

National Offshore Wind Energy R&D Test Facilities

DATE: August 1, 2018
SUBJECT: Request for Information (RFI)

Description

The Wind Energy Technologies Office (WETO) is issuing a Request for Information (RFI) to gain public input regarding U.S. national-level test facilities for offshore wind-specific research and development (R&D). WETO is seeking information on facilities that can conduct unique offshore wind R&D in the U.S., what upgrades to existing facilities or new facilities are needed for the U.S. to be at the cutting edge of offshore wind R&D, and what specific tests and analyses could be carried out at existing, upgraded, or new facilities in order to advance the U.S. offshore wind industry.

The term national-level as used herein is intended to describe any state-of-the art U.S. based technical testing facilities to which multiple entities can potentially have access, and where research broadly applicable to the U.S. offshore wind industry can be carried out. However, WETO is also interested in information on U.S. facilities that fall outside of that definition if the case can be made that they are uniquely capable of carrying out certain testing critical to advancing R&D for the U.S. offshore wind industry.

Background

WETO operates within the Department of Energy's (DOE) Office of Energy Efficiency and Renewable Energy (EERE). WETO's mission is to lead the nation's efforts to research and develop innovative technologies, lower the costs and accelerate the development of wind power. To find more information about WETO within EERE, please visit wind.energy.gov.

Offshore wind is a discrete and rapidly growing segment of the global wind energy market. In order for the U.S. to play a leading role in this market, DOE has made and continues to make significant investments in offshore wind. In 2016, DOE released the *National Offshore Wind Strategy* in partnership with the Department of the Interior. The strategy outlines potential actions and R&D that WETO could initiate to facilitate development of the offshore wind industry in the United States. Within the Strategic Area "Reducing Technology Costs and Risks," WETO is supporting a wide scope of research including the Offshore Wind Advanced Technology Demonstration Projects, the collection of hub-height wind and various metocean data by the DOE offshore wind LIDAR resource assessment buoys, floating offshore wind

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technology and cost reduction research, standards development, and the recently announced U.S. Offshore Wind R&D Consortium.

Testing of offshore wind components and scale-prototypes has been critical to the advancement of the industry. WETO recognizes the fact that to continue the advancement of the industry, to be at the cutting edge of R&D, and to reduce offshore wind technology costs it may be necessary to conduct various laboratory and field experimentation campaigns. Globally, there are a number of test facilities suited for offshore wind related testing, some privately held by original equipment manufacturers (OEMs); however, there are limited national-level offshore wind test facilities in the United States. A comprehensive cataloging of existing facilities in the U.S. indicating what offshore wind R&D can be carried out at that facility and/or what testing should be prioritized, is critical. WETO expects that the R&D that would be conducted at a majority of national-level test facilities would fall under the three action areas identified within the “Reducing Technology Costs and Risks” pillar of the *National Offshore Wind Strategy*, which are: offshore wind power resource and site characterization; offshore wind plant technology advancement; and, installation, operations and maintenance, and supply chain solutions. However, WETO is interested in test facilities and R&D that may fall outside of those areas if they are applicable to needs prioritized by the offshore wind industry.

Purpose

The purpose of this RFI is to solicit feedback from industry, academia, research laboratories, government agencies, and other stakeholders on issues related to national offshore wind test facilities. WETO is specifically interested in information on:

- The facilities in the U.S. that are available for offshore wind-specific experimentation and testing;
- Facilities upgrades or new facilities that are required in the U.S. for offshore wind testing in order to perform cutting edge R&D; and
- The most pressing R&D needs that would utilize existing, upgraded, or new U.S. offshore wind specific facilities.

Disclaimer and Important Notes

This RFI is not a Funding Opportunity Announcement (FOA); therefore, EERE is not accepting applications at this time.

Any information obtained as a result of this RFI is intended to be used by the Government on a non-attribution basis for planning and strategy development; this RFI does not constitute a formal solicitation for proposals or abstracts. Your response to this notice will be treated as

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information only. EERE will review and consider all responses in its formulation of program strategies for the identified materials of interest that are the subject of this request. EERE will not provide reimbursement for costs incurred in responding to this RFI. Respondents are advised that EERE is under no obligation to acknowledge receipt of the information received or provide feedback to respondents with respect to any information submitted under this RFI. Responses to this RFI do not bind EERE to any further actions related to this topic.

Proprietary Information

Because information received in response to this RFI may be used to structure future programs and FOAs and/or 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.

Responses containing confidential, proprietary, or privileged information must be conspicuously marked as described below. Failure to comply with these marking requirements may result in the disclosure of the unmarked information under the Freedom of Information Act or otherwise. The U.S. Federal Government is not liable for the disclosure or use of unmarked information, and may use or disclose such information for any purpose.

