EERE 205: FOA Applicant Webinar Presentation

U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy

Solar Energy Technologies Office FY2018 FOA – Topic 1

SETO.FOA@ee.doe.gov

FOA Webinar

DE-FOA-0001840

April 23, 2018

Anticipated Schedule:

FOA Issue Date:	April 17, 2018
Submission Deadline for Letter of Intent (MANDATORY):	May 4, 2018, 3:00pm ET
FOA Informational Webinar:	April 23, 2018
Submission Deadline for Concept Papers: • Applicants must submit a Concept Paper by 3:00pm ET on the due date listed above to be eligible to submit a Full Application. Topic Areas 2.1 and 3.1 SIPS applications must resubmit their LOI again as a concept paper by the concept paper deadline above to clear an administrative software restriction of EERE Exchange.	May 9, 2018, 3:00pm ET
Submission Deadline for Full Applications and SIPS Applications:	June 26, 2018, 3:00pm ET
Expected Submission Deadline for Replies to Reviewer Comments:	August 2, 2018, 3:00pm ET
Expected Timeframe for EERE Selection Notifications:	September 2018
Expected Timeframe for Award Negotiations:	September - November 2018

Notice

- All applicants are strongly encouraged to carefully read the Funding Opportunity Announcement DE-FOA-0001840 **("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 SETO.FOA@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.

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 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.
- **New Funding Strategy**: One Solar Energy Technologies Office (SETO) FOA for fiscal year 2018 (FY18)
- **Innovative Pathways**: Within each of the technology areas, the office is looking to fund projects that will develop and test new ways to accelerate the integration of emerging technologies into the solar industry and unlock private sector resources to support energy innovation.

FOA Description - Topics

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.

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.

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.

Topic 4: Improving and Expanding the Solar Industry through Workforce Initiatives describes SETO research priorities that support solar workforce development

Topic 1.1: Adaptive Solar Grid Integration (Section I.B)

- Research and field validation of innovative technologies that enhance grid reliability and resilience through viable dispatchability and grid-support functions by *multiple* distributed PVs

- Areas of Interest
  - Smart control solutions for multiple distributed PVs for responding to fast changing conditions under normal operations or during outages
  - Flexible and dynamic interconnection methodologies to increase hosting capacity
  - Intelligent control of distributed PVs and other DERs to minimize curtailment
  - Applications of diverse DERs that demonstrate proposed solutions

- Example Project
  - Hardware and/or software for controlling multiple smart inverters in conjunction with DER Management Systems

Topic 1.2: Solar Observability (Section I.B)

- Research and field validation of situational awareness technologies for distributed PVs at the grid edge
- Areas of interest
  - PV-integrated sensors
  - Secure and robust communications
  - Advanced data analytics for grid edge observability technologies
  - Robust cybersecurity technologies for distribution networks with high PV penetration
  - Innovative approaches to enhance grid edge observability for operations and planning
- Example Project
  - Advanced integrated sensors compatible with secure and robust communications with an assessment of economics viability

Topic 1.3: Solar + X (Section I.B)

- Research and field validation of innovative technologies for supporting dispatchability of behind-the-meter (BTM) PVs and enabling them to be utilized for grid services using synergistic DERs

- Areas of interest
  - Integration of BTM solar PV with new innovative and disruptive DER technologies as a single control point
  - Control and optimization of BTM PV and other DERs technologies to provide grid services, such as, energy, capacity, reliability and resilience
  - Enabling such technologies to smartly respond to broader system-wide conditions, such as power outages, and serve critical loads
  - Application of emerging flexible interconnection approaches to BTM PV to minimize curtailment

Topic 1.4: Innovative Pathways: Systems Integration (Section I.B)

- Innovative approaches and models to **accelerate the transfer of systems integration technologies** from the lab to the private sector
- Applicants must demonstrate a pathway to test, scale, and sustain the model by the end of the period of performance
- Example areas of interest
  - **Alternative capital** for technology R&D
  - Incentive structures for **industry-researcher collaboration**
  - Overcoming **barriers for new entrants** to leveraging existing facilities
  - Methods to **accelerate hardware validation and certification**
  - Cost Reduction methods for hardware development

Estimated Award Funding Information (Section II.A)

Topic	1.1: Adaptive Local Grids	1.2: Solar Observability 1.3: Solar + X	1.4: Innovative Pathways
Total Amount to be Awarded	$18M*	$26M*	$2M*
Anticipated Average Award Amount	$4.5M/award	$3M/award	$1M/award
Period of Performance (months)	36	36	36
Types of Funding Agreements	Cooperative Agreements, Grants, Technology Investment Agreements, Work Authorizations, Interagency Agreements		
Cost Share Requirement (of Total Project Costs)	20% minimum		

*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) and Non-DOE/NNSA FFRDCs are eligible to apply for funding as a Subrecipient (receiving up to 49.9% of the award funding) 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
  - Applications focusing exclusively on HVAC and water heating applications.
  - Products or solutions for systems which do not tie to a grid or micro-grid (i.e. wholly off-grid applications and portable power).
  - Fundamental electro-chemical battery materials research
  - Hydrogen and fuel cell technologies

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

Topics 1.1, 1.2, 1.3, 1.4 Topics 2.1, 2.2, 2.3, 2.4, 2.5 Topics 3.1, 3.2, 3.3, 3.4 Topic 4.2	Applicants must contribute a minimum of 20% of the total project costs for R&D projects.
Topic 4.1	Cost sharing is encouraged, but not required

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.

