

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:** Current turbines Mobile Testing Vessel

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0002234	DE-EE0009452	GFO-0009452-001	

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.)

A11 Technical advice and assistance to organizations Technical advice and planning assistance to international, national, state, and local organizations.

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to provide funding to IDOM to design, fabricate, test and maintain an open water non-grid connected current (tidal, river, or ocean current) energy converter test vessel, known as a Mobile Testing Vessel (MTV). The proposed project would be conducted over two Budget Periods. This NEPA review is for design work only and covers only Tasks 1 to 3, subtasks 4.1 to 4.8, subtasks 4.10 to 4.12, and Task 5 in Budget Period 1. Remaining Budget Period 1 tasks, as well as all Budget Period 2 tasks, which would include fabrication, testing and maintenance, are dependent upon the outcomes of reviewed tasks, and thus will be reviewed after additional information is provided.

Task 1 to 4.8, 4.10 to 4.12, and Task 5 would be limited to the planning and design process of the MTV. The MTV would be an approximate 2400 square foot platform with a moon pool at the center within which current energy devices could be lowered. The MTV would be designed to include, among other components, anchoring and mooring systems, hatches, control rooms, antennas, electronic components, towing systems, docking systems, a crane, communication antennas.

In Task 1 IDOM would conduct project management for the project and develop quality assurance and risk management plans.

In Task 2, IDOM would be limited to systems engineering work. This would include identification of design requirements.

In Task 3, IDOM would begin the design process and would begin developing plans. This would include load calculations, a design outline, a structural design, anchoring design, mooring design, support structure design, control system and instrumentation design, electrical systems design, as well as an operations and maintenance design and plan, and a preliminary business plan. IDOM would also begin work to identify necessary NEPA and permitting requirements.

In Task 4, (specifically subtasks 4.1 to 4.8 and 4.10 to 4.12) after a design review, IDOM would produce a more detailed design including designs of the structure, anchor systems, mooring systems, control systems, electrical systems ocean and river operations, and ancillary systems and components. IDOM would also update and undertake the NEPA and permitting requirements and update the business plan.

In Task 5 IDOM would prepare information gained in completed tasks for and present that information to DOE for a Go/No-Go review.

All work in Tasks 1, 2, 3, 4.1 to 4.8 and 4.10 to 4.12, and Task 5 would be academic in nature and would include information gathering, design, engineering, and analysis. All work would be completed by IDOM at their offices in Minnesota and Spain. Technical assistance on these tasks would be received by IDOM from the National Renewable Energy Laboratory, Sandia National Laboratory, and Pacific Northwest National Laboratory.

Under task 4.9 and 4.13 IDOM would, if necessary, fabricate a model of the MTV for tank testing and then test the model in a wave tank. Information regarding fabrication, components, and testing, including proposed project locations for these activities, is not available and thus these subtasks cannot be meaningfully evaluated at this time.

In Budget Period 2 IDOM would fabricate and test the MTV. Fabrication and component information is not available at this time, and is dependent upon result of Budget Period 1. Thus, those tasks cannot be meaningfully evaluated at this time. Further, specific testing types and locations are not known, thus testing cannot be meaningfully evaluated at this time. IDOM will need to develop specific test plans including types of devices to be tested, length and type of testing, and location of testing before testing can be evaluated. Further, IDOM will need to prepare supporting information regarding environmental impacts, including any potential impacts to Endangered Species Act listed species, Essential Fish Habitat, and Marine Mammals, so that DOE can meaningfully evaluate those impacts and engage in consultation as necessary.

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 conditional NEPA determination.

The NEPA Determination applies to the following Topic Areas, Budget Periods, and/or tasks:

Budget Period 1

Task 1: Project Management

Task 2: Systems Engineering

Task 3: MTV Analysis of Design Alternatives

Task 4:

4.1 Ocean and river operations design

4.2 Permitting and NEPA compliance

4.3 Updated business plan development

4.4 Design consolidation

4.5 Structural detailed design

4.6 Anchoring detailed design

4.7 MTV ancillary systems detailed design

4.8 CEC supporting structure detailed design

4.10 MTV control system & instrumentation detailed design

4.11 Electrical System detailed design

4.12 Ocean and river operations detailed design

Task 5 – BP1 review and BP2 continuation negotiation

The NEPA Determination does not apply to the following Topic Area, Budget Periods, and/or tasks:

Budget Period 1

Task 4:

4.9 Tank Test Plan

4.13 Tank testing

Budget Period 2

All Tasks

Notes:

Water Power Technologies Office

This NEPA determination does require a tailored NEPA provision.

Review completed by Roak Parker, 08/18/2021

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."

A portion of the proposed action is categorically excluded from further NEPA review. The NEPA Provision identifies Topic Areas, Budget Periods, tasks, and/or subtasks that are subject to additional 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: 8/18/2021

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: _____