If your response contains confidential, proprietary, or privileged information, you must include a cover sheet marked as follows identifying the specific pages containing confidential, proprietary, or privileged information:

Notice of Restriction on Disclosure and Use of Data:

Pages [List Applicable Pages] of this response may contain confidential, proprietary, or privileged information that is exempt from public disclosure. Such information shall be used or disclosed only for the purposes described in this RFI DE-FOA-0001963. The Government may use or disclose any information that is not appropriately marked or otherwise restricted, regardless of source.

In addition, (1) the header and footer of every page that contains confidential, proprietary, or privileged information must be marked as follows: "Contains Confidential, Proprietary, or Privileged Information Exempt from Public Disclosure" and (2) every line and paragraph containing proprietary, privileged, or trade secret information must be clearly marked with double brackets or highlighting.

Evaluation and Administration by Federal and Non-Federal Personnel

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Federal employees are subject to the non-disclosure requirements of a criminal statute, the Trade Secrets Act, 18 U.S.C. § 1905. The Government may seek the advice of qualified non-Federal personnel. The Government may also use non-Federal personnel to conduct routine, nondiscretionary administrative activities. The respondents, by submitting their response, consent to EERE providing their response to non-Federal parties. Non-Federal parties given access to responses must be subject to an appropriate obligation of confidentiality prior to being given the access. Submissions may be reviewed by support contractors and private consultants.

Request for Information Categories and Questions

Category 1: Existing U.S. National-Level Offshore Wind Test Facilities

Note: If you are supplying information about more than one facility, you may respond in one RFI response; however, please answer this set of questions for each facility sequentially. For example, respond to all of the questions for Facility #1, then respond to all of the questions for Facility #2.

1. Identify the U.S. national-level facility appropriate for offshore wind testing.
2. What is the scope of research that can be conducted at the facility?
3. Are there any other facilities like this in the U.S.?
4. Are there any other facilities like this globally?
5. When was the facility built?
6. Where is the facility, and are there transportation restrictions that limit what can be tested at the facility?
7. What is the availability of the facility for testing? Is the facility undersubscribed? Is the facility fully or oversubscribed? If the facility is fully/oversubscribed, how long is the waitlist?
8. If it is not obvious that this is a facility for offshore wind specific testing, indicate how the experimental data would be used in order to support offshore wind research.

Category 2: Existing U.S. National-Level Test Facilities Upgrades or New U.S. National-Level Offshore Wind Facilities

1. Upgrades:
 - a. What upgrades could be made to specific existing facilities in the U.S. in order to either enable them to perform critical research for the U.S. offshore wind industry or further their capabilities to do so, and what testing would those upgrades enable?
 - b. What is the estimated cost of those facilities upgrades?
 - c. Is the facility currently appropriate for any offshore wind specific research without those upgrades?

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- d. How would national offshore wind specific R&D testing capabilities be significantly increased by the upgrades?
 - e. Will innovative testing methodologies be enabled by the upgrades?
2. New Facilities:
- a. What new facilities are needed in the U.S. in order to perform critical research that will facilitate offshore wind development in the U.S.?
 - b. How much would the new facilities cost (estimated)?
 - c. Do facilities of this type exist anywhere else in the world, in either the private or public sphere?
 - d. Could specific testing and data gathering capabilities be effectively incorporated into planned commercial offshore wind developments?

Category 3: Specific Experimental Testing and R&D that Requires National-Level Offshore Wind Test Facilities

1. Existing Facilities
- a. What specific experimental testing and R&D can be performed at an existing facility and how will it advance the offshore wind industry?
 - b. What are the highest priority experimental campaigns/R&D that can be conducted at the existing facility?
2. Upgraded Facilities
- a. What specific experimental testing and R&D could be performed at an upgraded facility and how will it advance the offshore wind industry?
 - b. Why are upgrades needed to perform the R&D?
 - c. What are the highest priority experimental campaigns/R&D that can be conducted at the upgraded facility?
3. New Facilities
- a. What specific experimental testing and R&D can be performed at a new facility and how will it advance the offshore wind industry?
 - b. Why is a new facility needed to perform the R&D?
 - c. What are the highest priority experimental campaigns/R&D that can be conducted at the new facility?

Request for Information Response Guidelines

Responses to this RFI must be submitted electronically to osw.rfi@ee.doe.gov no later than 5:00pm (ET) on September 14, 2018. Responses must be provided as attachments to an email. It is recommended that attachments with file sizes exceeding 25MB be compressed (i.e., zipped) to ensure message delivery. Responses must be provided as a Microsoft Word (.docx)

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attachment to the email, and no more than 10 pages in length, 12 point font, 1 inch margins. Only electronic responses will be accepted.

Please identify your answers by responding to a specific question or topic if applicable. Respondents may answer as many or as few questions as they wish.

EERE will not respond to individual submissions or publish publicly a compendium of responses. A response to this RFI will not be viewed as a binding commitment to develop or pursue the project or ideas discussed.

Respondents are requested to provide the following information at the start of their response to this RFI:

- Company / institution name;
- Company / institution contact;
- Contact's address, phone number, and e-mail address.

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