

U.S. DEPARTMENT OF ENERGY  
OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY  
NEPA DETERMINATION



RECIPIENT: New York State Energy Research and Development Authority

STATE: NY

PROJECT TITLE : National Offshore Wind Research and Development Consortium

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0001767	DE-EE0008390	GFO-0008390-047	GO8390

Based on my review of the information concerning the proposed action, as NEPA Compliance Officer (authorized under DOE Policy 451.1), I have made the following determination:

**CX, EA, EIS APPENDIX AND NUMBER:**

Description:

**A9 Information gathering, analysis, and dissemination** Information gathering (including, but not limited to, literature surveys, inventories, site visits, and audits), data analysis (including, but not limited to, computer modeling), document preparation (including, but not limited to, conceptual design, feasibility studies, and analytical energy supply and demand studies), and information dissemination (including, but not limited to, document publication and distribution, and classroom training and informational programs), but not including site characterization or environmental monitoring. (See also B3.1 of appendix B to this subpart.)

**B3.6 Small-scale research and development, laboratory operations, and pilot projects** Siting, construction, modification, operation, and decommissioning of facilities for smallscale research and development projects; conventional laboratory operations (such as preparation of chemical standards and sample analysis); and small-scale pilot projects (generally less than 2 years) frequently conducted to verify a concept before demonstration actions, provided that construction or modification would be within or contiguous to a previously disturbed or developed area (where active utilities and currently used roads are readily accessible). Not included in this category are demonstration actions, meaning actions that are undertaken at a scale to show whether a technology would be viable on a larger scale and suitable for commercial deployment.

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to provide funding to the New York State Energy Research and Development Authority (NYSERDA) to form a not-for-profit 501(c)(3) entity, the "National Offshore Wind Research and Development Consortium" which would be led by NYSERDA, along with key industry stakeholders and research institutions. The Consortium would finance research initiatives seeking to address the technical barriers faced by offshore wind developers, original equipment manufacturers (OEMs), and supply chain partners, with the goal of reducing the Levelized Cost of Electricity (LCOE) for U.S. offshore wind plants and increasing opportunities for U.S. manufacturing.

The proposed project is divided into four (4) Budget Periods (BPs). DOE previously completed NEPA reviews for BP1, 2, 3, and 4 (GFO-0008390-001 CX A1, A9, and A13, 10/09/2018; GFO-0008390-002 CX A1, A9, and A13, 01/13/2020; GFO-0008390-019 CX A1, A9, and A13, 12/02/2020; GFO-0008390-042 CX A1, A9, A11, and A13, 12/28/2021). In addition, DOE completed NEPA reviews for 16 subawards made by the consortium under Task 19 and 22 subawards made by the consortium under Task 27 as well as awards under an Annual Operating Plan to the National Renewable Energy Laboratory (various CX determinations and dates). This NEPA review is for a sub award proposed to be made under Task 35 to GE Research.

Task 35 in BP4 involves reviewing applications received in response to the solicitation released in Task 34, and then choosing specific projects which would receive a sub award. While NYSERDA is allowed under the previous NEPA determination to proceed with choosing projects under Task 35, all projects chosen for sub award are subject to additional NEPA analysis prior to NYSERDA contracting for the sub award and prior to any work being completed on the sub award.

Under this proposed sub award, GE Research would design and develop an autonomous multi-sensing system,

capable of inspecting fleets of turbines with minimal to no operational interruption, operating over a wide region while at-sea for long-duration missions. This would be accomplished by transferring advanced inspection and monitoring technologies from onshore to offshore wind while solving the challenges of collecting high-quality data at varying operation conditions (e.g., sea states). The activities would be performed over five tasks and approximately 12 months.

The at-sea portion of the project includes data collection onboard a vessel. Consultation with the National Marine Fisheries Service (NMFS) and the preparation of a Biological Evaluation may be required before this portion of the project can be reviewed. Accordingly, the task involving field work (Task 4) will be excluded from this review. This NEPA determination is to review Task 0, Task 1, Task 2, Task 3, and Task 5.

Task activities reviewed in this NEPA determination are explained below:

Task 0 would include project management and progress reporting. Activities would consist of submitting reports, holding meetings, and participating with a Project Advisory Board who would provide technical and commercial advice to the project team throughout the duration of the project.

