

# Welcome

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U.S. DEPARTMENT OF  
**ENERGY**

Energy Efficiency &  
Renewable Energy



# Water Power Technologies Office 2019 Research Funding Opportunity Announcement

[WPTOFOA@ee.doe.gov](mailto:WPTOFOA@ee.doe.gov)

FOA Webinar  
DE-FOA-0002080  
11 April, 2019



# 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.

# FOA posted in MS Word format: Navigation Pane

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FILE HOME INSERT DESIGN PAGE LAYOUT REFERENCES MAILINGS REVIEW VIEW ACROBAT

Read Mode Print Layout Web Layout Views

Navigation Pane

Search document

HEADINGS PAGES RESULTS

Water Power Technologies Office 20...

Table of Contents

I. Funding Opportunity Description

A. Background and Context

i. Background and Purpose

ii. Technology Space and Strat...

B. Areas of Interest (AOI)

1 Hydropower Operational Flexibi...

1a: Quantify Hydropower Ca...

1b: Operational Strategies f...

2 Low-Head Hydropower and In-S...

2a: Modular Technologies f...

2b: Modular Technologies f...

3 Advancing Wave Energy Device...

4 Marine Energy Centers Research...

C. Applications Specifically Not of...

D. Authorizing Statutes

II. Award Information

A. Award Overview

i. Estimated Funding

ii. Period of Performance

iii. New Applications Only

B. EERE Funding Agreements

i. Cooperative Agreements

ii. Funding Agreements with Fe...

III. Eligibility Information

A. Eligible Applicants

i. Individuals

U.S. DEPARTMENT OF ENERGY

Office of ENERGY EFFICIENCY & RENEWABLE ENERGY

Department of Energy (DOE)

Office of Energy Efficiency and Renewable Energy (EERE)

Water Power Technologies Office 2019 Research Funding Opportunity

Funding Opportunity Announcement (FOA) Number: DE-FOA-0002080

FOA Type: Initial

CFDA Number: 81.087

|  |                           |
|--|---------------------------|
| FOA Issue Date:  | 4/01/2019                 |
| Informational Webinar:   | 4/11/2019                 |
| Submission Deadline for Concept Papers:                        | 5/13/2019 5:00pm ET       |
| Submission Deadline for Full Applications:                     | 7/09/2019 5:00pm ET       |
| Expected Submission Deadline for Replies to Reviewer Comments: | 8/21/2019 5:00pm ET       |
| Expected Date for EERE Selection Notifications:                | September 2019            |
| Expected Timeframe for Award Negotiations:                     | September – December 2019 |

- Applicants must submit a Concept Paper by 5:00pm ET the due date listed above to be eligible to submit a Full Application.



# Notice

- All applicants are strongly encouraged to carefully read the Funding Opportunity Announcement **DE-FOA-0002080 (“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 [WPTOFOA@ee.doe.gov](mailto:WPTOFOA@ee.doe.gov).

# DE-FOA-0002080: Water Power Technologies Office 2019 Research Funding Opportunity

## Anticipated Schedule:

|   |                     |
|---|---------------------|
| <b>FOA Issue Date:</b>  | 4/01/2019           |
| <b>Informational Webinar:</b>   | 4/11/2019           |
| <b>Submission Deadline for Concept Papers:</b>                        | 5/13/2019 5:00pm ET |
| <b>Submission Deadline for Full Applications:</b>                     | 7/09/2019 5:00pm ET |
| <b>Expected Submission Deadline for Replies to Reviewer Comments:</b> | 8/21/2019 5:00pm ET |
| <b>Expected Date for EERE Selection Notifications:</b>                | September 2019      |



# Agenda

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- 1) FOA Description
- 2) Areas of Interest
- 3) Applications Specifically not of Interest
- 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

- The Office of Energy Efficiency and Renewable Energy (EERE) is issuing, on behalf of the Water Power Technologies Office (WPTO), a Funding Opportunity Announcement (FOA) titled “Water Power Technologies Office 2019 Research Funding Opportunity.”
- This FOA addresses priorities in the following areas: hydropower operational flexibility, low-head hydropower and in-stream hydrokinetic technologies, advancing wave energy device design, and research infrastructure upgrades at the National Marine Renewable Energy Centers (NMRECs).



