

PMC-ND

(1.08.09.13)

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



RECIPIENT: IDOM INCORPORATED

STATE: MN

PROJECT TITLE: MARMOK-OWC

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0002080	DE-EE0008952	GFO-0008952-001	G08952

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.

B5.15 Small-scale renewable energy research and development and pilot projects Small-scale renewable energy research and development projects and small-scale pilot projects, provided that the projects are located within a previously disturbed or developed area. Covered actions would be in accordance with applicable requirements (such as local land use and zoning requirements) in the proposed project area and would incorporate appropriate control technologies and best management practices.

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to provide funding to IDOM Incorporated (IDOM) to advance towards future commercial viability IDOM's floating Oscillating Water Column (OWC) technology. Project goals would be achieved through modeling and design, planning, fabrication and testing of a small scale OWC.

IDOM would engage in modeling and design work, as well as planning, for the possible future deployment of the OWC. Design work would include systems engineering, OWC design, mooring configuration and design, structural analysis and design, Power Take-Off analysis and design, control and electrical subsystem designs, and performance metrics. Planning work would include commercialization and risk management plans. Design and planning work would be completed by IDOM in their offices in Minneapolis, MN and Bilbao, Spain. Work would be supported by Sandia National Laboratories in Albuquerque, NM and the National Renewable Energy Lab in Golden, CO.

After initial design work, IDOM would fabricate and tank test a scale model of the OWC. The scale model OWC would be constructed of aluminum and steel, and would be approximately 1.6 feet in diameter, 6.5 feet long and weigh 65 pounds, without ballast. The scale model OWC would then be tank tested. Once ballasted with water in a test tank the OWC would weigh approximately 130 pounds.

The OWC would be fabricated at a preexisting fabrication facility that regularly fabricates metal components such as the OWC. Fabrication would take place at a facility close to the chosen testing site. Any fabrication facility chosen to fabricate the small scale OWC would be required by IDOM to have a quality assurance system, a waste management system, and appropriate health and safety procedures, including employee training, proper protective equipment, and engineering controls.

Tank testing would occur at a preexisting tank test facility. Currently being considered are the tank test facilities at the University of Iowa, Ames, Iowa; Texas A&M, College Station, TX; University of Maine, Orono, ME; or other pre-existing University tank testing facility. A decision regarding which facility to use will be dependent upon facilities abilities to test the design requirements as identified in the first part of the project. All tank test facilities are preexisting indoor facilities that regularly test devices such as the one in this project. All facilities have, and would follow, existing University health and safety procedures during testing.

Following testing additional analysis and design work would be completed based on data gathered during tank testing.

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 final NEPA determination.

Notes:

Water Power Technologies Office

This NEPA determination does not require a tailored NEPA provision.

Review completed by Roak Parker, 4/6/2020

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.

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."

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: **Roak Parker**
NEPA Compliance Officer

Date: 4/6/2020

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: _____