

**U.S. DEPARTMENT OF ENERGY
EERE PROJECT MANAGEMENT CENTER
NEPA DETERMINATION**



RECIPIENT: Verdant Power, Inc.

STATE: NY

PROJECT TITLE : Improved Structure and Fabrication of Large, High-Power KHPS Rotors – Year 2

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000069	DE-FG36-08GO18168	GFO-09-017-001	GO18168

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 (including, but not limited to, literature surveys, inventories, audits), data analysis (including computer modeling), document preparation (such as conceptual design or feasibility studies, analytical energy supply and demand studies), and dissemination (including, but not limited to, document mailings, publication, and distribution; and classroom training and informational programs), but not including site characterization or environmental monitoring.
- B3.1** Onsite and offsite site characterization and environmental monitoring, including siting, construction (or modification), operation, and dismantlement or closing (abandonment) of characterization and monitoring devices and siting, construction, and associated operation of a small-scale laboratory building or renovation of a room in an existing building for sample analysis. Activities covered include, but are not limited to, site characterization and environmental monitoring under CERCLA and RCRA. Specific activities include, but are not limited to:
- B5.1** Actions to conserve energy, demonstrate potential energy conservation, and promote energy-efficiency that do not increase the indoor concentrations of potentially harmful substances. These actions may involve financial and technical assistance to individuals (such as builders, owners, consultants, designers), organizations (such as utilities), and state and local governments. Covered actions include, but are not limited to: programmed lowering of thermostat settings, placement of timers on hot water heaters, installation of solar hot water systems, installation of efficient lighting, improvements in generator efficiency and appliance efficiency ratings, development of energy-efficient manufacturing or industrial practices, and small-scale conservation and renewable energy research and development and pilot projects. The actions could involve building renovations or new structures in commercial, residential, agricultural, or industrial sectors. These actions do not include rulemakings, standard-settings, or proposed DOE legislation.

Rational for determination:

Verdant Power will use the DOE funding to design and test, both in lab and in-water, a next generation advanced waterpower technology: large, high power Kinetic Hydropower System (KHPS) rotors. This determination is being made for the project's Phase 2 tasks (tasks 8 – 11) which include prototype fabrication; test stand and in-water testing at the Roosevelt Island Tidal Energy (RITE) Project site; and project management activities. Phase 1 (Tasks 1 – 7) of the project received a CX A9 NEPA determination for data analysis, document preparation, conceptual design, and computer modeling.

Verdant Power is in the process of planning for implementation of their alternative energy project at the RITE site in the East Channel of the East River next to Roosevelt Island in New York. Specifically, Verdant Power seeks to complete a 2-week in-water test of a new composite KHPS turbine blade design. No electricity will be generated during the in-water testing. They have been operating under a joint permit for the RITE Project from the NYSDEC and USACOE with a newly approved extended expiration date of May 5, 2012. Verdant Power filed a formal permit modification request to NYSDEC and USACOE on August 24, 2010. This request package reflected input received from agencies during an August 3, 2010 meeting and a follow-up meeting with NOAA and USFWS.

On September 10, 2010, Verdant Power acted to reconfigure the RITE Project and delay the 2-week test to July/August 2011. Verdant advised the agencies of this on October 14, 2010 during a workshop on the monitoring requirements for the larger RITE Pilot Project. Verdant completed consultations in November and December and filed a FERC Final License Application (FLA) for the larger RITE Pilot Project on December 29, 2010.

The permit modification would allow for installation (and subsequent removal) of a KHPS composite rotor mounted on the existing Pile 1 at the RITE East Channel site to conduct a 2-week in-water test (July/August 2011).

Activities will include:

- Coordinate on-water activity with USCG
- Mobilization of barges and divers

- Installation of test rotor
- Installation of cabling and components
- Perform data acquisition
- Removal of equipment

Potential impacts to environmental resource areas will be minimal. There will be no impacts to water quality since all project components are sealed devices designed for underwater operations, and on-water boating activities will follow applicable controls and requirements. Noise impacts will be minimal during the equipment installation phase and underwater operations are not expected to generate significant levels of noise that may impact wildlife. Occupational and public health and safety will be protected by applicable safety signs, precautions, buoys, and U.S. Coast Guard controls for the area.

The 2-week test is currently being scheduled for the July/August 2011 timeframe, at a period of low fish abundance, therefore no additional fish monitoring is proposed and therefore any impacts to fish species in the river will be minimized. In accordance with direction from applicable agency staff, Verdant Power has discussed the permit modification with both NOAA and USFWS, which have concurred with the approach. Further, the temporary nature of the test will minimize any impacts to environmental resources.

This project comprises information gathering, data analysis, and document preparation and dissemination, therefore the DOE has categorized Phase 2 of this project as CX A9. Phase 2 also consists of site characterization and monitoring, including siting, construction (or modification), operation, and dismantlement or closing (abandonment) of characterization and monitoring devices, which constitutes a category of CX B3.1. And finally, Phase 2 activities include actions to conserve energy, demonstrate potential energy conservation, and promote energy-efficiency that do not increase the indoor concentrations of potentially harmful substances, and rates a category of CX B5.1.

NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

Insert the following language in the award:

You are required to:

You are restricted from taking any action using federal funds, which would have an adverse effect on the environment or limit the choice of reasonable alternatives prior to DOE providing either a NEPA clearance or a final NEPA decision regarding the project.

If Phase 2 of the project commences significantly later than the identified time period of January/February 2011, such that fish and avian abundance and interaction may be increased, further NEPA evaluation will be necessary.

Prohibited actions include: Any further major in-water activities associated with the larger RITE demonstration project of up to 30 turbines with DOE or cost-share funding.

Note to Specialist :

Please insert the above language into the terms and conditions of this award.

Laura Margason and Greg Fasano 9.16.2010

Modified by Cristina Tyler: 2.22.2011

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:


NEPA Compliance Officer

Date: 9/16/2010

3/17/11

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