

PMC-ND
(1.08.09.13)

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

**RECIPIENT:** CalWave Power Technologies Inc**STATE:** CA**PROJECT TITLE:** Holistic Control Embedded Power Take Off (PTO) Development

| Funding Opportunity Announcement Number | Procurement Instrument Number | NEPA Control Number | CID Number |
|--|--------------------------------------|----------------------------|-------------------|
| DE FOA 0001837 | DE-EE0008632 | GFO-0008632-001 | |

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 California Wave Power Technologies, LLC (CalWave) to design, assemble, and conduct laboratory bench testing of a hydraulic Power Takeoff (PTO) system which could be used within a Wave Energy Converter (WEC).

The proposed project would include modeling and design work for system components, including circuits, controls, hydraulics, and PTO integration. Design work would be completed by CalWave at the University of California at Berkeley (UC Berkeley).

Individual components would be procured off the shelf from manufacturers who regularly produce such components. Individual component bench testing would be completed by CalWave at the Department of Civil and Environmental Engineering Building at UC Berkeley as well as at the Center for Compact and Efficient Fluid Power at the University of Minnesota (U of M). After the testing of components, individual components would be assembled into the PTO, which would be bench tested at UC Berkeley. These two facilities are existing University laboratory facilities designed to conduct the proposed type of work.

After testing CalWave would conduct analysis and assessment of test results and compile and document those results in a final report.

Work at UC Berkeley and U of M would involve physical testing of hydraulic and electrical circuits in a laboratory environment. This would include the use of compressed gases and high voltage electrical equipment, and would include the use of up to 50 gallons of biodegradable hydraulic oil. Existing University and engineering department health and safety procedures and policies would be followed including employee training, proper protective equipment, tag-out tag-in procedures, engineering controls, monitoring, safety switches and limits. No modifications to any facilities or new permits would be required for the proposed work. All used hydraulic oil would be recycled.

NEPA PROVISION

DOE has made a final NEPA determination.

Notes:

This NEPA determination does NOT require a tailored NEPA provision.
Water Power Technology Office
NEPA review completed by Roak Parker 3/28/19

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:  _____
NEPA Compliance Officer

Date: 4/2/2019

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: _____