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DEPARTMENT OF ENERGY

Office of Energy Efficiency and Renewable Energy

Wave Energy Converter Prize Administration Webinar

AGENCY: Office of Energy Efficiency and Renewable Energy (EERE), U.S. Department of Energy (DOE)

ACTION: Notice of a webinar and request for information

SUMMARY: The Wind and Water Power Technologies Office (WWPTO) is considering releasing a Funding Opportunity Announcement (FOA), tentatively titled, "Wave Energy Converter Prize Administration". The Office is planning a webinar in advance of any potential FOA to seek input from the public regarding possible approaches to structuring a prize competition related to wave energy converters. The WWPTO anticipates a multi-stage challenge that would culminate in the demonstration of Wave Energy Converter (WEC) devices in a wave tank test. The WWTPO anticipates that the top prize would be awarded to the entity capable of exceeding predetermined operational performance thresholds. Moreover, WWPTO is considering the competition to be administered by a third-party that may have involvement in defining, developing, and advertising the competitive challenge, as well as involvement in the awarding of any prizes.

DATES: The WWPTO will hold a webinar on Thursday, July 18, 2013 from 2:00 PM to 4:00 PM EST. Written comments will be accepted through Thursday, July 25, 2013.

ADDRESSES: The webinar can be accessed at https://www1.gotomeeting.com/join/123267576.

You may submit written comments by any of the following methods:

- E-Mail: WECworkshopweb@go.doe.gov
- Postal Mail: Alison LaBonte, Marine and Hydrokinetic Energy Technology Development Manager, Wind and Water Power Technologies Office EE-2B, U.S. Department of Energy, 1000 Independence Avenue SW, Washington, DC 20585. Please submit one signed paper original. Due to the potential delays in DOE's receipt and processing of mail sent through the U.S. Postal Service, DOE encourages respondents to submit comments electronically to ensure timely receipt.

Minutes and video recorded proceedings of the webinar will be made available for public review on the DOE Office of Energy Efficiency and Renewable Energy (EERE) website at: http://water.energy.gov.

FOR FURTHER INFORMATION CONTACT: Alison LaBonte, Marine and Hydrokinetic Energy Technology Development Manager, Wind and Water Power Technologies Office EE-2B, U.S. Department of Energy, 1000 Independence Avenue SW, Washington, DC 20585, WECworkshopweb@go.doe.gov.

SUPPLEMENTARY INFORMATION:

Webinar Purpose:

PURPOSE: The purpose of this notice is to gain public input regarding the development and implementation of a prize challenge for wave energy converters. The information collected by

the webinar and this notice will be used for internal DOE planning including the potential development of a FOA. The webinar is open to all interested parties. All interested parties are encouraged to submit written comments. Parties interested in participating in the webinar and interested in providing comments might include, but are not limited to (1) non-profit organizations, companies, and universities involved in the development of wave energy converters, (2) entities with experience in testing wave energy converters in tank test facilities, and (3) entities with experience in developing and administering technical competitions.

Wave Energy Converter Prize Background:

In principle, challenges set a high technical bar for competitors to be eligible for a prize, and offer an attractive prize purse to the winner, thus facilitating rapid advancements through technical innovation at a relatively low cost to the sponsoring agency. A successful challenge strategy is one that quickly yields a number of viable solutions to increase the performance of WEC technologies above an aggressive but achievable performance threshold.

It is intended that a WEC Prize could spur game changing innovations for next generation WEC technologies to drastically increase WEC performance.

Intellectual property rights will be retained by the competitors. The prize competition will be conducted in accordance with the prize authority established in the America COMPETES Reauthorization Act of 2010 (15 U.S.C. 3719).

Challenge Stage Gates and Criteria for Evaluation:

The WWTPO anticipates that there could be many ways to formulate the challenge structure (i.e. number of stages and stage gates) for the WEC Prize. However, to engage in a more robust

dialogue during the webinar, an example strategy is provided below. The WWPTO encourages commenters to provide alternative strategies and approaches for the prize administration.

A multi stage-gate challenge structure requires competitors to pass through a series of stage gates based on various criteria. Generally, the criteria are designed to ensure that the prize winner holds the most commercially viable technology and has the highest potential for success in the actual open-ocean wave energy harvesting environment. The quantitative performance threshold for the final tank test is anticipated to be a function of absorbed energy; characteristic mass; surface area; and/or power take-off force criteria.

