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U.S. DEPARTMENT OF
ENERGY

Energy Efficiency &
Renewable Energy



Building Technologies Proving Ground – Public Sector Field Validation

BTOProvingGroundFOA@ee.doe.gov

FOA Webinar
DE-FOA-0002324
06/30/2020

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.

Notice

- All applicants are strongly encouraged to carefully read the Funding Opportunity Announcement DE-FOA-0002324 (**“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 at BTOProvingGroundFOA@ee.doe.gov

DE-FOA-0002324 Building Technologies Proving Ground – Public Sector Field Validation

Anticipated Schedule:

FOA Issue Date:	June 26 th , 2020
Submission Deadline for Concept Papers:	July 27 th , 2020 (5:00PM ET)
Submission Deadline for Full Applications:	Sept 28 th , 2020 (5:00PM ET)
Submission Deadline for Replies to Reviewer Comments:	Nov 2 nd , 2020 (5:00PM ET)
Expected Date for EERE Selection Notifications:	January 2021
Expected Timeframe for Award Negotiations:	Early 2021

Agenda

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

FOA Description (Slide 1 of 2)

The Office of Energy Efficiency and Renewable Energy (EERE), on behalf of the Building Technologies Office (BTO), in cooperation with the State Energy Program (SEP), will invest up to \$10 million in a competitive Funding Opportunity Announcement (FOA). This competitive FOA allows state, local, and tribal government entities to compete for funding designed to meet U.S. Department of Energy (DOE) goals via field validation of high impact building technologies.

There is tremendous opportunity across the United States for energy and cost savings given that 50% of the nation's 5.6 million commercial buildings were built before 1980—prior to the existence of today's more efficient products and building practices. Unlocking the energy savings of these buildings through efficiency improvements represents a significant economic opportunity. Improving the energy efficiency of buildings alleviates pressure on our electric grid and extends our energy resources as we diversify to greater use of an all-of-the-above energy supply strategy. This helps to ensure a reliable energy system well into the future.

FOA Description (Slide 2 of 2)

BTO leads a network of national laboratory, university, small business, and industry partners to develop innovative, cost-effective energy efficiency solutions—better products, better new home construction, better ways to improve older homes, and better buildings in which we live and work.

SEP provides funding and technical assistance to states, territories, and the District of Columbia to enhance energy security, advance state-led energy initiatives, and maximize the benefits of energy efficiency.

Technology Space and Strategic Goals (Slide 1 of 2)

The objective of this funding is to generate and disseminate data on the field performance of building technologies to inform commercial and multi-family building efficiency, demand flexibility, and building-to-grid programs.

Objective testing, measurement and verification in real, dynamic conditions is essential to aggressively and accurately validate and de-risk promising technologies and inform and improve technology research and development.

Researchers, technology providers, industry partners and end-users alike need trustworthy performance information on energy use, cost, savings, interoperability, durability, maintenance, etc. as well as an understanding of the complexity of the technology integration and implications to health, safety, security, and comfort.

Technology Space and Strategic Goals (Slide 2 of 2)

DOE seeks proposals that de-risk and drive innovation through the integration of new technologies and operational improvements in real buildings “in the field”, while fostering the collaboration of dynamic teams. **Teams must be led by a U.S. state, local, or tribal government entity.** The state, local or tribal government entity must be the Prime applicant. Hereafter, the term “Prime” will reference these entities. Preferred teams will include technology providers, utilities, and building owners/operators.

Topic Area (1 of 3 slides)

This FOA seeks to fund field validation of emerging technologies and technology solutions in partnership with state, local and tribal government entities. Successful proposals should include a clear description of the energy savings or demand flexibility potential, and the path to scalability, which may include a description of market segmentation and opportunity, pilot size, design, validation objectives, success metrics and the pathway to broader deployment.

Projects should result in the collection and dissemination of performance data and best practices (for energy consumption, cost, and other benefits) from the installation, instrumentation and verification of technologies, technology packages, or operational solutions, in one or more occupied, operational buildings. **Specific application requirements are articulated in detail in the Technical Volume, Section C.ii. of the FOA.**

Topic Area (2 of 3 slides)

Successful proposals will include the validation of technologies and/or the validation of operational changes to achieve energy and load flexibility in commercial or multifamily buildings. Preferred proposals will include:

