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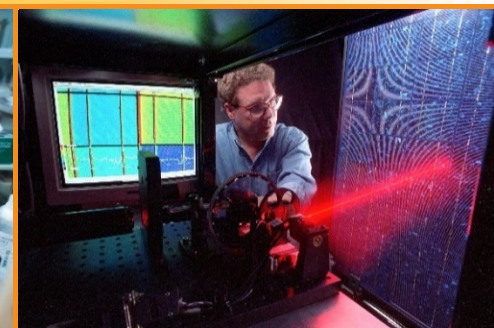
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Please mute your phones and we'll begin momentarily



Office of ENERGY EFFICIENCY
& RENEWABLE ENERGY

SOLAR ENERGY TECHNOLOGIES OFFICE



Solar Energy Technologies Office Fiscal Year 2019 Funding Program

Topic Area 4 Innovations in Manufacturing: Hardware Incubator

Questions? Email
SETO.FOA@ee.doe.gov

energy.gov/solar-office

April 4, 2019

[DE-FOA-0002064](#)

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-0002064** (“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 SETO.FOA@ee.doe.gov

DE-FOA-0002064: Solar Energy Technologies Office FY2019 FOA

FOA Issue Date:	March 26, 2019
FOA Informational Webinar for Innovations in Manufacturing:	April 4, 2019 4:00pm ET
Submission Deadline for Letter of Intent (MANDATORY):	May 7, 2019, 5:00pm ET
Submission Deadline for Concept Papers:	May 14, 2019, 5:00pm ET
Submission Deadline for Full Applications and SIPS Applications:	July 25, 2019, 5:00pm ET
Expected Submission Deadline for Replies to Reviewer Comments:	September 6, 2019, 5:00pm ET
Expected Timeframe for EERE Selection Notifications:	November 2019
Expected Timeframe for Award Negotiations:	November 2019 - February 2020

Agenda

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

What's next *for* SOLAR?

Achieving SETO's priorities across the solar energy technology landscape requires sustained, multifaceted innovation. For our FY19 Funding Program, the office intends to support high-impact, early-stage research in the following areas:

- **Topic 1: Photovoltaics Research and Development**
- **Topic 2: Concentrating Solar-Thermal Power Research and Development**
- **Topic 3: Balance of Systems Soft Costs Reduction**
- **Topic 4: Innovations in Manufacturing: Hardware Incubator**
- **Topic 5: Advanced Solar Systems Integration Technologies**

Topic 4 – Innovations in Manufacturing: Hardware Incubator (\$10 million)

This topic will support for-profit companies developing early-stage product ideas that have both a clear pathway to reducing solar electricity costs and the potential for rapid commercialization. Research will focus on the development of innovative and impactful technologies that support a strong U.S. solar manufacturing sector and supply chain.

Ideal Applicants:

- Start with an existing early-stage prototype and advance that prototype to a manufacturing and commercially relevant prototype where the research seeks to prove all functionality using pre-commercial manufacturing techniques.
- Are well positioned to attract follow-on investment in the transition to becoming self-supporting.

Areas of Interest

- Advanced solar system integration technologies.
- PV technologies that improve the reliability, performance, and manufacturability.
- Technologies or solutions that use a hardware solution to reduce the balance-of-system cost of a PV system.
- Concentrating solar-thermal power technologies or components.

Note that projects seeking to develop innovations in concentrating solar power manufacturing should refer to **Topic Area 2.2: Materials and Manufacturing**.

Topic 4 – Innovations in Manufacturing: Hardware Incubator (\$10 million)

A responsive application to this topic should include some or all of the following information:

- Technical milestones that demonstrate clear progress, are aggressive but achievable, and are quantitative
- Projections for price and/or performance improvements that are referenced to a benchmark
- A clear assessment of the state of the art, including existing commercially available products or solutions that could be considered competitors, and how the proposed technology would represent a significantly different and competitively sustainable improvement
- Supporting documentation that validates the value proposition of the proposed solution
- A preliminary cost analysis showing a path to becoming cost-competitive with the ever-evolving state of the art
- Justification of all performance claims with theoretical predictions and/or relevant experimental data
- Explanation of the impact of federal funds on the development of the solution, why private-sector funding has been difficult to secure, and efforts by the applicant to date to secure funding
- Description of how addressing the technical risks identified in the application will increase the likelihood of securing private investment following the award period