# Areas of Interest

| Area of Interest   | DOE Funding | Cost Share | # of Awards |
|--|-------------|------------|-------------|
| <b>1 - Hydropower Operational Flexibility</b>                                  |             |            |             |
| <i>1a Quantify Hydropower Capabilities for Operational Flexibility</i>         | \$1,500,000 | 20%        | Up to 1     |
| <i>1b Operational Strategies for Increasing Hydropower Flexibility</i>         | \$2,750,000 | 20%        | Up to 3     |
| <b>2 - Low-Head Hydropower and In-Stream Hydrokinetic Technologies</b>         |             |            |             |
| <i>2a Modular Technologies for Low-Head Hydropower Applications</i>            | \$5,000,000 | 20%        | Up to 5     |
| <i>2b Modular Technologies for River Current Energy Converter Applications</i> | \$4,600,000 | 20%        | Up to 3     |
| <b>3 - Advancing Wave Energy Device Design</b>                                 | \$7,200,000 | 20%        | Up to 4     |
| <b>4 - Marine Energy Centers Research Infrastructure Upgrades</b>              | \$5,000,000 | 20%        | Up to 3     |



# Area of Interest 1: Hydropower Operational Flexibility

## Goal:

- The technical attributes of the U.S. hydropower fleet make it well-suited to provide flexible capabilities and thus to contribute to grid reliability and resilience.
- Most existing work on hydropower flexibility, however, focuses on the historical *utilization* of hydropower rather than the full hypothetical *potential* of hydropower capabilities for flexibility.
- The full potential of individual hydropower plants and the U.S. hydropower fleet to provide flexibility is therefore unknown.
- As hydropower operations shift to accommodate changing market structures, generation mixes, load shapes, and reliability paradigms, it has become increasingly important to develop a detailed and quantitative understanding of the actual flexibility potential of hydropower resources.
- This area seeks to quantify the hydropower capabilities for operational flexibility (AOI 1a), and advance operational strategies to increase flexibility (AOI 1b).

| Area of Interest 1 - Hydropower Operational Flexibility                | DOE Funding<br>(all FY19) | # of<br>Awards | Cost Share<br>(%) |
|--|---------------------------|----------------|-------------------|
| <i>1a Quantify Hydropower Capabilities for Operational Flexibility</i> | \$1,500,000               | Up to 1        | 20%               |
| <i>1b Operational Strategies for Increasing Hydropower Flexibility</i> | \$2,750,000               | Up to 3        | 20%               |



# Area of Interest 1a

## **AOI 1a: Quantify Hydropower Capabilities for Operational Flexibility**

- The objective of AOI 1a is to develop a comprehensive framework to rigorously catalog, characterize, and quantify the full potential of hydropower's flexible capabilities at the level of individual hydropower plants. The framework will be transparent and broadly applicable to the U.S. hydropower fleet.
- To achieve these objectives, the framework will need to account for detailed machine attributes, control of water flows and reservoirs, multi-use constraints, and cascading reservoir systems. Crucially, the framework will also need to account for the interrelationships among these plant and multi-plant components.
- As part of the work to be performed under AOI 1a, the framework as developed would be applied to a set of hydropower plant case studies to provide a detailed accounting of the full range of their potential capabilities for flexibility.
- Following successful development and application of the framework in several case studies under AOI 1a, longer-term WPTO objectives could include application of the framework to build up a fleet-wide flexibility assessment of hydropower in the U.S.



# Area of Interest 1b

## **AOI 1b: Operational Strategies for Increasing Hydropower Flexibility**

- The objective of AOI 1b is to increase the utilization of flexible capabilities of existing hydropower plants through innovative operational strategies.
- Many hydropower plants must simultaneously manage multiple competing constraints across several domains (water, machines, cascading reservoirs, power system) to assure that all objectives, stakeholders, and requirements are satisfied. Innovative operational strategies under AOI 1b may allow coordination and optimization that meets these constraints while additionally enabling new flexible capabilities.
- Specific operational strategies of interest fall into several categories:
  1. Innovative application of existing or near-commercial tools such as sensors or real-time control systems.
  2. Physics-based component modeling, water modeling, and integrated operational modeling techniques
  3. Application of data-driven techniques such as artificial intelligence, machine learning, and other advanced analytics
  4. Coordinated water operation and/or energy or other grid service dispatch among two or more plants
  5. Any relevant combinations of (1), (2), (3), and (4).



