or confidential. We will be posting answers to these questions to EERE Exchange as well; note that we will not be able to answer these today during the webinar.

Also, just to be clear, there are no particular advantages or disadvantages to the application evaluation process with respect to participating on the webinar today. Your participation is completely voluntary.

Let's get started!

Slide 2: This slide shows the anticipated schedule for the FOA. The FOA has already been posted, and we are conducting the FOA Informational Webinar now. Please note that there are a few requirements that we will go over in the presentation that are different than in past FOAs, such as Replies to Reviewer Comments – we will cover all requirements for this FOA later in the presentation.

Slide 3: READ SLIDE

Slide 4: READ SLIDE

Slide 5: The agenda for this presentation is as follows: READ SLIDE
We encourage you to have a copy of the FOA in front of you for reference as we go through the presentation.

Slide 6: The FOA will support early-stage research that spans the SETO portfolio, seeking to advance both solar photovoltaic (PV) and concentrating solar thermal power (CSP) technologies and to facilitate the swift integration of those technologies into the nation's electricity grid.

It also is designed to support efforts that prepare the workforce for the solar industry's future needs.

Historically, SETO has released separate funding opportunities that address specific stages and types of solar research. For the first time, this funding program combines SETO funding efforts into one FOA for fiscal year 2018 (FY2018). By providing a more streamlined and consistent FOA strategy SETO hopes to further accelerate the advancement of solar research and reduce government overhead.

Lastly, the Innovative Pathways topics you will see in the FOA aim to fund projects are different than typical DOE technology development projects. They do not fund individual technologies along their pathway to market, but instead focus on improving the pathway itself for portfolios of technologies. The projects will seek to unlock private sector support for energy innovation and encourage private funding for later-stage technological development.

Slide 7: The FOA contains 4 high level technical areas of interest.

Topic 1: Advanced Solar Systems Integration Technologies describes SETO research priorities in the seamless integration of high penetrations of solar energy onto the nation's electricity grid. Responsive projects would advance the prediction, monitoring, and control of solar power production, the capabilities of solar power electronics and the integration of solar energy with synergistic technologies.

Topic 2: Concentrating Solar Thermal Power Research and Development describes SETO research priorities that support solar technologies that focus sunlight to generate and store high-temperature heat for electricity generation and other end uses. Responsive projects would contribute to increasing solar power adoption and grid reliability often through combined power and storage.

Topic 3: Photovoltaic Research and Development describes SETO research priorities that support the further development of photovoltaic technologies that improve system reliability, annual energy yield, demonstrate performance of novel PV devices and develop new PV materials. Responsive projects would directly contribute to increasing PV affordability through continuous improvements in PV efficiency and reliability. SETO's work ensures that a pipeline of innovation continues to reduce PV system cost, increase power conversion efficiency, and reduce supply-chain capital expense.

Topic 4: Improving and Expanding the Solar Industry through Workforce Initiatives describes SETO research priorities that support solar workforce development. Responsive projects would focus on increasing the size of the pipeline of skilled workers being employed by the solar industry while simultaneously working to increase the proportion of industry participants from the talent pools of veterans and other communities, providing increased value to the solar industry as a whole.

Slide 8: Now that we've covered the basics of the FOA overall, we can address the specific topic of conversation for today: Topic 4 and its subtopics. Topic 4.1 is focused on Expanding the Solar Workforce and topic 4.2 is focused on Digital Adaptation Training for Distributed Energy Resources on the Grid. To give a sense of scale and timeline for proposals under this topic, we've included this summary table. As you can see, the maximum amount the solar office plans to fund this topic at is $8.5 million. We anticipate approximately 4 awards will be made across both subtopics, however – DOE may choose to award more awards than that or none at all, depending upon the applications received and DOE's strategic priorities. Awards under this topic, just like the rest of the FOA, will be made as cooperative agreements, a funding vehicle that will be discussed in more detail later in this webinar.