Topic 4 – Innovations in Manufacturing: Hardware Incubator (\$10 million)

The topic is *not* intended to fund the following:

- The creation of a product, organization, service, or other entity or item that requires continued government support
- Any work that is duplicative with other federally funded research on the same technology at the same technology-readiness level
- Large-scale demonstration or deployment of solutions that do not require further research and development, unless field testing and early-stage pilots are part of the technology research and development cycle
- Concepts that solely rely on a licensing model

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
 - **Projects that do not have a significant hardware research and development effort**
 - **Proposed technologies that are not based on sound scientific principles, such as anything that violates the laws of thermodynamics**
 - **Undifferentiated products, incremental advances or duplicative products**
 - **Solutions in which solar is not a major component of the technology**
 - **Products or solutions for systems which cannot tie to the electric grid, such as wholly off-grid applications**
 - **Software to facilitate system design, system monitoring, or customer acquisition**
- Applications for proposed technologies that are not based on sound scientific principles (e.g., violates the law of thermodynamics).
- Other topic areas designated specifically not of interest can be found within each Topic Area description in Section I.B. of the FOA.

Award Information (Topic 4)

Total Amount to be Awarded	\$10 million*
Maximum Award Amount	\$1 million maximum per award
Anticipated Number of Awards	10 to 12 awards
Types of Funding Agreements	<ul style="list-style-type: none">• Cooperative Agreements**• Grants• Technology Investment Agreements• Work Authorizations• Interagency Agreements
Anticipated Period of Performance	Up to 18 months
Cost Share Requirement	20-50% of Total Project Costs

* Subject to the availability of appropriated funds

** Although all of the above funding types are available, EERE generally will fund cooperative agreements

Who is Eligible to Apply?

Topic 4 Eligibility Restriction:

Eligibility is restricted to for-profit entities as the prime recipient of awards under Topic Area 4: Innovations in Manufacturing.

Eligibility is restricted under Topic Area 4, because SETO believes that for-profit entities are the most likely entities to achieve the objectives required under this topic area, as they are the only entities with the capacity to rapidly commercialize new technologies related to innovations in manufacturing.

Note:

- The scope of work performed by the prime recipient shall not be less than the scope of work performed by the subrecipients who are ineligible to be prime applicants, as measured by the total project costs.
- Prime Recipients must be incorporated (or otherwise formed) under the laws of a State or territory of the United States and have a physical location for business operations in the United States.
- For more detail about eligible applicants, please see Section III.A of the FOA

Teaming Partner List

- To facilitate the formation of new project teams for this FOA, a Teaming Partner List is available at [EERE Exchange](#).
- Any organization that would like to be included on this list should submit the following information to SETO.FOA@ee.doe.gov.
 - Organization name, contact name, contact address, contact email, and contact phone number
 - Organization type, area of technical expertise, topic area, and a brief description of capabilities
- By submitting this information, you consent to the publication of the above-referenced information.
- EERE expects to update the Teaming List at least every week
- **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.**

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 the Go/No Go decision point.
- EERE participates in major project decision-making processes.

Cost Sharing Requirements

- The cost share must be at least 20% of the total allowable costs for R&D projects and 50% of the total allowable costs for demonstration and commercial application projects and must come from non-federal sources unless otherwise allowed by law.*
- The following table illustrates the anticipated focus and required cost share for projects' demonstration activities, along with the anticipated time frames for each phase. Demonstration is an option for all projects in Topic 4 but may not be possible or applicable, depending on the technology, technology readiness level, or current regulations and market structures.**

	Budget Period 1	Budget Period 2	Budget Period 3
R&D projects <u>without</u> demonstration	Research and development (20% cost share)		
R&D projects <u>with</u> demonstration In Budget Period 3	Research and development (20% cost share)		Demonstration (50% cost share)

NOTE:

*The sum of the government share, including FFRDC costs if applicable, and the recipient share of allowable costs equals the total allowable cost of the project. See 2 CFR 200.306 and 2 CFR 910.130 for the applicable cost sharing requirements

** Any proposed project with demonstration is required to provide at least 50% cost share during the validation period See Appendix F of the FOA for further discussion of technology readiness levels.