## Teaming Partner List: AOI 1 only

- To facilitate the formation of new project teams for this FOA's Area of Interest 1, WPTO is compiling a Teaming Partner List that will be made available on EERE Exchange at <https://eere.Exchange.energy.gov> under DE-FOA-0002080
- Any organization that would like to be included on this list should submit the following information to [WPTOFOA@ee.doe.gov](mailto:WPTOFOA@ee.doe.gov):
  - FOA AOI (1a or 1b), Organization Name, Contact Name, Contact Email, Contact Phone, Organization Type, Area of Technical Expertise, and Brief Description of Capabilities
- 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



# Area of Interest 2: Low Head Hydropower and In-Stream Hydrokinetic Technologies

## Goal:

- Low-head hydropower and hydrokinetic technologies have the potential to generate a significant amount of electricity from the Nation's rivers:
  - The 2016 Hydropower Vision Report identified ~17 GW of new stream-reach hydropower potential.
  - A 2012 DOE supported study calculated that theoretical river hydrokinetic resources were roughly 1,381 TWh/year.
- Recent trends reflect the steep challenges to developing these resources:
  - Over the past ten years, only five small new stream-reach hydropower projects were completed.
  - To date, no commercial, grid-tied CEC projects have come online in the United States.
- To most effectively make use of these diverse river resources, WPTO is supporting the development of two types of technologies—standard modular hydropower (SMH) and current energy converters (CEC).
  - CEC technologies (AOI 1b) extract kinetic energy from rivers without the need for a dam or diversion, whereas SMH technologies (AOI 1a) use structures to create hydraulic head and generate power through a turbine.

| Area of Interest 2 - Low Head Hydropower and In-Stream Technologies            | DOE Funding<br>(all FY19) | # of Awards | Cost Share (%) |
|--|---------------------------|-------------|----------------|
| <i>2a Modular Technologies for Low-Head Hydropower Applications</i>            | \$5,000,000               | Up to 5     | 20%            |
| <i>2b Modular Technologies for River Current Energy Converter Applications</i> | \$4,600,000               | Up to 3     | 20%            |



# Area of Interest 2a

## AOI 2a: Modular Technologies for Low-Head Hydropower Applications

- Projects will focus on the design and testing of entirely new standardized, modular hydropower technologies for low-head, new stream-reach applications (30 feet or less) that balance performance, economics, and environmental sustainability.
- Applicants must propose innovations in one of the following modules: generation, fish passage, sediment passage, recreation passage, water passage, and foundation.
  - Modules are further defined in the FOA document and in ORNL's SMH Design Envelope, which includes detailed module-specific requirements, design constraints, functional relationships, and measures of performance.
  - Only one type of module may be proposed per application.
- Proposed technologies must also leverage advanced manufacturing and/or materials to achieve one or more of the following metrics compared to the state-of-the-art: cost reduction; performance improvement; increased energy capture; replicability; rapid deployment; broad and site-independent deployability.
- In addition to the financial assistance provided under this award, WPTO will directly fund ORNL to provide technical assistance to each awardee:
  - Advanced manufacturing review
  - Design and modeling support
  - Cost analysis
  - Aquatic ecology expertise

# Area of Interest 2b

## **AOI 2b: Modular Technologies for River Current Energy Converter Applications**

- Successful applications will submit a proposal for a current energy converter (CEC) that includes engineering design and analysis, numerical modeling, and relevant model-scale testing to satisfy the International Electrotechnical Commission (IEC) Technical Specifications (TS) and design reviews.
- Applicants should propose the design basis for their device size and load conditions based on the expected depth and flow velocities at their desired open water test site. The CEC shall be designed with a minimum electrical output power of 10 kW per module at 2.0 m/sec inflow speed, with a minimum of two modules connected to a common support structure module.
- This AOI will be executed in two budget periods with a down-select process after Budget Period 1. Following a competitive project review, WPTO will select one project to receive federal funding for Budget Period 2.
- In addition to financial assistance, the applicant selected to continue to Budget Period 2 will be eligible to request up to \$400K of technical support from the National Renewable Energy Laboratory and/or Sandia National Laboratory.

# Area of Interest 3: Advancing Wave Energy Device Design

**Goal:** Marine renewable energy technologies like wave energy converters (WEC) are still at relatively early stages of development. This area of interest will drive cost reductions and performance improvements in wave energy conversion devices in preparation for open-water testing. To decrease the costs of MHK WEC systems, design, prototyping and testing of increasingly sized scaled systems is needed. AOI 3 seeks to fund WEC designs for testing in the highly-energetic waters of the Pacific Northwest. The goal is to increase the resilience of WEC devices and support full-scale WEC systems that meet rigorous MHK design standards.