Task 1 would include creating a conceptual design of a proof-of-concept (POC) multi-sensing system for use in conjunction with an autonomous vessel-based inspection of offshore wind turbines. The design would specifically focus on strategies for data quality enhancement. Ultimately, the autonomous vehicle would be controlled by a supervisor in a control room, directing it to inspect several turbines in a region via satellite connection. The system would use algorithms to target and track the moving component for data collection. During this task, key components of the POC would be down-selected and components would be procured (e.g., high-resolution camera, a camera-stabilizing mount, and packaging design for water ingress protection). Lab-based tests of the POC would be conducted to verify system operation and optimized to ensure optical clarity and prevent loss of image quality due to water ingress. The sensing system POC would be integrated with the unmanned surface vessel and a factory acceptance test would be conducted.

Task 2 would include lab-based feasibility studies on image acquisition control with the purpose of improving data collection quality. Advanced algorithms would be integrated to filter low-quality images. Simulations would be conducted to investigate the feasibility of the approach.

Task 3 would include the completion of a biological evaluation if deemed necessary.

Task 5 would include the completion of the final report.

The proposed activities would be performed in office and laboratory spaces at GE Research's facility in Niskayuna, NY and at XOCEAN Canada Limited in Dartmouth, Nova Scotia, Canada. Tasks would consist of intellectual, academic, analytical, and lab-based activities. GE Research and its project partners would observe all applicable Federal, state, and local health, safety, and environmental regulations.

Any work proposed to be conducted at a federal facility may be subject to additional NEPA review by the cognizant federal official and must meet the applicable health and safety requirements of the facility.

## **NEPA PROVISION**

DOE has made a conditional NEPA determination.

The NEPA Determination applies to the following Topic Areas, Budget Periods, and/or tasks:

**Budget Period 1**

Budget Period 2  
Budget Period 3  
Budget Period 4  
Sub Award to GE Research: Task 0 - Task 3, Task 5

The NEPA Determination does not apply to the following Topic Area, Budget Periods, and/or tasks:

Sub Award to GE Research: Task 4

All sub awards made under Task 35 (in Budget Period 4) will be subject to additional NEPA review prior to any work being completed on those projects.

Notes:

Wind Energy Technologies Office  
Review completed by Shaina Aguilar on 7/1/22.

#### FOR CATEGORICAL EXCLUSION DETERMINATIONS

The proposed action (or the part of the proposal defined in the Rationale above) fits within a class of actions that is listed in Appendix A or B to 10 CFR Part 1021, Subpart D. To fit within the classes of actions listed in 10 CFR Part 1021, Subpart D, Appendix B, a proposal must be one that would not: (1) threaten a violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health, or similar requirements of DOE or Executive Orders; (2) require siting and construction or major expansion of waste storage, disposal, recovery, or treatment facilities (including incinerators), but the proposal may include categorically excluded waste storage, disposal, recovery, or treatment actions or facilities; (3) disturb hazardous substances, pollutants, contaminants, or CERCLA-excluded petroleum and natural gas products that preexist in the environment such that there would be uncontrolled or unpermitted releases; (4) have the potential to cause significant impacts on environmentally sensitive resources, including, but not limited to, those listed in paragraph B(4) of 10 CFR Part 1021, Subpart D, Appendix B; (5) involve genetically engineered organisms, synthetic biology, governmentally designated noxious weeds, or invasive species, unless the proposed activity would be contained or confined in a manner designed and operated to prevent unauthorized release into the environment and conducted in accordance with applicable requirements, such as those listed in paragraph B(5) of 10 CFR Part 1021, Subpart D, Appendix B.

There are no extraordinary circumstances related to the proposed action that may affect the significance of the environmental effects of the proposal.

The proposed action has not been segmented to meet the definition of a categorical exclusion. This proposal is not connected to other actions with potentially significant impacts (40 CFR 1508.25(a)(1)), is not related to other actions with individually insignificant but cumulatively significant impacts (40 CFR 1508.27(b)(7)), and is not precluded by 40 CFR 1506.1 or 10 CFR 1021.211 concerning limitations on actions during preparation of an environmental impact statement.

DOE has determined that work to be carried out outside of the United States, its territories and possessions is exempt from further review pursuant to Section 5.1.1 of the DOE Final Guidelines for Implementation of Executive Order 12114; "Environmental Effects Abroad of Major Federal Actions."

A portion of the proposed action is categorically excluded from further NEPA review. The NEPA Provision identifies Topic Areas, Budget Periods, tasks, and/or subtasks that are subject to additional NEPA review.

#### SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: \_\_\_\_\_

  
NEPA Compliance Officer

Date: 7/1/2022

#### FIELD OFFICE MANAGER DETERMINATION

- Field Office Manager review not required  
 Field Office Manager review required

**BASED ON MY REVIEW I CONCUR WITH THE DETERMINATION OF THE NCO :**

Field Office Manager's Signature: \_\_\_\_\_

Field Office Manager

Date: \_\_\_\_\_