

**Solar Energy Technologies Office
Advanced Systems Integration for
Solar Technologies**
SI.FOA.SETO@ee.doe.gov

**FOA Webinar
DE-FOA-0001987
November 1, 2018**

Advanced Systems Integration for Solar Technologies FOA

Anticipated Schedule:

FOA Issue Date:	October 15, 2018
Submission Deadline for Letter of Intent (MANDATORY):	November 14, 2018, 5:00pm ET
FOA Informational Webinar:	November 1, 2018
Submission Deadline for Full Applications:	December 7, 2018, 5:00pm ET
Expected Submission Deadline for Replies to Reviewer Comments:	February 1, 2019, 5:00pm ET
Expected Timeframe for EERE Selection Notifications:	March 22, 2019
Expected Timeframe for Award Negotiations:	April- May 2019

Notice

- All applicants are strongly encouraged to carefully read the Funding Opportunity Announcement DE-FOA-0001987 (“FOA”) and adhere to the stated submission requirements.
- This presentation summarizes the contents of FOA. If there are any inconsistencies between the FOA and this presentation or statements from DOE personnel, the FOA is the controlling document and applicants should rely on the FOA language and seek clarification from EERE.
- If you believe there is an inconsistency, please contact SI.FOA.SETO@ee.doe.gov

Notice

- NO NEW INFORMATION OTHER THAN THAT PROVIDED IN THE FOA WILL BE DISCUSSED IN THE WEBINAR.
- 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.

Questions

- Questions about this FOA? Email SI.FOA.SETO@ee.doe.gov
 - All Q&As related to this FOA will be posted on EERE Exchange
 - You must select this specific FOA Number in order to view the Q&As
 - EERE will attempt to respond to a question within 3 business days, unless a similar Q&A has already been posted on the website
- Problems logging into EERE Exchange or uploading and submitting application documents with EERE Exchange? Email EERE-ExchangeSupport@hq.doe.gov.
 - Include FOA name and number in subject line
- All questions asked during this presentation will be posted on EERE Exchange

Agenda

- 1) FOA Description
- 2) Topic Areas/Technical Areas of Interest
- 3) Award Information
- 4) Statement of Substantial Involvement
- 5) Cost Sharing
- 6) Pre-Selection Interviews
- 7) Letters of Intent
- 8) Concept Papers
- 9) Full Applications
- 10) Merit Review and Selection Process
- 11) Registration Requirements

FOA Description - High Level

- The FOA will support early-stage research and development to improve the performance and flexibility of solar technologies that contribute to a reliable and resilient U.S. electric grid.
- Improving the affordability of energy technologies and strengthening the Energy Sector's capability to withstand cyber and physical threats, including natural disasters.
- Some projects will include a field validation of technology phase.

Topic 1.1: Solar Situational Awareness (Section I.B)

- Unique and innovative solutions to enhance grid operator's situational awareness of solar energy systems deployed throughout the bulk power system, associated substations, distribution system and/or Behind-the-Meter (BTM).
- Areas of interest
 - Awareness of PV systems in strategic locations
 - Advanced data analytics for grid edge observability technologies
 - Robust cybersecurity technologies for distribution networks with high PV penetration
 - diverse DER options (e.g. photovoltaics, energy storage, and flexible load)
 - grid planning and analytical platforms

Topic 1.2: Proactive resilience solutions for critical infrastructure (Section I.B)

- Validation should demonstrate how unique and innovative solutions enhance resiliency of the bulk power system and/or distribution systems (including microgrids) with high penetrations of solar PV systems.
- Areas of interest
 - Validation of architecture relationships and interoperability
 - Protection of system networks and data against cyber threats
 - Functional requirements for bulk and distribution system planning platforms
- This topic seeks applications that will conduct the R&D and technology transfer under Topic 1.1 and also include field validation.