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

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

Unallowable Cost Share

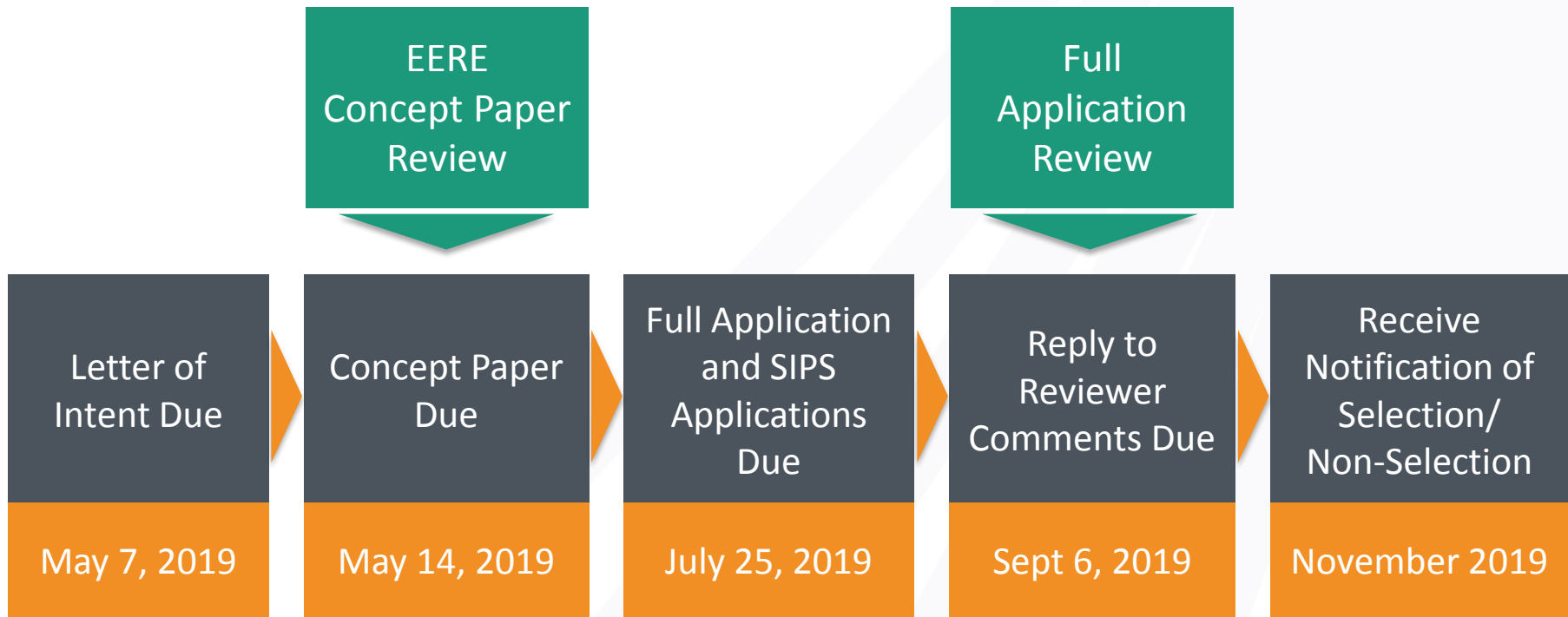
The Prime Recipient may **NOT** use the following sources to meet its cost share obligations including, but not limited to:

- 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

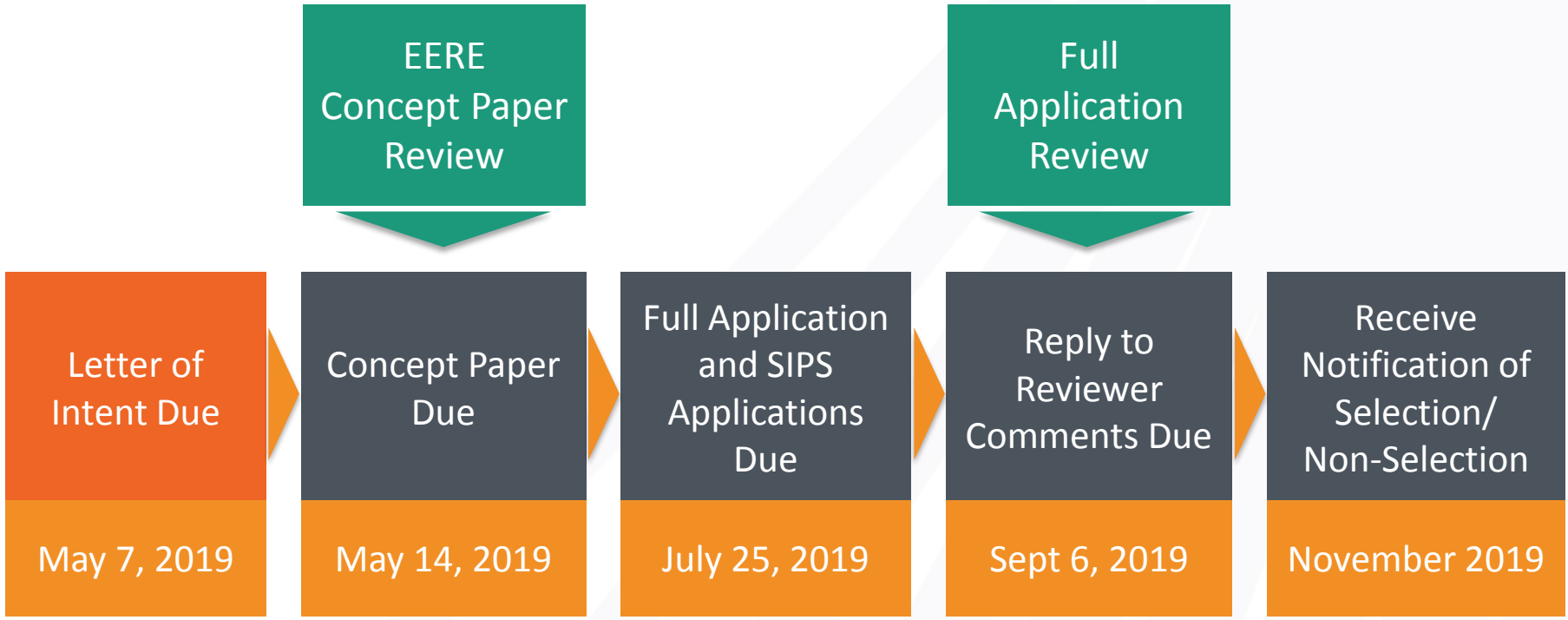
- Recipients must provide documentation of the cost share contribution, incrementally over the life of the award
- The cumulative cost share percentage provided on each invoice must reflect, at a minimum, the cost sharing percentage negotiated
- In limited circumstances, and where it is in the government's 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.vi of the FOA.