- Near-commercial and emerging technology solutions (including operational/energy management solutions) that are ready for validation in occupied and operational buildings and can achieve a technical potential of at least 250 Trillion British Thermal Units per year (TBTU/yr.) of U.S. primary energy savings , or yield significant end use energy demand flexibility as compared to the existing building baseline condition.
- Technology areas of interest include, but are not limited to:
 - o Envelope and window technologies for existing buildings
 - o Integration of thermal energy storage
 - o Direct use of advanced natural gas efficiency technology solutions for end-use building sector applications.
 - o Plug load identification, controllability and optimization

Topic Area (3 of 3 slides)

- **Preferred application components include:**
 - Teams that include energy utilities, building owners/operators, and/or technology providers.
 - Projects demonstrating commitments from commercial or multifamily building host sites ready for technology installation.
 - Project objectives, deliverables and a data collection strategy that support the potential for follow-on deployment of new technologies, and enable non-federal entities to implement energy efficiency and building load flexibility programs.
- This FOA will not fund validations of measures that do not produce energy efficiency or end use demand flexibility, for example renewable installations and micro-grids.
- The prime applicant must be a state, local or tribal government.

Teaming Partner List

To facilitate the formation of new project teams for this FOA, a Teaming Partner List is available at <https://eere-Exchange.energy.gov> under FOA DE-FOA-0002324

- Any organization that would like to be included on this list should submit the following information to ProvingGroundTeamingList@ee.doe.gov:
 - **Organization Name; one of the following: Generic Organization Contact Email, Web site Contact-Us URL, or social media URL (LinkedIn, Facebook, etc); Contact Phone; Organization Type; Area of Technical Expertise (bulleted list less than 25 words); and Brief Description of Capabilities (less than 100 words).**
- By submitting this information, you consent to the publication of the above-referenced information
- By facilitating this Teaming Partner List, EERE does not endorse or otherwise evaluate the qualifications of the entities that self-identify themselves for placement on the Teaming Partner List

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.A or I.B of the FOA
- Applications for proposed technologies that are not based on sound scientific principles (e.g., violates the law of thermodynamics).
- Applications that are not led and submitted by a state, local or tribal governmental entity.
- Technologies with market barriers that cannot be addressed through validation. For example, the technology cannot meet local code.
- Applications for the validation of technologies that do not produce energy efficiency or end use demand flexibility, such as renewable installations or micro-grids.

Award Information

Total Amount to be Awarded	Approximately \$10 million
Average Award Amount	EERE anticipates making awards up to \$1 million.
Types of Funding Agreements	Cooperative Agreements
Period of Performance	up to 36 months
Cost Share Requirement	30% of Total Project Costs

*Subject to the availability of appropriated funds

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(s).
- EERE participates in major project decision-making processes.

Cost Sharing Requirements

Cost Share 30%, Cost Share Waiver Not Utilized

The cost share must be at least 30% of the total allowable costs (i.e., the sum of the government share 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 2 CFR 200.306 and 2 CFR 910.130 for the applicable cost sharing requirements.)

To assist applicants in calculating proper cost share amounts, EERE has included a cost share information sheet and sample cost share calculation as Appendices A and B to this FOA.

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
- If you are selected for award negotiations, 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
- Please note, vendors/contractors may NOT provide cost share. Any partial donation of goods or services is considered a discount and is not allowable.

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 http://farsite.hill.af.mil/reghtml/regs/far2afmcfars/fardfars/far/31.htm
All other non-federal entities	2 CFR Part 200 Subpart E - Cost Principles https://www.ecfr.gov/cgi-bin/text-idx?node=2:1.1.2.2.1.5&rgn=div6

Allowable Cost Share

- Cash Contributions
 - May be provided by the Prime Recipient, Subrecipients, or a Third Party (may not be provided by vendors/contractors)
- In-Kind Contributions
 - Can include, but are not limited to: the donation of volunteer time or the donation of space or use of equipment.