Example challenge structure stages and stage-gates might include:

Full Proposal Submission Stage: WEC prize competitors would initially submit full applications with proposed design concepts which would be evaluated against WEC prize performance goals. The applications would provide supporting evidence such as numerical simulation performance calculations, levelized cost of energy calculations demonstrating techno-economic viability of the concept at a commercial stage, and engineering justification to support concept design reliability and survivability at commercial scale.

First Stage-gate: A judging panel would evaluate and select proposals based on pre-published criteria. Selected proposals would advance to a detailed design phase.

Design Stage: Proposals selected to advance to the design stage would develop a detailed design demonstrating proof-of-concept via prototype bench top testing; WEC numerical modeling, validation, and refinement; and any design stage wave tank testing results.

Second Stage-gate: A judging panel would conduct a critical design review and select up to 10 competitors to advance to the "build stage." Those selected at this stage would receive a monetary award (e.g., $350,000) intended to be used to support scaled prototype fabrication.

Build Stage: The selected competitors would proceed to the build stage and would be responsible for the procurement and construction of a scaled prototype WEC device ready for tank testing.

Test and Evaluate Stage: The selected competitors would test their scaled prototype in a wave tank to quantitatively measure performance of the WEC device against performance criteria.

Final Stage-gate: The judging panel would evaluate the tank test performance results and the overall device design against pre-determined performance criteria to select one winner to receive the prize purse. The WWPTO is considering a purse prize value of $1 million.

Administration Implementation:

The WWPTO is considering having the WEC Prize challenge administered by a single awardee of the anticipated "Wave Energy Converter Prize Administration" FOA. In addition to being responsible for the overall implementation of the challenge the awardee would potentially administer the prize purse (including seed funding) to the selected competitors. The WWTPO plans to separately arrange for a tank testing facility to be used in the challenge competition and technical experts to assist the administration entity with the development of quantitative performance threshold and other criteria the competitors will be evaluated against throughout the various stages of challenge.

The anticipated scope for the administrative entity may include, but may not be limited to, the following:

1. Work with the WWPTO to refine WEC Prize and to develop challenge strategy, including rule development, structure, planning, judging and evaluations, to meet those objectives
2. Collaborate with the technical expert as identified by the WWPTO to finalize testing and evaluation criteria for rule development
3. Coordinate with the tank test facility identified by the WWPTO for planning, scheduling, and executing the test and evaluate stage of the challenge
4. Promote the challenge to attract competitors to apply
5. Publish challenge rules and implement the challenge strategy to accomplish the objectives
6. Increase the awareness of MHK technology through the WEC Prize challenge with marketing and public relations
7. Provide the necessary qualified personnel, facilities, equipment, supplies, services, subcontractors, and related administrative and information technology support to accomplish the objectives
8. Coordinate and compensate judging panels, as applicable
9. Provide on-site coordination and logistics for judging panels and tank testing
10. Ensure the tank testing is in accordance to the rules of the prize
11. Provide the WWPTO access to the observation of all test and evaluation activities
12. Allow WWPTO access to records, files, and other data derived from this work
13. Provide winners with seed funding and prize award

Outside of the anticipated "Wave Energy Converter Prize Administration" FOA, the WWPTO anticipates that technical experts will assist the administrator with the following:

- Assist the administration entity with the development of quantitative performance threshold and other criteria the competitors will be evaluated against throughout the various stages of the challenge
- Collaborate with the tank test facility operators to determine tank test conditions for the testing and evaluation phase to ensure the conditions are consistent for WEC device competitors
- Provide technical direction to the administrative entity developing the challenge rules
- Provide technical direction to the administrative entity in selecting experts for judging panels
- Development of the tank test instrumentation and data acquisition interface (in conjunction with the tank test facility)

For the tank test facility in the final Test and Evaluate Stage, the WWPTO is considering arranging an agreement with the Naval Surface Warfare Center, Carderock Division, Maneuvering and Seakeeping Basin in West Bethesda, Maryland. The indoor freshwater basin is anticipated to be online in 2013 with 216 independently controlled wave paddles capable of producing model sea state spectra of any distribution. The basin overall length is 110 m (360 ft), overall width is 73 m (240 ft), and depth of 6.1 (20 ft) and it includes a 10.7 m (35 ft) deep by 15.2 m (50 ft) wide trench parallel to the long side of the south side.

Webinar Discussion Topics and Requested Information:

The questions below request information on both the structure of a potential prize competition as well as the technical criteria that may be considered in the evaluation of such a competition. Interest parties are encouraged to provide responses to the following questions or other topics relevant to a WEC Prize.