FOA Timeline



Expected Timeframe for Award Negotiations: November 2019 - February 2020

FOA Timeline

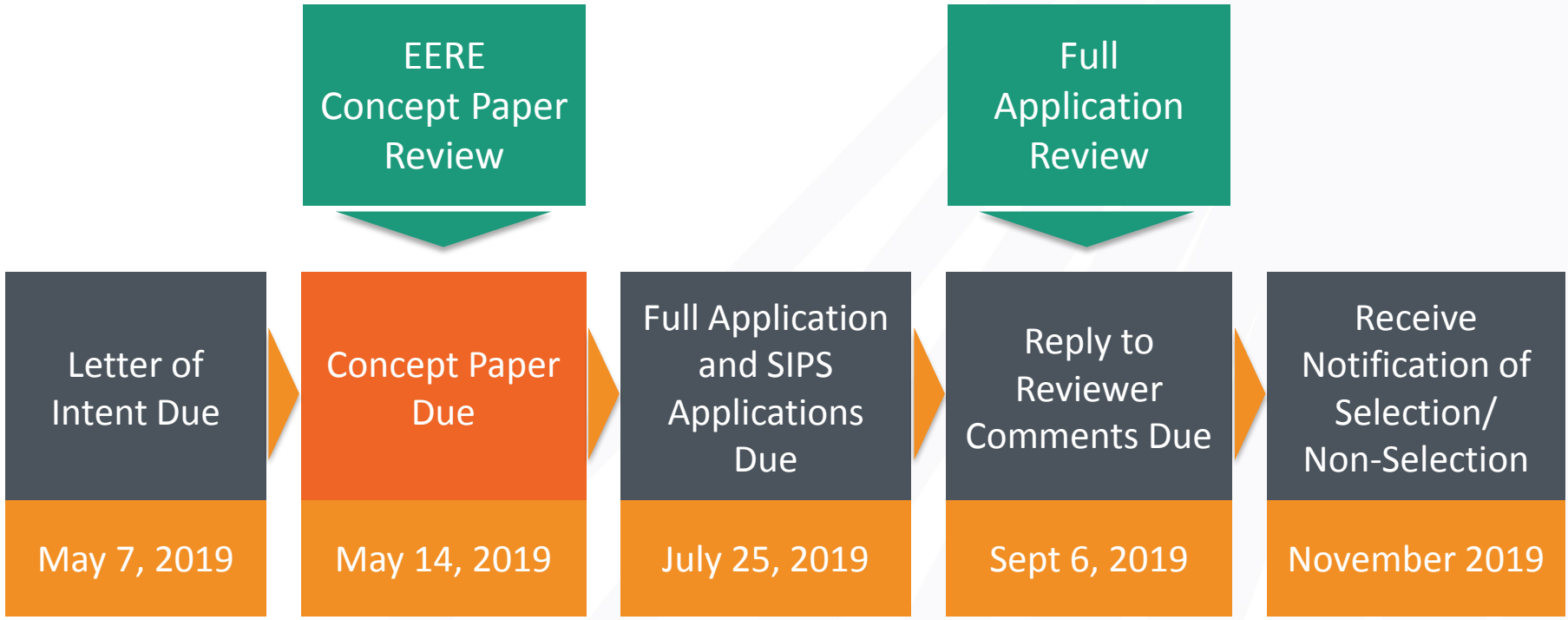


Expected Timeframe for Award Negotiations: November 2019 - February 2020

Required Letters of Intent

- Letters of Intent (“LOIs”) are **REQUIRED to be submitted in EERE Exchange by May 7th** 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.1 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.

FOA Timeline



Expected Timeframe for Award Negotiations: November 2019 - February 2020

Concept Papers

- Applicants must submit a Concept Paper
 - Each Concept Paper must be limited to a single concept or technology
- Section IV.D 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 May 14, 2019, through EERE Exchange
- EERE provides applicants with an “encouraged” or “discouraged” notification and the reviewer comments.
- Applicants to Topic Area 1.2: SIPS must resubmit their LOI for the Concept Paper stage in order to be eligible to submit a SIPS application for review.
- 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.

Concept Paper Review

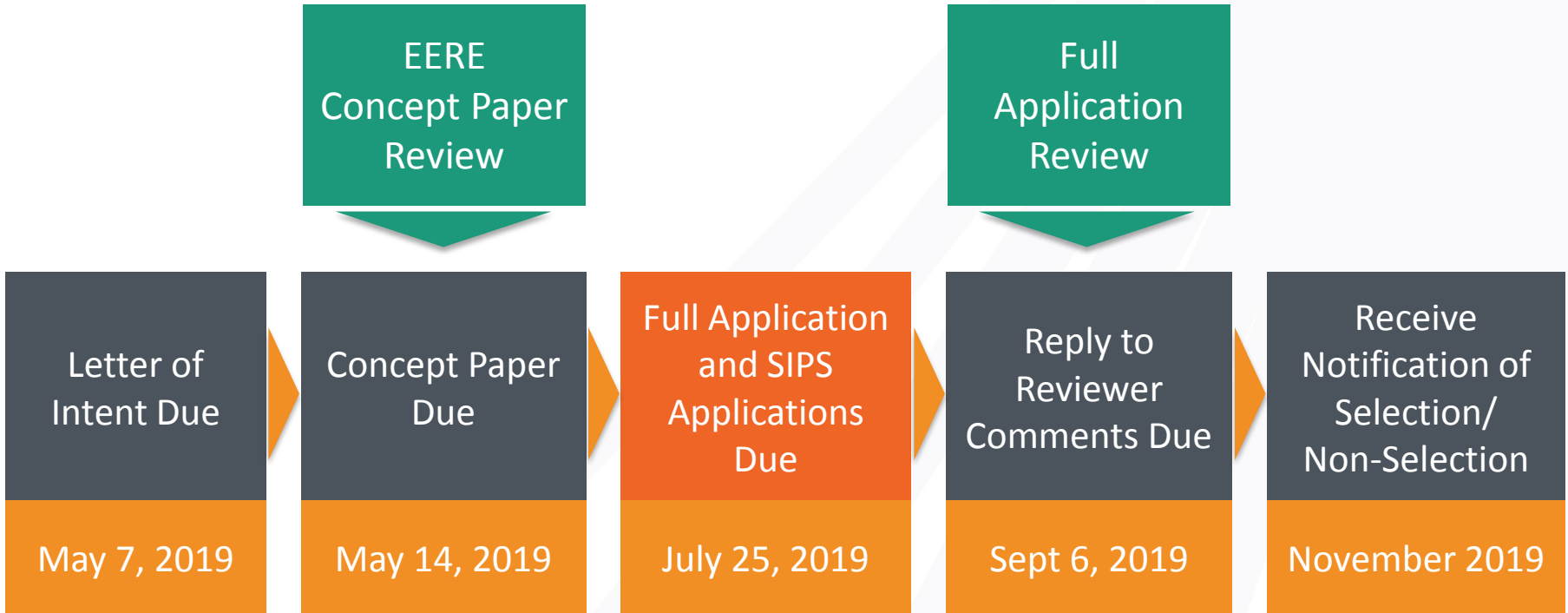
Concept Papers are evaluated based on consideration of the following factor. All sub-criteria are of equal weight.