For more information, see the Cost Share Appendix in the FOA

Unallowable Cost Share

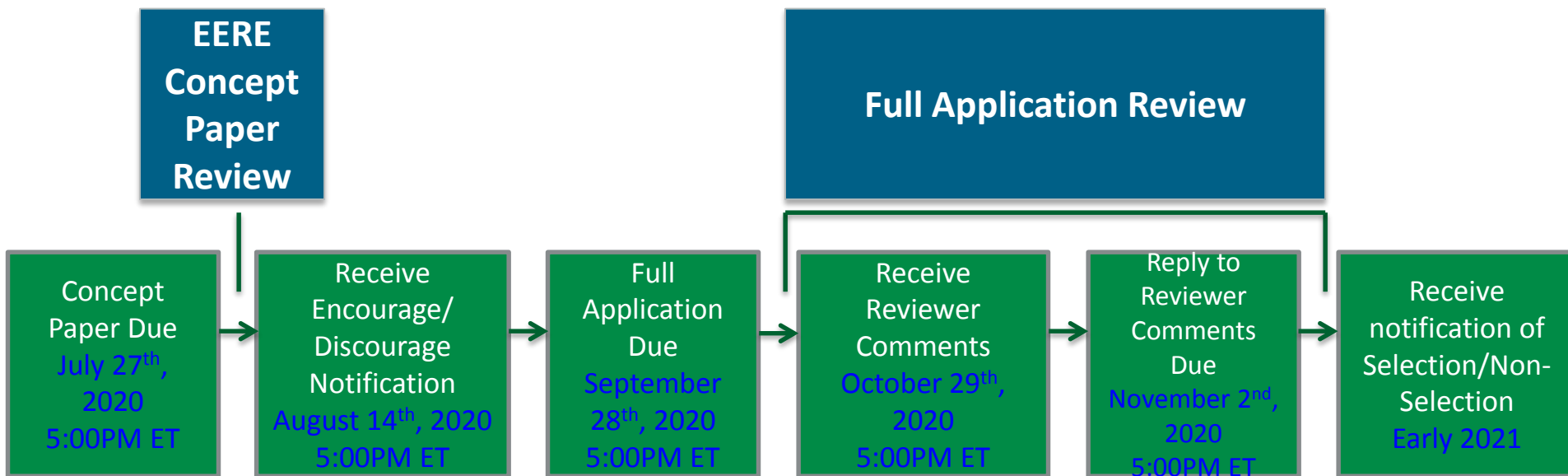
The Prime Recipient may **NOT** use the following sources to meet its cost share obligations including, but not limited to:

- 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
- Expenditures reimbursed under a separate Federal Technology Office
- The same cash or in-kind contributions for more than one project or program
- Vendor/contractor contributions

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.7](#) of the FOA.

FOA Timeline



EERE anticipates making awards by **Early 2021**

Concept Papers

- Applicants must submit a Concept Paper
 - Each Concept Paper must be limited to a single concept or technology
- Section IV.C of the FOA states what information a Concept Paper should include and the page limits.
 - Failure to include the required content could result in the Concept Paper receiving a “discouraged” determination or the Concept Paper could be found to be ineligible.
- Concept Papers must be submitted by **July 27th, 2020 5:00PM ET**, through EERE Exchange
- 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.

Overall FOA Responsiveness and Viability of the Project (Weight: 100%):

This criterion involves consideration of the following sub-criteria:

- The project will verify energy savings of at least 250 TBtu/yr. or yields significant end use energy demand flexibility, and clearly describes and documents assertions to support energy savings and flexibility calculations;
- The proposed project is innovative and includes validation of the technologies described in section 1.B of the FOA;
- The applicant has identified risks and challenges, including possible mitigation strategies, and has shown the impact that EERE funding and the proposed project would have on the relevant field and application;
- The applicant has the qualifications, experience, capabilities and other resources necessary to complete the proposed project; and
- The proposed work, if successfully accomplished, would clearly meet the objectives as stated in the FOA.

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.
- **SF-424A Budget & Budget Justification:** a detailed budget and spend plan for the project.
- **Statement of Project Objectives**
- **Summary for Public Release**
- **Summary Slide**
- **Administrative Documents:** Resumes; Letters of Commitment; Subrecipient Budget Justification; Disclosure of Lobbying Activities; Foreign Entity and Foreign Work waiver request; Data Management Plan (DMP)

Full Applications: Technical Volume Content

Technical Volume: the key technical component of the Full Application

Content of Technical Volume	Suggested % of Technical Volume
Cover Page	1 page
Project Overview	10%
Technical Description, Innovation and Impact	30%
Workplan	40%
Technical Qualifications and Resources	20%
FOA Specific Requirements	1 page

Full Application Eligibility Requirements

- Applicants must submit a Full Application by [September 28th, 2020, 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 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 Applicant adheres to the limitation on number of Concept Paper and Full Applications for review [Section III.E of FOA](#);
 - The Full Application meets any other eligibility requirements listed in Section III of the FOA.

Who is Eligible to Apply?