- What administrative resources are required to design, promote, and implement a prize challenge?
- How could a challenge be structured to efficiently, timely, and adequately allow comparison of the various technologies and techniques that may be applied to WEC?
- How can a judging panel be secured for multiple phases?
- Is the sample challenge structure, with multiple stages, too lengthy or complex that some potential competitors may not participate? Does offering seed funding at an early stage incentivize competitors where they otherwise would not compete?
- What distribution of funding is appropriate for administrative costs, seed funding, and prize? Should seed funding be given, or should there instead be a larger winning prize, or first, second and third place prizes?
- What criteria should be used to evaluate proposed WEC designs and WEC performance?

Public Participation:

WEBINAR AND COMMENTS INSTRUCTIONS: The webinar will be held on Thursday, July 18, 2013 from 2:00 PM to 4:00 PM EST. Webinar attendees are encouraged to RSVP to WECworkshopweb@go.doe.gov by Monday, July 15, 2013. In addition, entities are welcomed to provide an additional written response to WECworkshopweb@go.doe.gov by 5:00 PM EST on Thursday, July 25, 2013. Written responses may be submitted electronically or by postal mail

and must be five pages or less in length. Electronic responses must be provided as attachments (in Microsoft Word or Adobe PDF format). The subject line should read "Wave Energy Converter Prize Administration (insert name-organization)". One inch margins and 12 point font should be used. Any entity providing a written response is requested to include the following information: company/institutional name; individual contact information (mailing address, phone number, e-mail address); facility location(s) (zip code); and area of expertise/interest.

DISCLAIMER AND IMPORTANT NOTES: The notice is issued solely for information and FOA planning purposes; the notice and webinar do not constitute a formal solicitation for proposals or abstracts. Your response to this notice and responses provided through the webinar will be treated as information only. In accordance with the Federal Acquisition Regulations, 48 C.F.R. 15.201(e), responses to this notice including those provided through the webinar are not offers and cannot be accepted by the Government to form a binding contract. DOE will not provide reimbursement for costs incurred in responding to this notice. Any of the information contained in this notice is subject to change. Any amounts proposed for funding are subject to the availability of Congressional appropriations.

DOE may or may not decide at a later date to issue a FOA or other type of solicitation based on consideration of the input received from this notice or the webinar, and there is no guarantee that future funding opportunities or other activities will be undertaken as a result of this notice or the webinar. Because information received in response to this notice and during the webinar may be used to structure future funding opportunities and/or may otherwise be made available to the public, respondents are strongly advised to not include any information in their responses that might be considered business-sensitive, proprietary, or otherwise confidential. If, however, a respondent chooses to submit business-sensitive, proprietary, or otherwise confidential

information, it must be clearly and conspicuously marked as such in the response pursuant to the instructions below.

In order to avoid any possible conflict with future funding opportunities, DOE will not reply to any respondent questions or comments received after the closure of the submission period specified in the DATES section. Respondents are advised that DOE is under no obligation to acknowledge receipt of the information received or provide feedback to respondents with respect to any information submitted under this notice or through the webinar. Responses to this notice do not bind DOE to any further actions related to this topic. The DOE thanks you for your assistance and input.

CONFIDENTIAL BUSINESS INFORMATION: Pursuant to 10 CFR 1004.11, any person submitting information that he or she believes to be confidential and exempt by law from public disclosure should submit via email, postal mail, or hand delivery/courier two well-marked copies: one copy of the document marked "confidential" including all the information believed to be confidential, and one copy of the document marked "non-confidential" with the information believed to be confidential deleted. Submit these documents via e-mail or postal mail. DOE will make its own determination about the confidential status of the information and treat it according to its determination.

Factors of interest to DOE when evaluating requests to treat submitted information as confidential include: (1) a description of the items; (2) whether and why such items are customarily treated as confidential within the industry; (3) whether the information is generally known by or available from other sources; (4) whether the information has previously been made available to others without obligation concerning its confidentiality; (5) an explanation of the competitive injury to the submitting person which would result from public disclosure; (6) when

such information might lose its confidential character due to the passage of time; and (7) why disclosure of the information would be contrary to the public interest.

It is DOE's policy that all comments may be included in a public docket, without change and as received, including any personal information provided in the comments (except information deemed to be exempt from public disclosure).

Issued in Washington, DC on June 27, 2013.

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Jose Zayas
Director, Wind and Water Power Technologies Office
Energy Efficiency and Renewable Energy
Department of Energy

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