We expect that awards in topic 4.1 (Expanding the Solar Workforce) will be funded for up to 3 years of activities and that those in topic 4.2 (Digital Adaptation Training for Distributed Energy Resources on the Grid) will be funded for up to 5 years of activities. Additionally, the cost share requirement for these two topics are 0% and 20%, respectively. Cost shares are amounts of money or in-kind services that must be provided by an entity other than the Federal government for a given project. Note that the calculation for determining applicant cost share is provided at the bottom of the slide here.

Slide 9: The DOE and the federal government at large is currently committed to "expanding the STEM workforce to include all Americans..." As such, the purpose of any work done under Topic 4 is to enable greater involvement of different groups as active participants in the solar industry and to increase the pipeline of personnel with relevant skills overall.

In particular, Topic 4.2 aims to increase the number of professionals trained to effectively utilize the large amounts of data generated on the grid by the continued expansion in solar deployment in the United States, which includes not only data scientists, modelers, and full stack software developers, but also cybersecurity experts and others beyond who we've mentioned here.

Slide 10: Topic 4.1, *Expanding the Solar Workforce*, is focused on two complementary concepts: (1) recent reports that the solar industry continues to experience shortages of workers with the proper skill sets and (2) indications that the solar industry isn't sufficiently accessing many different talent pools. As a result of these known issues in the industry, work funded by this topic will include initiatives focused on increasing the pipeline of skilled solar workers in the regions of the US where they are most needed. As part of this, initiatives funded by this subtopic will work to increase the proportion of industry participants from the talent pools of veterans and other communities.

Slide 11: Strong applicants to this subtopic will need to be well-connected to the solar industry, who are the employers targeted by this work and will be crucial to the eventual success of any funded initiatives. Applicants should also display (through past work if at all possible) an ability to use analysis for targeting the design of their programs. In addition, formal evaluation is an important component of the work DOE intends to fund in this topic: an ability to regularly (and objectively) asses and, as needed, pivot training in more successful directions is important.

For those applicants to this subtopic specifically interested in including a veterans component to their workforce programs or focusing entirely on transitioning military and veterans training, significant military engagement experience is a crucial element. Knowing your audience and what they expect from a training program and eventual employment opportunities is the key to success or failure. Also, applications should discuss what veteran and/or active duty military communities will be the target audiences of the programs proposed, and why those are the highest impact communities to address. Along these same lines, proposed veterans programs should focus on veterans communities exhibiting particularly low employment levels as of the time of application and discuss what makes those specific groups ideal candidates for the proposed training.

Slide 12: Next, let's discuss subtopic 4.2: *Digital Adaptation Training for Distributed Energy Resources on the Grid*. This subtopic will fund programs that support the digital transition in power systems impacted by ever increasing amounts of solar on the grid. Specific skill areas of interest to DOE in this subtopic include, but by no means are limited to:

1. Cybersecurity
2. Systems interoperability

3. Machine learning
4. Predictive analytics
5. Data science
6. Communications infrastructure and data engineering
7. Other skill areas in this same vein

Slide 13: Successful applicants and applications to the *Digital Adaptation Training* subtopic will describe how initiatives proposed have national relevance and how these initiatives will guide workforce efforts in the power systems industry, and utilities especially, into a digital future that can optimally account for increasing solar energy generation. A regional hubs model is important, as an effort of this scale needs both the cohesion provided by a single leading entity but local leadership as well to stay abreast of changing conditions throughout the life of the funded work. In addition, system-level challenges (and we don't necessarily mean "power systems" here, but rather systemic challenges) should be addressed, for example with new standardized credentials built with electric industry and utility input or training standards for new workers.

Much like what was discussed in the other subtopic, a willingness to experiment with new educational methods and to measure those experiments (pivoting when something isn't working well) is a key component, to maximize impact and retain relevance long term. Providing topic prioritization at the time of application, and a logic to the priorities chosen, will help DOE better understand applicants' knowledge of the space and the potential long-term value add in a variety of scenarios. Also, a focus on new solar energy and related power systems technology adoption by power companies and utilities will be important, as this will guide development of trainees into change agents who can understand when a technology will provide reliability and resiliency to the grid.