This FOA has restricted eligibility requirements to the following entities:

The prime applicant must be a state , local or tribal government. For states, preference will be given to the 25 state governments in the top half of non-transportation energy consumption per capita, according to Energy Information Administration (EIA) data, listed in Appendix G. Applications may be submitted by the State Energy Office (SEO) or other agency responsible for administering the State Energy Program

For purposes of this FOA, an eligible Indian Government means an Indian tribe, band, nation or other organized group or community (including Alaska Native villages), and must be federally recognized as listed in Indian Entities Recognized and Eligible to Receive Services from the United States Bureau of Indian Affairs, published by the Department of Interior's Bureau of Indian Affairs in the Federal Register on January 30, 2020, 85 FR 20.

DOE/NNSA FFRDCs are not eligible to apply for funding either as a prime recipient or sub-recipient.

For more detail about eligible applicants, please see [Section III.A](#) of the FOA

Multiple Applications

An entity may submit more than one Concept Paper and Full Application to this FOA, provided that each application describes a unique, scientifically distinct project and provided that an eligible Concept Paper was submitted for each Full Application.

Merit Review and Selection Process (Full Applications)

- The Merit Review process consists of multiple phases that each include an 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 (1 of 3 slides)

Applications will be evaluated against the merit review criteria shown below. All sub-criteria are of equal weight.

Criterion 1: Technical Merit, Innovation, and Impact (40%)

This criterion involves consideration of the following sub-criteria:

Technical Merit and Innovation

- Extent to which the proposed project includes validation of at least one of the technologies described in section 1.B of the FOA;
- Extent to which the proposed technology and project is innovative and meritorious;
- Degree to which the current state of the technology and the proposed validation objectives are clearly described; and
- Extent to which the application specifically and convincingly demonstrates how the applicant will de-risk the state-of-the-technology.

Impact of Technology Validation

- Degree to which the project will document cost, performance and grid benefits;
- Degree to which project will produce data that is likely to accelerate private and public-sector investment, and
- Extent to which the project is likely to contribute to widespread national savings from voluntary energy and building flexibility programs.

Technical Merit Review Criteria (2 of 3 slides)

Criterion 2: Project Implementation and Technology Transition Plan (30%)

This criterion involves consideration of the following factors:

Approach, Workplan and SOPO

- The strength of the quantifiable metrics, milestones, and a mid-point deliverables defined in the application, such that meaningful interim progress will be made;
- Degree to which the approach and critical path have been clearly described and thoughtfully considered;
- Degree to which success metrics and data will be generated to support a streamlined pathway to the development of voluntary programs for grid-interactive efficient buildings; and
- Degree to which the task descriptions are clear, detailed, timely, and reasonable, resulting in a high likelihood that the proposed Workplan and SOPO will succeed in meeting the project goals.

Identification of Technical Risks

- Demonstrated understanding of the key technical risk areas involved in the proposed work and the quality of the mitigation strategies to address them.

Technology Transition Plan

- Identification of target market, competitors, and distribution channels for proposed technology along with known or perceived barriers to market penetration, including mitigation plan

Technical Merit Review Criteria (3 of 3 slides)

Criterion 3: Team and Resources (30%)

This criterion involves consideration of the following factors:

- The application includes documented commitments from a utility or program administrator, a building owner/operator and a technology provider;
- The capability of the Principal Investigator(s) and the proposed team to address all aspects of the proposed work, especially demand flexibility measure validation, with a high probability of success;
- The qualifications, relevant expertise, and time commitment of the individuals on the team;
- The extent to which the prime applicant is substantially involved in the project;
- The level of participation by project participants as evidenced by letter(s) of commitment and how well they are integrated into the Workplan; and
- The reasonableness of the budget and spend plan for the proposed project and objectives.

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, a Reply must be submitted by **November 2nd, 2020 at 5:00PM ET** and submitted 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 *(Slide 1 of 2)*

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 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 is likely to lead to increased employment and manufacturing in the United States;
- The degree to which the proposed project will accelerate transformational technological advances in areas that industry by itself is not likely to undertake because of technical and financial uncertainty; and
- The degree to which the proposed project, or group of projects, represent a desired geographic distribution (considering past awards and current applications).

Program Policy Factors *(Slide 2 of 2)*

- Whether the proposed project includes partners representing diverse industry sectors and large portfolios of buildings;
- 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 project promotes increased coordination with nongovernmental entities for demonstration of technologies and research applications to facilitate technology transfer; and
- For state government applicants only: the degree to which the state government is in the top half of non-transportation energy consumption per capita amongst states in the U.S.

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 at <https://eere-Exchange.energy.gov>
- 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

- 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 BTOProvingGroundFOA@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 Q&As
 - EERE will attempt to respond to a question within 3 business days, unless a similar Q&A is already 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