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

This criterion involves consideration of the following sub-criteria:

- The applicant clearly describes the proposed technology, describes how the technology is unique and innovative, and how the technology will advance the current state-of-the-art
- 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
- The proposed work, if successfully accomplished, would clearly meet the objectives as stated in the FOA

FOA Timeline



Expected Timeframe for Award Negotiations: November 2019 - February 2020

Full Applications

The Full Application includes:

- **Technical Volume**
- **SF-424 Application for Federal Assistance**
- **SF-424A Budget & Budget Justification**
- **Summary for Public Release**
- **Summary Slide**
- **Other Administrative Documents:**
 - **Subrecipient Budget Justification**, if applicable
 - **DOE WP for FFRDC**, if applicable
 - **Authorization from cognizant Contracting Officer for FFRDC**, if applicable
 - **SF-LLL Disclosure of Lobbying Activities**
 - **Foreign Entity and Performance of Work in the United States waiver requests**, if applicable
- **U.S. Manufacturing Plan** (except for Topic 1.2 and Topic 3)

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 July 25, 2019

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;
- ✓ 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

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

Full Applications will be evaluated against the merit review criteria shown below:

Criterion 1: Innovation and Impact (50% weight)

The project is innovative and impactful, assuming the stated outcomes can be achieved as written. The project is differentiated with respect to existing commercial products, solutions, or technologies. If successful, the project is scalable to have a broader impact and maintained at a sufficiently large scale after project completion.

Criterion 2: Quality and Likelihood of Completion of Stated Goals (30% weight)

The application demonstrates an understanding and appreciation of project risks and challenges the proposed work will face and incorporates reasonable assumptions related to the execution of the project (i.e. market size, customer participation, costs, speed of proposed scale-up or adoption). The information included for the project is validated through customer trials, data from prior work, report references, technical baselines established, etc. The stated goals of the project are SMART (Specific, Measurable, Achievable, Relevant, and Timely) and likely to be accomplished within the scope of this project. The proposed budget is reasonable to achieve the objectives proposed.

Criterion 3: Capability and Resources of the Applicant/Project Team (20% weight)

The team is well qualified and has the capability and resources necessary to successfully complete the project. The team (including proposed subrecipients) have the training and experience to achieve the final results on time and to specification. The project team is fully assembled and committed to the project (verified through letters of support) and has a demonstrated record of successful past performance.

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 September 6, 2019, 5:00pm ET through EERE Exchange
- Content and form requirements:

Section	Page Limit	Description
Text	3 pages max	Applicants may respond to reviewer comments or supplement their Full Application with graphs, charts, or other data.

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 Program Policy Factors for this FOA are:

- 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 proposed project, including proposed cost share, optimizes the use of available EERE funding to achieve programmatic objectives
 - The proposed project will accelerate transformational technological, financial, or other advances in areas that industry by itself is not likely to undertake because of technical and financial uncertainty
 - The proposed project, or group of projects, represent a desired geographic distribution (considering past awards and current applications)
 - The proposed project avoids duplication/overlap with other publicly or privately funded work
 - The proposed project enables new and expanding market segments
 - The project promotes increased coordination with nongovernmental entities for demonstration of technologies and research applications to facilitate technology transfer
- 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

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

- Applicants are also welcome to register in Grants.gov to receive automatic updates about the FOA

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 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

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