Cybersecurity and Interoperability (Section I.B)

- Applicants should describe:
 - Their strategies and plans for establishing and maintaining interoperability and cybersecurity
 - Utilization of open standards wherever possible
 - Their techniques for defense-in-depth
- Applicants shall not cede responsibility for cybersecurity to external boundaries, nor shall they propose that it be added on at some later stage
- Post award, recipients will be required to submit an Interoperability Plan and a Cybersecurity Plan

Estimated Award Funding Information (Section II.A)

Topic	1.1: Solar Situational Awareness	1.2: Proactive Resilience Solutions
Total Amount to be Awarded	\$46 Million* (Federal Share) Note: Cost Share is required. Total Project Size=Federal Share + Cost Share	
Anticipated Number of Awards	10	
Period of Performance (months)	36	
Types of Funding Agreements	Cooperative Agreements	

*Subject to the availability of appropriated funds

Who's Eligible to Apply?

Eligible applicants for this FOA include:

1. Individuals
2. Domestic Entities
3. Foreign Entities
4. Incorporated Consortia
5. Unincorporated Consortia

For more detail about each eligible applicant, please see Section III.A of the FOA for eligibility requirements

Note: DOE/NNSA Federally Funded Research and Development Centers (FFRDCs), Non-DOE/NNSA FFRDCs, and Federal Agencies are eligible to apply for funding as a Subrecipient but are not eligible to apply as a Prime Recipient.

Nonprofit organizations described in Section 501(c)(4) of the Internal Revenue Code of 1986 that engaged in lobbying activities after December 31, 1995, are not eligible to apply for funding.

Non-Responsive Applications

The following types of applications will be deemed nonresponsive and will not be reviewed or considered for an award:

- Applications that fall outside the technical parameters specified in Section I.B of the FOA, including but not limited to:
 - Applications for proposed technologies that are not based on sound scientific principles (e.g., violates the law of thermodynamics).
 - Undifferentiated research, products, and/or solutions
 - Projects lacking influential impact from federal funds
 - Re-funding the same idea at the same technology readiness level
 - Products or solutions for systems which do not tie to a grid or micro-grid (i.e. wholly off-grid applications and portable power).
 - Generic technologies or solutions that are not integrated with solar PV. These include sensor and measurement, communications, and cyber security.

Statement of Substantial Involvement

EERE has substantial involvement in work performed under Awards made following this FOA. EERE does not limit its involvement to the administrative requirements of the Award. Instead, EERE has substantial involvement in the direction and redirection of the technical aspects of the project as a whole. Substantial involvement includes, but is not limited to, the following:

- EERE shares responsibility with the Recipient for the management, control, direction, and performance of the Project.
- EERE may intervene in the conduct or performance of work under this Award for programmatic reasons. Intervention includes the interruption or modification of the conduct or performance of project activities.
- EERE may redirect or discontinue funding the Project based on the outcome of EERE's evaluation of the Project at that the Go/No Go decision point.
- EERE participates in major project decision-making processes.

Cost Sharing Requirements

	Year 1	Year 2	Year 3
Topic 1.1: R&D and Technology Transfer for solar situational awareness	Research and development (20% cost share)		
Topic 1.2: R&D, Technology Transfer and Validation of proactive resilience solutions	Phase 1: Research and development (20% cost share)		Phase 2: Field validation (50% cost share)

Cost Share Contributions

- Contributions must be:
 - Specified in the project budget
 - Verifiable from the Prime Recipient's records
 - Necessary and reasonable for proper and efficient accomplishment of 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

Allowable Cost Share

- Cost Share must be allowable and must be verifiable upon submission of the Full Application
- Refer to the following applicable Federal cost principles:

Entity	Cost Principles
For-profit entities	FAR Part 31
All other non-federal entities	2 CFR Part 200 Subpart E - Cost Principles

Allowable Cost Share

- Cost Share
 - May be provided by the Prime Recipient, Subrecipients, or a Third Party
 - Vendors/Contractors may not provide cost share.
- Cash Contributions
 - Can include, but are not limited to: personnel costs, fringe costs, supply and equipment costs, indirect costs and other direct costs.
- In-Kind Contributions
 - Can include the donation of space or use of equipment.