- Applications must demonstrate incorporation of applicable international standards and R&D value to the MHK industry.
- Designs must utilize the PacWave-South Wave Energy Test Site physical parameters, including the wave energy spectrum, ocean bottom geotechnical data and meta-ocean data from this test site.
- Design basis should also assume to two years continuous operation at a facility like PacWave-South
- Designs are required to include grid interconnection requirements, but developers are encouraged to submit designs with grid or off-grid market applications

| Area of Interest                             | DOE Funding<br>(all FY19) | # of<br>Awards | Cost Share<br>(%) |
|--|---------------------------|----------------|-------------------|
| Area 3 - Advancing Wave Energy Device Design | \$7,200,000               | Up to 4        | 20%               |

# Area of Interest 4: Marine Energy Centers Research Infrastructure Upgrades

**Goal:** As the marine energy industry continues to advance technologies towards commercialization, there is an ongoing need for testing at all levels of technological development. DOE supports a number of universities with capabilities for this type of research, known as National Marine Renewable Energy Centers (NMRECs), to incubate advanced marine and hydrokinetic technologies. Projects funded under this area of interest will upgrade infrastructure at the NMRECs enabling broader industry usage of testing facilities and reducing technical barriers for further MHK technology R&D.

Successful applications under this area of interest should sufficiently justify how the test infrastructure proposal fills a need and/or gap in testing capabilities and benefits the MHK industry. In addition, applicants should clearly describe why their specific proposal offers the best value-added project to advance the testing infrastructure, clearly demonstrate technological and financial value of the proposal, and quantify the anticipated impact the project will have across the industry.

WPTO has FY19 Congressional direction that specifically directs the office to provide at least \$5 million to support infrastructure upgrades at the designated NMRECs.

| Area of Interest                               | DOE Funding<br>(all FY19) | # of<br>Awards | Cost Share<br>(%) |
|--|---------------------------|----------------|-------------------|
| Area 4 - Marine Energy Infrastructure Upgrades | \$5,000,000               | Up to 3        | 20%               |



# Applications Specifically Not of Interest

|                 |  |
|-----------------|--|
| <b>All AOIs</b> | <ul style="list-style-type: none"><li>• Applications that fall outside the technical parameters specified in Section I.A and I.B of the FOA;</li><li>• Applications for proposed technologies that are not based on sound scientific principles (e.g., violates the laws of thermodynamics).</li></ul>   |
| <b>AOI 1a</b>   | <ul style="list-style-type: none"><li>• Applications proposing technology R&amp;D;</li><li>• Applications principally focused on monetization of flexible capabilities, bidding strategies, or market design.</li></ul>  |
| <b>AOI 1b</b>   | <ul style="list-style-type: none"><li>• Applications proposing technology R&amp;D;</li><li>• Applications proposing incremental advancement of an operational strategy that is already well-established and adopted by the hydropower sector;</li><li>• Applications that propose an operational strategy applicable only to a single site;</li><li>• Applications principally focused on market acceleration or market conditioning activities.</li></ul> |
| <b>AOI 2a</b>   | <ul style="list-style-type: none"><li>• Applications for technologies that are only applicable to locations with existing hydraulic infrastructure, such as non-powered dams, canals, and conduits;</li><li>• Applications for marine or in-river hydrokinetic technologies.</li></ul>   |
| <b>AOI 2b</b>   | <ul style="list-style-type: none"><li>• Applications that utilize CEC technologies designed to extract energy from ocean current, tidal currents or flow in a closed conduit, (e.g., clean water distribution pipe);</li><li>• Applications that utilize CEC technologies that require a dam or structure that diverts water, either partially or fully, to create head.</li></ul>   |
| <b>AOI 3</b>    | <ul style="list-style-type: none"><li>• Applications that do not include grid connection requirements in their proposed design;</li><li>• Open water testing activities cannot be funded under AOI 3;</li><li>• Applications that propose to design devices that are not intended for testing and grid connection at PacWave-South test site.</li></ul>  |
| <b>AOI 4</b>    | <ul style="list-style-type: none"><li>• Per Congressional Direction, only the three (3) National Marine Renewable Energy Centers are eligible as Prime applicants, all other Applications are not of interest.</li></ul>   |



# 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

- The cost share must be at least 20% of the total allowable costs for research and development projects (i.e., 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) 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.)



