

PMC-ND
(1.08.09.13)

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

**RECIPIENT:** Verdant Power, Inc**STATE:** VA

PROJECT TITLE: Integrated Development and Comprehensive IO&M Testing at RITE of a KHPS TriFrame Mount

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0001310	DE-EE0007349	GFO-0007349-003	

Based on my review of the information concerning the proposed action, as NEPA Compliance Officer (authorized under DOE Order 451.1A), 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.)

B5.25 Small-scale renewable energy research and development and pilot projects in aquatic environments Small-scale renewable energy research and development projects and small-scale pilot projects located in aquatic environments. Activities would be in accordance with, where applicable, an approved spill prevention, control, and response plan, and would incorporate appropriate control technologies and best management practices. Covered actions would not occur (1) within areas of hazardous natural bottom conditions or (2) within the boundary of an established marine sanctuary or wildlife refuge, a governmentally proposed marine sanctuary or wildlife refuge, or a governmentally recognized area of high biological sensitivity, unless authorized by the agency responsible for such refuge, sanctuary, or area (or after consultation with the responsible agency, if no authorization is required). If the proposed activities would occur outside such refuge, sanctuary, or area and if the activities would have the potential to cause impacts within such refuge, sanctuary, or area, then the responsible agency shall be consulted in order to determine whether authorization is required and whether such activities would have the potential to cause significant impacts on such refuge, sanctuary, or area. Areas of high biological sensitivity include, but are not limited to, areas of known ecological importance, whale and marine mammal mating and calving/pupping areas, and fish and invertebrate spawning and nursery areas recognized as being limited or unique and vulnerable to perturbation; these areas can occur in bays, estuaries, near shore, and far offshore, and may vary seasonally. No permanent facilities or devices would be constructed or installed. Covered actions do not include drilling of resource exploration or extraction wells, use of large-scale vibratory coring techniques, or seismic activities other than passive techniques.

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to provide federal funding to Verdant Power, Inc. (Verdant) to conduct an integrated design process to develop, build, deploy and operate a TriFrame mounting structure with three Verdant Power Gen5 KHPS tidal water turbines at the Federal Energy Regulatory Commission (FERC) licensed Roosevelt Island Tidal Energy (RITE) Project in the East River of New York City, NY.

The proposed project would consist of three budget periods (BP). Two previous NEPA reviews were conducted which reviewed all activities for BP1 and BP2 (GFO-0007394-001, A9, March 14, 2016; GFO-0007394-002, A9, July 7, 2017). This NEPA review is for all BP 3 activities. BP 3 would include 9 tasks.

Tasks 1, 2, and 4 (there is no Task 3) would be limited to developing plans (including a risk management plan, deployment plan, operation and maintenance plan, and an environmental plan) and reporting.

Task 5 would include assembling the TriFrame device on shore. The TriFrame is a steel structure consisting of steel tubing assembled to create a triangle shaped frame. The dimensions of the steel triangle would be 15.6 meters per side. Mounted on each corner of the steel triangle would be a horizontal axis turbine. Each turbine would have a

foundation of approximate 3 meters in height, a shaft (or nacelle) approximately 4.3 meters from base to front of hub, and three blades with a swept area of 5 meters diameter. The TriFrame would be self-ballasting and designed to sit on the river bottom. Assembly of the device would occur on shore and it would be lifted with a crane onto a crane barge.

Task 6 would include making modifications to an existing shore based control room. This would include adding balance of systems components within the room, such as controls, meters, and inverters. No modifications to the existing control room facility and no ground breaking would be required.

Task 7 would include deployment of the TriFrame device. After assembly, the device would be lifted by crane onto a crane barge. The crane barge, along with a spud barge, transit barge, and support tugs, would then leave from the KT Marine facility in Perth Amboy, NJ and travel to the deployment site. The deployment site is the previously developed and FERC licensed Roosevelt Tidal Energy Project (RITE) site located on the East River in New York County, New York. The East River is a 17-mile-long tidal strait connecting the waters of the Long Island Sound with those of the Atlantic Ocean in New York Harbor. The East River is not a freshwater river, but rather a saltwater conveyance passage for tidal flow. Once at RITE the TriFrame would be lifted by the crane on the crane barge and lowered into the water. The deployment process would be completed in one day.