Given that a number of professional development programs and training exists for power sector employees already, strong proposals will also explain how what they propose fits into the pre-existing educational ecosystem and strengthens the content or content delivery mechanisms that already exist for electricity workers. Finally, all applications need to have a detailed plan for ongoing independent third-party evaluation, which will include contracting with an evaluation firm to setup a rigorous first-year pilot of new ideas included in the proposal and a formal evaluation plan for the goals of that pilot, and how the results of the pilot will be used to inform the remaining years' work. Proposed work plans should include a Quarter 1 milestone that is focused on the hiring of the evaluation firm, subject to DOE feedback on the process.

Slide 14: Further context and background information on the topics discussed today can be found at the URLs provided on this slide. Information provided

there includes the current state of the solar and power systems workforces, starting lists of existing workforce development programs in these spaces, and lessons learned from previous workforce programs that will hopefully serve to inform organizations interested in applying to this FOA.

Slide 15: READ SLIDE

Also, note that all Prime Recipients receiving funding under this FOA must be incorporated (or otherwise formed) under the laws of a State or territory of the United States. If a foreign entity applies for funding as a Prime Recipient, it must designate in the Full Application a subsidiary or affiliate incorporated (or otherwise formed) under the laws of a State or territory of the United States to be the Prime Recipient. The Full Application must state the nature of the corporate relationship between the foreign entity and domestic subsidiary or affiliate.

Slide 16: The following types of applications will be deemed nonresponsive and will not be reviewed or considered for an award. Examples of non-responsive applications include:

Undifferentiated research, products, and/or solutions: This FOA seeks innovative solutions that help achieve SETO goals. Incremental advancement of undifferentiated or duplicative efforts is insufficient to meet SETO goals and is not of interest to this FOA.

Projects lacking influential impact from federal funds: This FOA intends to fund projects where Federal funds will provide a clear and measurable impact, (e.g. retiring risk sufficiently for follow-on investment or catalyzing development.) Projects that have sufficient monies and resources to be executed regardless of federal funds are not of interest.

Re-funding the same idea at the same technology readiness level: This FOA does not intend to re-fund prior SETO awardees for the same idea at the same technology readiness level.

Slide 17: Under cooperative agreements, there will be what is known as "substantial involvement" between EERE and the Recipient during the performance of the project.

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Slide 18: Along the same vein as what was noted earlier, only Topic 4.1 does not require a 20% cost share. Topic 4.2 has a 20% cost share requirement.

Slide 19: The total budget presented in the application must include both Federal (DOE), and Non-Federal (cost share) portions, thereby reflecting the

TOTAL PROJECT COSTS proposed. All costs must be verifiable from the Recipient's records and be necessary and reasonable for the accomplishment of the project.

Slide 20: Cost Share must be allowable and must be verifiable upon submission of the Full Application. Please refer to this chart for your entity's applicable cost principles. It is imperative that you follow the applicable cost principles when creating your budget for the full application.

Slide 21: Every cost share contribution must be allowable under the applicable Federal cost principles, as described in Section IV.J.1 of the FOA.

Project Teams may provide cost share in the form of cash or in-kind contributions. Cost share may be provided by the Prime Recipient, Subrecipients, or third parties (entities that do not have a role in performing the scope of work). Vendors/Contractors may not provide cost share.

Cash contributions include, but are not limited to: personnel costs, fringe costs, supply and equipment costs, indirect costs and other direct costs.

In-kind contributions are those where a value of the contribution can be readily determined, verified and justified but where no actual cash is transacted in securing the good or service comprising the contribution. Allowable in-kind contributions include, but are not limited to: the donation of space or use of equipment.

Cost share contributions must be specified in the project budget, verifiable from the Prime Recipient's records, and necessary and reasonable for proper and efficient accomplishment of the project. As all sources of cost share are considered part of total project cost, the cost share dollars will be scrutinized under the same Federal regulations as Federal dollars to the project. Every cost share contribution must be reviewed and approved in advance by the Contracting Officer and incorporated into the project budget before the expenditures are incurred.

