Wave Energy Converter Prize Administration Webinar

# Meeting Minutes

The webinar was held Thursday, July 18, 2013 from 2:00-2:45 PM EST with 28 participants. Webinar participants included entities involved in wave energy development and entities involved in prize challenge design and administration.

## Welcome (led by Alison LaBonte)

Dr. Alison LaBonte provided the overview of the webinar which included the welcome, webinar purpose, program introduction, wave energy converter prize (WEC) initiative, facilitated discussion and next steps. Dr. LaBonte is with the U.S. Department of Energy (DOE) Wind and Water Power Technologies Office (WWPTO) and she serves as the Marine and Hydrokinetic Technology Development Manager at DOE Headquarters.

Webinar participants were informed that the webinar was being recorded and that the minutes and the recording would be made available for public review at <http://water.energy.gov>.

Dr. LaBonte led the discussion for the webinar purpose, program introduction, and WEC prize initiative. Mr. Michael Hahn, Technical Project Officer for the WWPTO Golden Field Office, was introduced as he would lead the facilitated discussion and next steps.

All webinar lines were muted until the facilitated discussion.

## Webinar Purpose (led by Alison LaBonte)

The purpose of the webinar was to provide an opportunity for participants to provide input to DOE regarding the potential development and implementation of a prize challenge for WECs.

Dr. LaBonte clarified that the information in the presentation is not binding; meaning DOE reserves the right to change the considered effort that is presented.

The information collected by the webinar and the Request for Information will be used for internal DOE planning, including the potential development of a Funding Opportunity Announcement (FOA). No DOE funds have been allocated for the WEC Prize initiative and DOE may change from the financial assistance mechanism to acquisition, or may not move forward at all. If DOE moves ahead with the WEC Prize administration, it would likely be initiated during Fiscal Year 2014 pending future decisions.

## Program Introduction (Alison LaBonte)

The Water Power Program, within the WWPTO, includes Conventional Hydropower and Marine and Hydrokinetic (MHK) technologies. The Water Power mission is to identify and undertake research, development, demonstration and deployment to assess the potential extractable energy from water resources and to facilitate the development and deployment of renewable, environmentally sound, and cost effective energy from domestic rivers, estuaries, and marine waters. MHK include wave, tidal, ocean current, ocean thermal energy conversion, and in-stream hydrokinetic technologies.

## Wave Energy Converter Prize Initiative (led by Alison LaBonte)

### Goal

The goal of a WEC Prize is to set a high technical bar and to offer an attractive prize purse to the winner in order to facilitate rapid advancements and quickly yielding a number of viable solutions to increase the performance of WEC technologies. Reaching the goal would result in game changing innovations for next generation WECs to drastically increase the WEC performance.

DOE is considering conducting the prize competition in accordance with the prize authority established in the America COMPETES Reauthorization Act.

### Stage Gates and Criteria for Evaluation

Dr. LaBonte clarified that there are many ways to formulate the challenge structure and that the WWPTO encourages commenters to provide alternative strategies and approaches for prize administration. DOE provided an example multi stage-gate structure requiring competitors to pass through a series of stage gates. 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.

The example challenge structure included a full proposal with design concepts, numerical simulation performance calculations, levelized cost of energy calculations, techno-economic viability at the commercial stage, and engineering justifications. A judging panel would evaluate and select proposals based on a pre-published criteria. Selected proposals advancing to the design stage would include a detailed design, bench top testing results, and any wave tank testing results. A judging panel would conduct a critical design review to select 10 competitors. The selected competitors would receive $350,000 for the build phase of the prototype ready for tank testing. The test and evaluatation stage would test the scaled prototype to measure the performance of the WEC device against performance criteria. The judging panel would evaluate the results and one winner would be selected to receive a $1,000,000 prize.