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



# 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 A 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

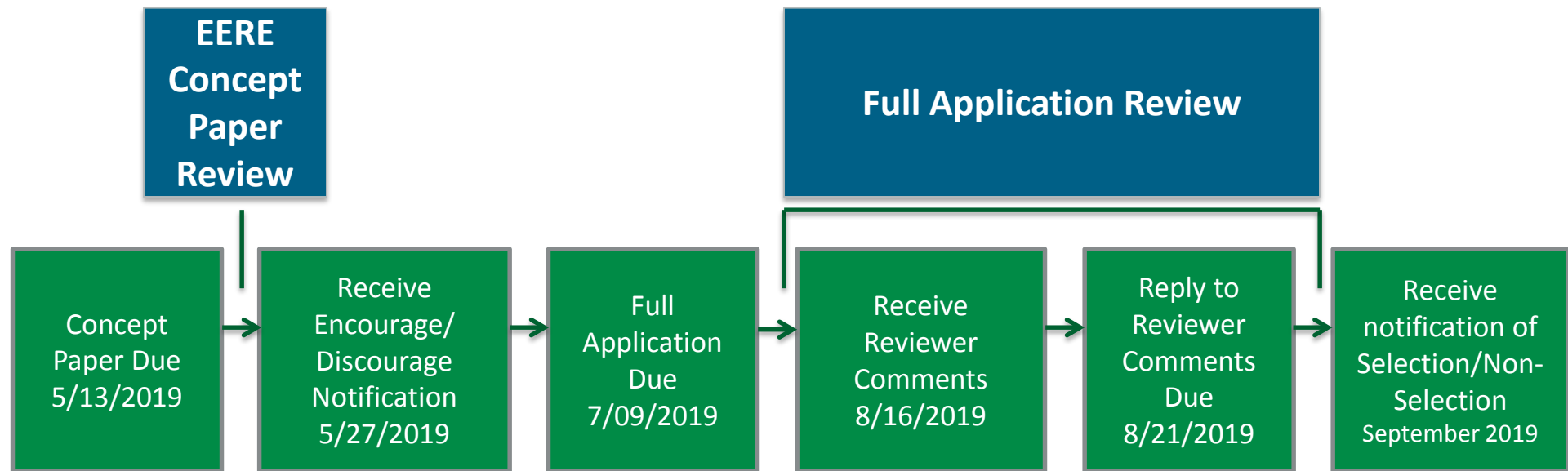


# Cost Share Payment

- 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



EERE anticipates making awards by December 2019



# Concept Papers

- Applicants must submit a Concept Paper
  - Each Concept Paper must be limited to a single concept or technology as specified in [Section III.F](#) of the FOA for individual Area of Interest.
- [Section IV.C](#) of the FOA states what information a Concept Paper should include, AOI Specific Concept Paper Requirements 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 [5/13/2019](#), through EERE Exchange
- EERE provides applicants with: (1) an “encouraged” or “discouraged” notification, and (2) the reviewer comments



# Concept Paper Review: Concept Paper Criterion

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

This criterion involves consideration of the following factors:

- The applicant clearly describes the proposed work, describes how the proposed work is unique and innovative, and how the proposed work 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; and
- The proposed work, if successfully accomplished, would clearly meet the objectives as stated in the FOA. For this FOA, “proposed work” may refer generally to a technology, testing infrastructure upgrade, process, framework, modeling effort, analysis, or optimization strategy, as indicated in the description of each AOI.



# Full Applications

The Full Application includes (see FOA [Section IV.D.i](#))

- **Technical Volume:** The key technical submission - info relating to the technical content, project team members, etc.
- **SOP:** Statement of Project Objectives (SOP)
- **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.
- **Summary for Public Release**
- **Summary Slide**
- **U.S. Manufacturing Plan**
- **Data Management Plan**
- FFRDC Authorization (if applicable), Disclosure of Lobbying Activities.



# Full Applications: Technical Volume Content

## Technical Volume: the key technical component of the Full Application (Section IV.D.ii)

| Content of Technical Volume   | Suggested % of Technical Volume |
|---|---------------------------------|
| Cover Page  |                                 |
| Project Overview  | 10%                             |
| Technical Description, Innovation and Impact                            | 30%                             |
| Workplan  | 40%                             |
| Technical Qualifications and Resources                                  | 20%                             |
| AOI Specific Requirements are listed in Section <a href="#">IV.D.ii</a> |                                 |



# Full Application Eligibility Requirements

- Applicants must submit a Full Application by [7/09/2019](#)
- Full Applications are eligible for review if:
  - The Applicant is an eligible entity per [Section III.A](#) of FOA;
  - The Applicant submitted an eligible Concept Paper [per Section III.F](#) of the FOA
  - The Cost Share requirement is satisfied per [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; and
  - The Full Application meets any other eligibility requirements listed in [Section III](#) of the FOA.