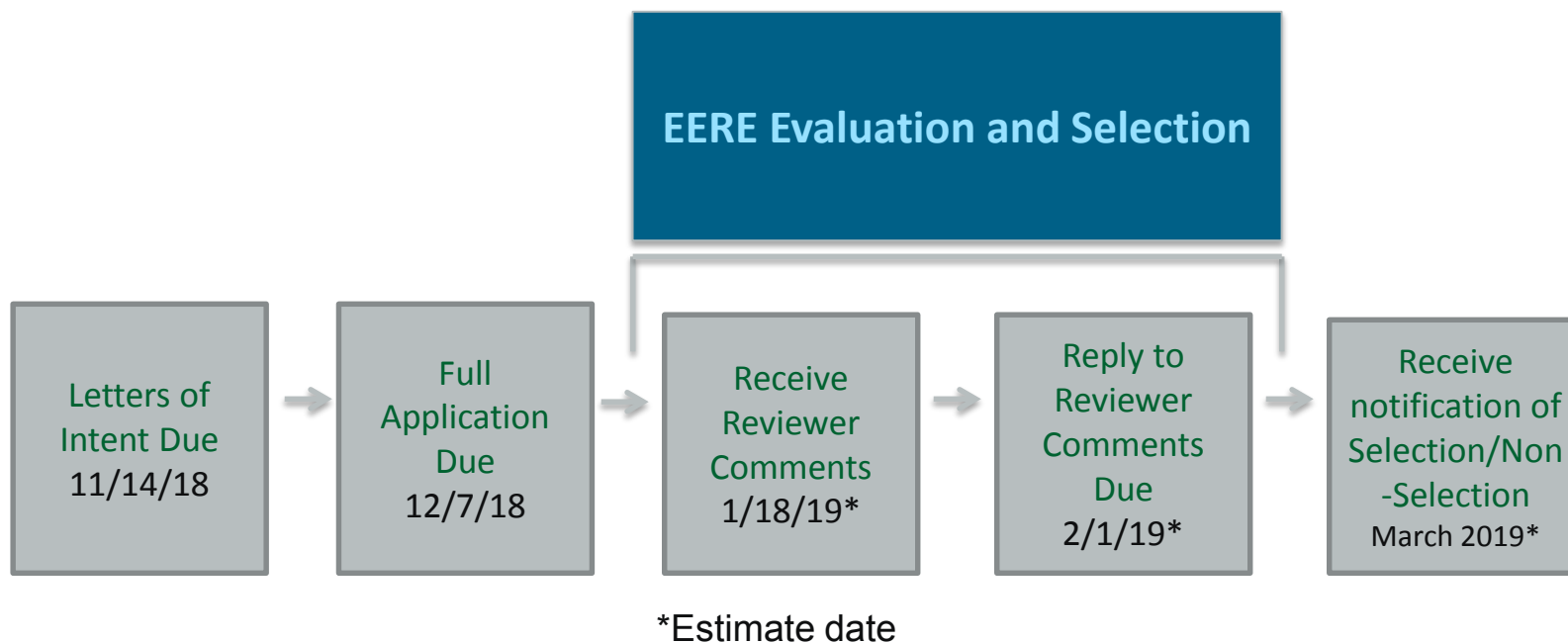
Unallowable Cost Share

- The Prime Recipient may not use the following sources to meet its cost share obligations including, but not limited to:
 - Revenues or royalties from the prospective operation of an activity beyond the project period
 - Proceeds from the prospective sale of an asset of an activity
 - Federal funding or property (e.g., Federal grants, equipment owned by the Federal Government)
 - Expenditures reimbursed under a separate Federal Technology Office
 - The same cash or in-kind contributions for more than one project or program

Cost Share Payment

- Recipients must provide documentation of the cost share contribution, incrementally over the life of the award
- The cumulative cost share percentage provided on each invoice must reflect, at a minimum, the cost sharing percentage negotiated
- In limited circumstances, and where it is in the government's interest, the EERE Contracting Officer may approve a request by the Prime Recipient to meet its cost share requirements on a less frequent basis, such as monthly or quarterly. See Section III.B.vi of the FOA.