Six federally listed species are known to occur, or may occur, in the vicinity of the proposed RITE Project: the threatened green turtle and loggerhead turtle and the endangered shortnose sturgeon, Kemp's ridley turtle, leatherback turtle, and the Atlantic sturgeon. Harbor seals, not an ESA-listed species, are the only marine mammals that are known to occur in the vicinity of the proposed project. In a Federal Energy Regulatory Commission (FERC) Environmental Assessment (EA) (5/3/2011, Project No. 12611-005) for the RITE project area, the National Marine Fisheries Service (NMFS) concluded that the RITE project is not likely to adversely affect listed species and incidental harassment authorization would not be required for this project. Based on the approved monitoring activities under the FERC permit, the NMFS Biological Opinion, the minimal hours and temporary deployment of boat, and small scale of project, DOE has determined that the potential impacts to threatened and endangered species associated with the proposed deployment activities have been adequately evaluated by FERC and NMFS and no additional consultation is required at this time.

In conjunction with this proposed project Verdant would also continue compliance activities required by the RITE Project operating permits, FERC Pilot License, and other requirements. The FERC Pilot License is valid until December 31, 2021. All activities associated with this award which occur at the RITE site must be completed prior to that date.

Task 8 would include monitoring the deployed device and collecting data for a period of four months.

Task 9 would include a Retrieve and Replace operation. After the unit has been operating for four months, Verdant would perform a test maintenance project of retrieving the TriFrame, replacing one turbine, and replacing the TriFrame back into the river. To do this the same vessels which were utilized for initial deployment would again be mobilized. On day one of the operation, the TriFrame would be lifted from the river bed and onto the deck of the crane barge. On day two, one turbine would be disconnected from the TriFrame and a replacement turbine would be mounted. On day three, the TriFrame would be placed back into the river. After completion of the Retrieve and Replace operation the system will be recommissioned and data will again be collected.

Task 10 would include producing final technical report and data sets.

Based on the review of the proposal, DOE has determined the proposal fits within the class of action(s) and the integral elements of Appendix B to Subpart D of 10 CFR 1021 outlined in the DOE categorical exclusion(s) selected above. DOE has also determined that: (1) there are no extraordinary circumstances (as defined by 10 CFR 1021.410(2)) related to the proposal that may affect the significance of the environmental effects of the proposal; (2) the proposal has not been segmented to meet the definition of a categorical exclusion; and (3) the proposal is not connected to other actions with potentially significant impacts, related to other proposals with cumulatively significant actions, or an improper interim action. This proposal is categorically excluded from further NEPA review.

NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

If the Recipient intends to make changes to the scope or objective of this project, the Recipient is required to contact the Project

Officer, identified in Block 15 of the Assistance Agreement before proceeding. The Recipient must receive notification of approval from the DOE Contracting Officer prior to commencing with work beyond that currently approved. If the Recipient moves forward with activities that are not authorized for Federal funding by the DOE Contracting Officer in advance of a final NEPA decision, the Recipient is doing so at risk of not receiving Federal funding and such costs may not be recognized as allowable cost share.

Insert the following language in the award:

You are required to:

All activities associated with the TriFrame deployment at Roosevelt Tidal Energy Project must be completed in accordance with all requirements of the operating permits and the FERC Pilot License and must be completed prior to December 31, 2021 (unless the FERC Pilot License is extended).

Note to Specialist :

Water Power Program

This NEPA determination does require a tailored NEPA provision

NEPA review completed by Roak Parker 07/29/2018

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____

 Electronically
Signed By: Kristin Kerwin
NEPA Compliance Officer

Date: 7/30/2018

FIELD OFFICE MANAGER DETERMINATION

Field Office Manager review required

NCO REQUESTS THE FIELD OFFICE MANAGER REVIEW FOR THE FOLLOWING REASON:

- Proposed action fits within a categorical exclusion but involves a high profile or controversial issue that warrants Field Office Manager's attention.
- Proposed action falls within an EA or EIS category and therefore requires Field Office Manager's review and determination.

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

Field Office Manager's Signature: _____

Field Office Manager

Date: _____