Applicants are encouraged to refer to 2 CFR 200.306 as amended by 2 CFR 910.130 & 10 CFR 603.525-555 for additional guidance on cost sharing.

Slide 22: Be aware that there are items that are considered unallowable cost share. If a cost is considered unallowable, it cannot be counted as cost share. This slide provides some examples of cost share that is unallowable.

Slide 23: Cost Share must be provided on an invoice basis, unless a waiver is requested and approved by the DOE Contracting Officer.

Slide 24: EERE's Evaluation and Selection Process is shown in blue here. EERE will review Concept Papers, Replies to Reviewer Comments (which we will cover later in the presentation), and Full Applications. The gray boxes represent the actions that apply to applicants throughout the FOA process.

Slide 25: As part of the merit review process, EERE may invite certain applicants to participate in Pre-Selection Interviews.

As part of the evaluation and selection process, EERE may invite one or more applicants to participate in Pre-Selection Interviews. Pre-Selection Interviews are distinct from and more formal than pre-selection clarifications (See Section V.D.3 of the FOA). The invited applicant(s) will meet with EERE representatives to provide clarification on the contents of the Full Applications and to provide EERE an opportunity to ask questions regarding the proposed project. The information provided by applicants to EERE through Pre-Selection Interviews contributes to EERE's selection decisions.

EERE will arrange to meet with the invited applicants in person at EERE's offices, a mutually agreed upon location, or virtually via web conference. EERE may also arrange site visits at certain Applicants' facilities.

EERE will not reimburse applicants for travel and other expenses relating to the Pre-Selection Interviews, nor will these costs be eligible for reimbursement as pre-award costs.

EERE may obtain additional information through Pre-Selection Interviews that will be used to make a final selection determination. EERE may select applications for funding and make awards without Pre-Selection Interviews. Participation in Pre-Selection Interviews with EERE does not signify that applicants have been selected for award negotiations.

Slide 26: Letters of Intent will be used by EERE to plan for the merit review process. In order to submit a Concept Paper and Full Application, applicants are <u>REQUIRED</u> to submit a Letter of Intent by May 4, 2018.

Slide 27: Concept Papers are required for this FOA. Concept Papers are brief descriptions of the proposed project. It allows applicants to submit their ideas with minimal time and expense. EERE will provide feedback on the proposed project so the Applicant can make an informed decision whether to expend additional resources to prepare a full application.

If an applicant fails to submit an eligible Concept Paper, the applicant is not eligible to submit a Full Application.

Concept Papers must be submitted by May 9, 2018 at 3 pm Eastern, through EERE Exchange.

EERE will provide applicants with either an encouraged or discouraged notification as well as reviewer comments. A "discouraged" notification conveys EERE's lack of programmatic interest in the proposed project. An applicant who receives a "discouraged" notification may still submit a Full Application.

Please note that regardless of the date applicants receive the Encourage/Discourage notifications, the submission deadline for the Full Application remains the date stated on the FOA cover page

Slide 28: READ SLIDE

Slide 29: READ SLIDE

Slide 30: The Full Application includes:

Technical Volume: The key technical submission. Applicants submit info pertaining to the technical content, project team members, etc.

SF-424 Application for Federal Assistance: The formal application signed by the authorized representative of the applicant. Includes cost share amounts and Federal certifications and assurances.

Summary Slide: PowerPoint slide that provides quick facts about the technology. Slide content requirements are provided in the FOA.

And other Administrative Documents

Slide 31: To streamline the application process for applicants, the documents listed on this slide will only be requested upon selection, including the Budget Justification Workbook (EERE 335) and US. Manufacturing Commitments.

Other documents or clarifying information that can be requested at the time of Selection for Negotiation can be found on the slide.

Slide 32: The key technical component of the full application is the Technical Volume, which helps applicants frame the technical information that the application will be evaluated on. The Technical Volume provides information regarding what the project is, how the project tasks will be accomplished, and the project timetable.

The Technical Volume is comprised of:

The Cover Page will be a one page document and provides basic information on their project, such as title, topic area, points of contact, etc.