FOA Timeline



EERE anticipates making awards by June 2019*

Letters of Intent

- Letters of Intent (“LOIs”) are **REQUIRED** in order to be eligible to submit a Concept Paper and Full Application
- To be considered:
 - The LOI must comply with the content and form requirements of Section IV.B.i of the FOA, and
 - The applicant must enter all required information and click the “Create Submission” button in EERE Exchange by the deadline stated in the FOA.
- The LOIs should not contain any proprietary or sensitive business information
- EERE will not provide notification of acceptance for Letters of Intent

Full Applications

- The Full Application includes:
 - **Technical Volume:** The key technical submission - info relating 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.
 - **EERE 335 Budget & Budget Justification:** a detailed budget and spend plan for the project. Separate Sub-recipient Budget Justifications may be required.
 - **Summary for Public Release**
 - **Summary Slide**
 - **Administrative Documents:** E.g., U.S. Manufacturing Plan, FFRDC Authorization (if applicable), Disclosure of Lobbying Activities, etc

Full Applications: Technical Volume Content

- **Technical Volume:** the key technical component of the Full Application
- **Contents:**
 - Cover Page
 - Project Overview (10%)
 - Project Description, Innovation, and Impact (30%)
 - Workplan and Technology Transition Plan (40%)
 - Team Qualifications and Resources (20%)

Note: Full Application may not be more than 20 pages, including the cover page, table of contents, and all citations, charts, graphs, maps, photos, or other graphics. Letters of Commitment do not count towards page limit.

Full Application Eligibility Requirements

- Applicants must submit a Full Application by December 7th, 2018, 5:00pm ET
- Full Applications are eligible for review if:
 - The Applicant is an eligible entity Section III.A of FOA;
 - The Applicant submitted an eligible Letter of Intent;
 - The Cost Share requirement is satisfied Section III.B of FOA;
 - The Full Application is compliant Section III.C of FOA; and
 - The proposed project is responsive to the FOA Section III.D of FOA
 - The Full Application meets any other eligibility requirements listed in Section III of the FOA.

Multiple Applications

Applicants may submit more than one application to this FOA, provided that each application describes a unique, scientifically distinct project

Merit Review and Selection Process (Full Applications)

- The Merit Review process consists of multiple phases that each include an initial eligibility review and a thorough technical review
- Rigorous technical reviews are conducted by reviewers that are experts in the subject matter of the FOA
- Ultimately, the Selection Official considers the recommendations of the reviewers, along with other considerations such as program policy factors, to make the selection decisions

Technical Merit Review Criteria

- **Criterion 1 Innovation and Impact (Weight: 34%)**

How innovative and impactful is the project, assuming the stated outcomes can be achieved as written?

- **Innovative** – Extent to which the proposed project or solution is well beyond the state of the art.
- **Impactful** – Extent to which the proposed project or solution, if successful, impacts the core goals outlined in the FOA in Topics and Areas of Interest (FOA Section #...). Extent to which the claimed impacts are feasible and justified.
- **Differentiated** – Extent of differentiation with respect to existing commercial products, solutions, programs, or technologies.
- **Scalable** – Likelihood the proposed solution, if successful, could be scaled to have a broader impact or be maintained at a sufficiently large scale after project completion.

Technical Merit Review Criteria (continued)

- **Criterion 2: Quality and Feasibility of the Project Plan (Weight: 33%)**

Are the stated goals of the project SMART (Specific, Measurable, Aggressive (but achievable), Relevant, and Timely), are they likely to be accomplished within the scope of this project, and does the proposal show a clear path for growth and improvement over time?

- **Measurable** – Extent to which the applicant shows a clear understanding of the importance of SMART verifiable milestones and proposes milestones that demonstrate clear progress, are aggressive but achievable, and are quantitative.
- **Risks mitigated** – Extent to which the applicant understands and discusses the project risks and challenges the proposed work will face, and the soundness of the strategies and methods that will be used to mitigate risks.
- **Validated** – Level of validation (letters of support/interest, partners, customer trials, data from prior work, report references, technical baselines established, etc.).
- **Reasonable assumptions** – Reasonableness of the assumptions used to form the execution strategy, (e.g., market size, customer participation, costs, throughput at full scale, speed of proposed scale-up or adoption, and mode of funding).
- **Reasonable budget** – The reasonableness of the overall funding requested to achieve the proposed project and objectives.

Technical Merit Review Criteria

- **Criterion 3: Capability and Resources of the Applicant/Project Team (Weight: 33%)**

Is the team well qualified and positioned to successfully complete this project?