# Who is Eligible to Apply?

Eligible applicants for this FOA include:

1. U.S. citizens and lawful U.S. permanent residents
2. For-profit entities
3. Educational institutions
4. Nonprofits
5. State, local, and tribal government entities
6. DOE/NNSA FFRDCs – See [TABLE 3 in Section III.A.ii](#) for restricted eligibility for each Area of Interest

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

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.

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. See Section III.A.iii for requirements applicable to foreign entities applying under this FOA.



## Multiple Applications: Limitation on Number of Concept Papers and Full Applications Eligible for Review

| Areas of Interest  | Limitation re: number of application submittals   |
|--|---|
| <b>1a Assess and Quantify Hydroelectric Flexibility</b>                        | An entity may submit more than one Concept Paper and Full Application to this area of interest, provided that each application describes a unique, scientifically distinct project and provided that an eligible Concept Paper was submitted for each Full Application.   |
| <b>1b Enhance Industry Utilization of Flexibility</b>                          | An entity may submit more than one Concept Paper and Full Application to this area of interest, provided that each application describes a unique, scientifically distinct project and provided that an eligible Concept Paper was submitted for each Full Application.   |
| <b>2a Modular Technologies for Low-Head Hydropower Applications</b>            | An entity may submit more than one Concept Paper and Full Application to this area of interest, provided that each application describes a unique, scientifically distinct project and provided that an eligible Concept Paper was submitted for each Full Application.   |
| <b>2b Modular Technologies for River Current Energy Converter Applications</b> | An entity may submit more than one Concept Paper and Full Application to this area of interest, provided that each application describes a unique, scientifically distinct project and provided that an eligible Concept Paper was submitted for each Full Application.   |
| <b>3 Advancing Wave Energy Device Design</b>                                   | An entity may only submit one Concept Paper and one Full Application to this area of interest.**  |
| <b>4 Marine Energy Infrastructure Upgrades</b>                                 | <p>Only the three (3) National Marine Renewable Energy Centers (NMRECs) are eligible to submit Concept Papers and Full Applications to this area of interest.</p> <p>An NMREC may submit more than one Concept Paper but is restricted to submit only one Full Application provided that each Concept Paper describes a unique, scientifically distinct project and provided that an eligible Concept Paper was submitted for the Full Application.</p> |



# 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 (Section V.A.ii)

## ***AOI 1a Specific Technical Review Criteria for Full Applications***

- Criterion 1: Technical Merit, Innovation, and Impact (40%)
- Criterion 2: Project Research and Market Transformation Plan (30%)
- Criterion 3: Team and Resources (30%)

## ***AOI 1b, 2a, & 4 Specific Technical Review Criteria for Full Applications***

- Criterion 1: Technical Merit, Innovation, and Impact (50%)
- Criterion 2: Project Research and Market Transformation Plan (30%)
- Criterion 3: Team and Resources (20%)

## ***AOI 2b Specific Technical Review Criteria for Full Applications***

- Criterion 1: Technical Merit, Innovation, and Impact (40%)
- Criterion 2: Project Research and Market Transformation Plan (40%)
- Criterion 3: Team and Resources (20%)

## ***AOI 3 Specific Technical Review Criteria for Full Applications***

- Criterion 1: Technical Merit, Innovation, and Impact (30%)
- Criterion 2: Project Research and Market Transformation Plan (50%)
- Criterion 3: Team and Resources (20%)



## Replies to Reviewer Comments (**Section IV.E**)

- 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 8/21/2019 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. |

If a Reply to Reviewer Comments is more than three pages in length, EERE will review only the first three (3) pages and disregard any additional pages.



## Pre-Selection Interviews (Section V.D.ii)

- 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

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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 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).
- The degree to which the proposed project enables new and expanding market segments.



# 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              | <a href="http://fedgov.dnb.com/webform">http://fedgov.dnb.com/webform</a> |
| SAM                      | <a href="https://www.sam.gov">https://www.sam.gov</a>                     |
| FedConnect               | <a href="https://www.fedconnect.net">https://www.fedconnect.net</a>       |
| Grants.gov               | <a href="http://www.grants.gov">http://www.grants.gov</a>                 |



# 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 [WPTOFOA@ee.doe.gov](mailto:WPTOFOA@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](mailto: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