It was reiterated that the purpose of the example strategy was to engage the webinar audience regarding the prize administration. DOE is considering the financial assistance mechanism in general, which would not allow fee or profit for the administrative entity. In addition, DOE is considering AMERICA COMPETES Act as the statutory authority. Under the America Competes Reauthorization Act of 2010 (the statutory provision that governs Federal agency prizes), the head of an agency may enter into an agreement with a private, nonprofit entity to administer a prize competition.  See 15 U.S.C. 3719(l).

In addition, DOE anticipates selecting a technical expert to assist the administrative entity, which may be from a DOE National Laboratory. The tank test facility may be the Naval Surface Warfare Center (NSWC), Carderock Division, Maneuvering and Seakeeping (MASK) Basin. The technical expert and tank test facility will likely be determined outside of the anticipated FOA.

### Scope for the Administrative Entity

The scope of the administrative entity is listed in the Federal Register Notice which may include:

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.

### Technical Expert Scope outside Anticipated FOA

DOE envisions that the technical expert would assist the administrative entity with the development of the performance threshold and other criteria and it would provide technical direction. The technical experts would also collaborate with the tank test facility, including the development of the instrumentation and data acquisition interface.

### Tank Facility Scope outside Anticipated FOA

A tank test facility would be used in the final testing and evaluation phase. DOE has initiated conversations with NSWC Carderock MASK for facility use during this phase.

## Facilitated Discussion (led by Michael Hahn)

Participants were welcomed to provide input to the webinar.

One participant asked if the selection of the technical experts and judging panel would be a separate FOA. The participant expressed the importance of using independent technical experts. Dr. LaBonte clarified that the technical experts which help draft the judging criteria would likely be a DOE National Laboratory, selected by DOE. The judging panel experts themselves would likely be selected by the administrative entity, with possible assistance of the National Lab.

Another participant provided input on the list of questions presented in the notice. Innovation and sourcing organizations can provide answers to these questions at a basic level but in order to do these tasks, the organization would run through a prize discover and design process to have the best possible outcomes. The participant suggested getting input from challenge.gov experts for basic guidelines so that innovation and sourcing organizations can then go through the discover and design process to determine the best possible outcome for the prize. Dr. LaBonte clarified that the intent was not to squelch innovation by being too prescriptive in the challenge and funding structure. The participant added that the community would answer these questions in a FOA but responding to the notice may give away the organization’s competitive edge.

A third participant provided input that in order to engage in a WEC Prize, WEC companies may need to repeat, alter or disregard prior advancements and that the challenge could be regarded as a setback. For example, in order for a developer to compete, they may go backwards in the design cycle back to a scaled prototype if they are at a more advanced technical readiness level. Dr. LaBonte answered that DOE would take the comment into consideration, as would any potential prize administrator. Dr. LaBonte reiterated the objective of the prize would be to spur innovation to increase the performance from the current state-of-the-art. The participant also asked whether the competition would include the design of an array of devices instead of the focus on the performance of one device. Dr. LaBonte confirmed that the input would be taken into consideration.

A fourth participant requested to submit a written response beyond five pages. Mr. Hahn encouraged participants to submit concise responses; however, written responses over five pages will be accepted.

The final participant that provided input to the webinar asked whether the following information would be made public during the challenge: initial companies that applied, down-selected companies that competed in the tank test and the final award winner. Dr. LaBonte responded that it was envisioned that the information would be made public as it allows for transparency; however, the comment will be taken into consideration.

## Next Steps (led by Michael Hahn)

Written comments are welcomed and they can be submitted by e-mail (WECworkshopweb@go.doe.gov) or by postal mail through Thursday, July 25, 2013. While responses over five pages will be accepted, it was reiterated to be concise. The webinar meeting minutes and recording will be made available at <http://water.energy.gov>.

Participants were thanked for their participation.

The Federal Register Notice announcement can be found at: <https://www.federalregister.gov/articles/2013/07/03/2013-15967/wave-energy-converter-prize-administration-webinar>.