- **Capable** –The training, capabilities, and experience of the assembled team to address all aspects of the proposed work with a high probability of success. Extent to which this team (including proposed Subrecipients) will be able to achieve the final results on time and to specification.
- **Participation** – The level of participation by project participants as evidenced by letter(s) of commitment and how well they are integrated into the Team Qualifications and Resources section of the Technical Volume.
- **Commitment** – Extent to which the final team required to complete this project is fully assembled and committed to the project (e.g., Are there any key members that are “to be hired at a later date”)
- **Past Performance** – Extent to which the assembled team has shown success in the past. DOE encourages new entrants and new ideas, but past successes and/or failures will be noted.
- **Access** – Extent to which the team has access to facilities, equipment, people, expertise, data, knowledge, and any other resources required to complete the proposed project.

Replies to Reviewer Comments

- EERE provides applicants with reviewer comments
- Applicants are not required to submit a Reply - it is optional
- To be considered by EERE, it is expected that a Reply must be submitted by February 1st, 2019, 5:00pm ET through EERE Exchange
- Content and form requirements:

Section	Page Limit	Description
Text	2 pages max	Applicants may respond to one or more reviewer comments or supplement their Full Application.
Optional	1 page max	Applicants may use this page however they wish; text, graphs, charts, or other data to respond to reviewer comments or supplement their Full Application are acceptable.

Pre-Selection Interviews

- EERE may invite one or more applicants to participate in Pre-Selection Interviews
- All interviews will be conducted in the same format
- 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
- Participation in Pre-Selection Interviews with EERE does not signify that applicants have been selected for award negotiations

Selection Factors

The Selection Official may consider the merit review recommendation, program policy factors, and the amount of funds available in arriving at selections for this FOA

Program Policy Factors

- The Selection Official may consider the following program policy factors in making his/her selection decisions:
 - The degree to which the proposed project exhibits technological or programmatic diversity when compared to the existing DOE project portfolio and other projects selected from the subject FOA.
 - The degree to which the proposed project, including proposed cost share, optimizes the use of available EERE funding to achieve programmatic objectives.
 - The level of industry involvement and demonstrated ability to accelerate commercialization and overcome key market barriers.
 - The degree to which the proposed project will accelerate transformational technological, financial, or workforce advances in areas that industry by itself is not likely to undertake because of technical or financial uncertainty.

Program Policy Factors (continued)

- The Selection Official may consider the following program policy factors in making his/her selection decisions:
 - The degree to which the proposed project, or group of projects, represent a desired geographic distribution (considering past awards and current applications).
 - The degree to which the proposed project is likely to lead to increased employment and manufacturing in the United States.

Registration Requirements

- To apply to this FOA, Applicants must register with and submit application materials through EERE Exchange: <https://eere-Exchange.energy.gov>
- Obtain a “control number” at least 24 hours before the first submission deadline
- Although not required to submit an Application, the following registrations must be complete to received an award under this FOA:

Registration Requirement	Website
DUNS Number	http://fedgov.dnb.com/webform
SAM	https://www.sam.gov
FedConnect	https://www.fedconnect.net
Grants.gov	http://www.grants.gov

Means of Submission

- Letters of Intent, Full Applications, and Replies to Reviewer Comments must be submitted through EERE Exchange at <https://eere-Exchange.energy.gov>
 - EERE will not review or consider applications submitted through other means
- The Users' Guide for Applying to the Department of Energy EERE Funding Opportunity Announcements can be found at <https://eere-Exchange.energy.gov/Manuals.aspx>

Key Submission Points

- Check entries in EERE Exchange
 - Submissions could be deemed ineligible due to an incorrect entry
- EERE strongly encourages Applicants to submit 1-2 days prior to the deadline to allow for full upload of application documents and to avoid any potential technical glitches with EERE Exchange
- Make sure you hit the submit button
 - Any changes made after you hit submit will un-submit your application and you will need to hit the submit button again
- For your records, print out the EERE Exchange Confirmation page at each step, which contains the application's Control Number

Applicant Points-of-Contact

- Applicants must designate primary and backup points-of-contact in EERE Exchange with whom EERE will communicate to conduct award negotiations
- It is imperative that the Applicant/Selectee be responsive during award negotiations and meet negotiation deadlines
 - Failure to do so may result in cancellation of further award negotiations and rescission of the Selection

Questions

- Questions about this FOA? Email SI.FOA.SETO@ee.doe.gov
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