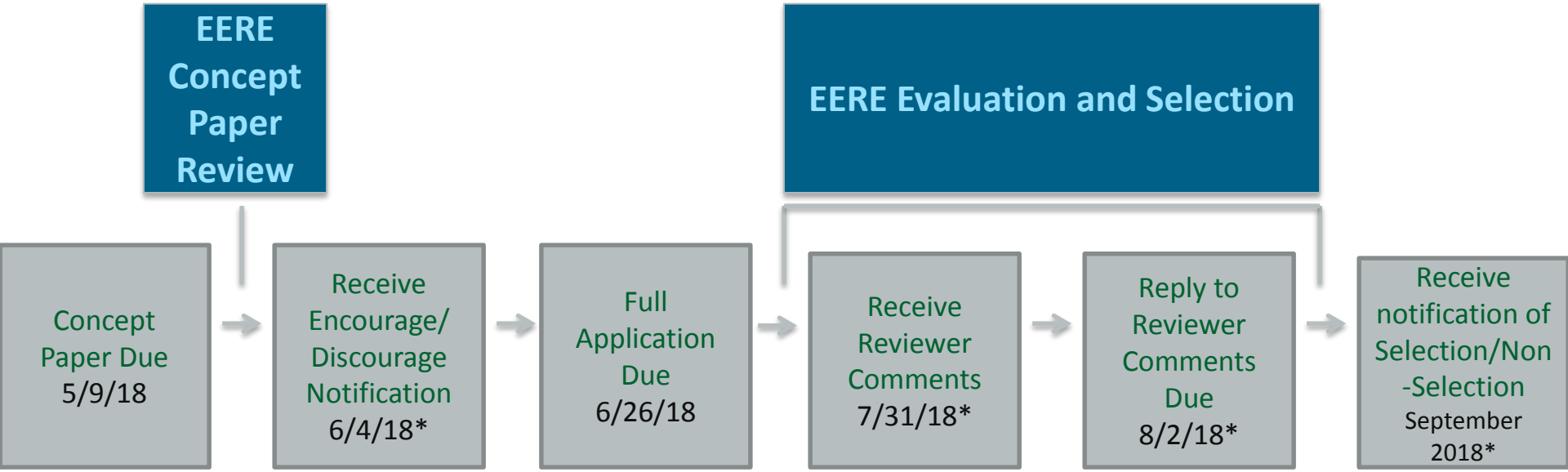
Unallowable Cost Share

- 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



*Estimate date

EERE anticipates making awards by September 2018

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

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

Concept Papers

- Applicants must submit a Concept Paper
  - Each Concept Paper must be limited to a single concept or technology
- The Concept Paper submission must include a technology description narrative and a summary slide (See Section IV.C of the FOA)
  - The technology description is limited to 4 pages
  - The submission can include graphs, charts, or other data (as long as it fits within the formatting constraints)
- Concept Papers must be submitted by May 9th, 2018, 3:00pm ET through EERE Exchange, and must comply with the content and form requirements in Section IV.C of the FOA
- EERE provides applicants with: (1) an “encouraged” or “discouraged” notification, and (2) the reviewer comments

Concept Paper Review

Concept Papers are evaluated based on consideration the following factors. All sub-criteria are of equal weight.

- **Criterion 1 Innovation and Impact (Weight: 50%)**

  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.

Concept Paper Review (continued)

- **Criterion 3: Capability and Resources of the Applicant/Project Team (Weight: 50%)**

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

  - C**apable** –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.

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.
  - **Summary Slide**
  - **Administrative Documents:**
    - Disclosure of Lobbying Activities
    - FFRDC Authorization (if applicable)
    - Waiver requests: Foreign Entities and Performance of Work in the United States (if applicable)

Full Application Streamlining

- Documents that may be requested at a later time, for example upon notification of Selection for Negotiations (see Section IV.G of the FOA)
  - Statement of Project Objectives
  - Budget Justification Workbook (EERE 335)
  - Subaward Budget Justification (EERE 335) (if applicable)
  - Summary/Abstract for Public Release
  - Budget for FFRDC (if applicable)
  - U.S. Manufacturing Commitments
  - Data Management Plan
- Other documents or clarifying information that can be requested at the time of Selection for Negotiation include:
  - Indirect cost information; Other budget information; Commitment Letters from Third Parties Contributing to Cost Share, if applicable; Name and phone number of the Designated Responsible Employee for complying with national policies prohibiting discrimination (See 10 CFR 1040.5); Representation of Limited Rights Data and Restricted Software, if applicable; Environmental Questionnaire

Full Applications: Technical Volume Content

- **Technical Volume:** the key technical component of the Full Application
- **Contents:**
  - Cover Page
  - Project Overview
  - Project Description, Innovation, and Impact
  - Summary Statement of Project Objectives (SOPO)
  - Team Qualifications and Resources
  - Appendices
- Note: 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

Full Application Eligibility Requirements

- Applicants must submit a Full Application by June 26th, 2018, 3:00pm ET
- Full Applications are eligible for review if:
  - The Applicant is an eligible entity Section III.A of FOA;
  - The Applicant submitted an eligible Concept Paper;
  - 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?

  - C**apable** –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 August 2nd, 2018, 3:00pm 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.

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.
  - Based on the commitments made in the U.S. Manufacturing Plan, the degree to which the proposed project is likely to lead to increased employment and manufacturing in the United States or provide other economic benefit to U.S. taxpayers.
  - 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 collectively represents diverse types and sizes of applicant organizations.
  - 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 avoids duplication/overlap with other publicly or privately funded work.
  - The degree to which the proposed project supports complementary efforts or projects, which, when taken together, will best achieve the research goals and objectives.
  - The degree to which the proposed project enables new and expanding market segments.
  - Whether the project promotes increased coordination with nongovernmental entities for demonstration of technologies and research applications to facilitate technology transfer.

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, Concept Papers, 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 SETO.FOA@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