

PMC-ND
(1.08.09.13)

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



RECIPIENT: NREL

STATE: CO

PROJECT TITLE: Blade Manufacturing for the Verdant Power NYC Tidal Turbines

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
	DE-AC36-08GO28308	NREL-20-014	GO28308

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:

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.
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Rationale for determination:

The U.S. Department of Energy's (DOE) National Renewable Energy Laboratory (NREL), in partnership with Verdant Power (as a subcontractor) and in support of NREL's Thermoplastic-Composite Blade Research Measurement Campaign, is proposing to manufacture, test and validate a thermoplastic-fiberglass composite blade for use on a tidal energy turbine. The objective of the project is to demonstrate the structural properties of thermoplastic-fiberglass composite blades compared to epoxy blades in seawater environments on an operational turbine at a tidal energy site.

Design, manufacturing and testing activities would be conducted at NREL's Flatirons Campus, located southeast of the intersection of Colorado Highway (CO) 93 and CO-128, in Jefferson County, Colorado. Validation activities would be conducted on Verdant's Gen5d KHPS turbine located at their Federal Energy Regulatory Commission (FERC) licensed Roosevelt Island Tidal Energy (RITE) site in the East River of New York City, NY.

NREL researchers would develop and manufacture a tidal energy blade, using blade molds provided by Verdant, utilizing the capabilities of the Flatirons Campus CoMET facility. The completed blades would then undergo structural testing at the site's Structural Testing Facility. Once complete, the blade would be shipped to Verdant Power where it would be put onto their turbine. Together, NREL researchers and Verdant would apply instrumentation to the blades for collecting blade-load data during the in-water testing phase.

The blades would be tested at Verdant's RITE site for approximately six months. After testing, Verdant would remove the blades and ship them back to NREL Flatirons Campus for additional testing and data collection.

Project manufacturing and testing take place in dedicated facilities (CoMET and STL) designed for this type of work. Laboratory tasks associated with the project would involve chemicals and materials typically used at the CoMET and no new equipment or infrastructure would be needed to support the project. Employees would follow existing NREL health and safety policies; and procedures would be followed including employee training, proper protective equipment, engineering controls, monitoring, and internal assessments.

Blade testing would be conducted at Verdant's RITE site. This site is an existing tidal energy site with a current license with the Federal Energy Regulatory Commission (FERC).

NEPA reviews were conducted by FERC and DOE for federal licensing and financial assistance actions for the Verdant RITE project. NREL's proposed project to test research blades at this location is consistent with actions covered in those reviews. Consistent with previous NEPA determinations, project activities 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).

NEPA PROVISION

DOE has made a final NEPA determination.

Notes:

[NEPA review completed by Laura Margason on 2/4/2020](#)

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.

The proposed action is categorically excluded from further NEPA review.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:  **Electronically Signed By: Lisa Jorgensen** Date: 2/5/2020
NEPA Compliance Officer

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: _____ Date: _____
Field Office Manager