The Project Overview provides information on project background, goals, impact of EERE funding

The Technical Description, Innovation, and Impact section provides information on project relevance and outcomes, feasibility, and innovation/impacts. This ultimately provides the justification as to why EERE should fund the project.

The Summary Statement of Project Objectives (SOPO) or "Workplan" details the proposed milestones and project schedule. If selected for award negotiations, the Workplan serves as the starting point when negotiating the Statement of Project Objectives.

The Technical Qualifications and Resources section provides applicants and opportunity to provide information about the proposed project team and demonstrate how the applicant will facilitate the successful completion of the proposed project.

And Appendices as needed

There are not strict page limits on sections to allow applicants the flexibility to structure the application in a way to best articulate the project and address the content requirements. The applicant should consider the weighting of each of the evaluation criteria (see Section V.A.2 of the FOA) when preparing the Technical Volume.

Slide 33: As we previously pointed out, applicants must submit full applications by June 26, 2018. EERE will conduct an eligibility review, and a Full Application will be deemed eligible if:

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Slide 34: READ SLIDE

Slide 35: READ SLIDE

Slide 36: Full Applications will be evaluated against the following merit review criteria:

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Slide 37: READ SLIDE

Slide 38: READ SLIDE

Slide 39: The Full Application is reviewed by experts in the FOA topic area(s). After those experts review the applications, EERE will provide applicants with reviewer comments. Applicants will have a brief opportunity to review the comments and prepare a short Reply to Reviewer Comments responding to comments however they desire. The Reply to Reviewer Comments is due by the date and time provided on this slide. Applicants should anticipate receiving the independent reviewer comments approximately three business days before this due date. The Reply to Reviewer Comments is an optional submission; applicants are not required to submit a Reply to Reviewer Comments.

This a **customer centric** process that provides applicants with a unique opportunity to correct misunderstandings and misinterpretations and to provide additional data that might influence the selection process in their favor. The Replies are considered by the reviewers and the selection official.

Replies to Reviewer Comments must conform to the content and form requirements listed here, including maximum page lengths. If a Reply to Reviewer Comments is more than three pages in length, EERE will review only the first three pages and disregard any additional pages.

Please see Sections IV.F and V.A.3 of the FOA for additional information regarding Replies to Reviewer Comments

Slide 40: READ SLIDE

Slide 41: After the Merit Review process, the Selection Official may consider program policy factors to come to a final selection decision. The Selection Official may consider:

READ SLIDE LIST

Slide 42: A few more Program Policy Factors that may be included in the Selection Officials considerations are:

READ SLIDE LIST

Slide 43: There are several one-time actions before submitting an application in response to this FOA, and it is vital that applicants address these items as soon as possible. Some may take several weeks, and failure to complete them could interfere with an applicant's ability to apply to this FOA, or to meet the negotiation deadlines and receive an award if the application is selected.

DUNS Number
Obtain a Dun and Bradstreet Data Universal Numbering System (DUNS) number.

S*ystem for Award Management*
Register with the System for Award Management (SAM). Designating an Electronic Business Point of Contact (EBiz POC) and obtaining a special password called an MPIN are important steps in SAM registration. Please update your SAM registration annually. We specifically want to emphasize the importance of SAM registration as we have run into numerous problems in the past. Selections and Awards cannot be made without SAM registration.

Fedconnect
Register in FedConnect. To create an organization account, your organization's SAM MPIN is required. For more information about the SAM MPIN or other registration requirements, review the FedConnect Ready, Set, Go! Guide at the FedConnect site.

Grants.gov
Register in Grants.gov to receive automatic updates when Amendments to this FOA are posted. However, please note that Letters of Intent, Concept Papers, and Full Applications will not be accepted through Grants.gov.

Slide 44: All required submissions must come through EERE Exchange. EERE will not review or consider applications submitted through any other means.

Slide 45: Here we have listed a few key submission points we want to cover.

READ SLIDE LIST

Slide 46: READ SLIDE

Slide 47: READ SLIDE