

PMC-ND
(1.08.09.13)

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



RECIPIENT: University of Maine

STATE: ME

PROJECT TITLE : Interactions of aquatic animals with the ORPC TidGen(R) in Cobscook Bay, ME: Monitoring behavior change and assessing the probability of encounter with a deployed MHK device

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| Funding Opportunity Announcement Number | Procurement Instrument Number | NEPA Control Number | CID Number |
| DE-FOA-0000816 | 0006384 | | |

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, 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.)
- B3.3 Research related to conservation of fish, wildlife, and cultural resources** Field and laboratory research, inventory, and information collection activities that are directly related to the conservation of fish and wildlife resources or to the protection of cultural resources, provided that such activities would not have the potential to cause significant impacts on fish and wildlife habitat or populations or to cultural resources.

Rationale for determination:

The Department of Energy, (DOE) is proposing to provide funding to the University of Maine which would build on research started in 2010 under award DE-EE0000298 in Cobscook Bay, near Eastport, Maine. This would enable the continuation of long-term monitoring of fish near a marine hydrokinetic (MHK) device, improve acoustic target identification to aid in assessing the possible effects of an MHK device on species or groups of species, and implement a probability of encounter model pertinent to understanding large-scale, long-term effects of an MHK device on local fish abundance and distribution.

The proposed action would include developing a probability of encounter model to assess the natural occurrence of interactions with static and dynamic features of the device, therefore informing blade strike incidence. Specific objectives would include (i) continuation of a long-term seasonal hydroacoustic dataset near an MHK device; (ii) application of new analytical methods to hydroacoustic datasets to improve species identification; and (iii) development of an encounter probability model using data on fish abundance, and vertical distribution, and behavior data collected near an MHK device. These objectives would be met using established down-looking and side-looking hydroacoustic monitoring techniques, decibel (dB) differencing methods for separating fish by presence or absence of swimbladder; and Generalized Linear Models to predict the likelihood of fish interaction with the MHK device, incorporating environmental variables such as seasonal, diel and tidal cycles.

All data processing, analysis and field equipment preparation would occur at the University of Maine campus, Libby Hall in Orono, Maine.

This NEPA determination applies to the following tasks:

- Task 1 - Development of a detailed work plan, including timing, length, and methodological details for each proposed task.
- Task 2 - Develop dB differencing methods for down-looking hydroacoustics data.
- Task 3 - Develop probability of encounter model.
- Task 4 - Collect down-looking hydroacoustics data at a control site (March, May, August, and November) and at the OCGen® site and the control site for four consecutive weeks while the device is deployed; and 5 benthic and pelagic trawl samples in May (1), Jun/Jul (3), and Aug (1).
- Task 5 - Collect side-looking hydroacoustics data at TidGen® site.
This task is funded under another award, but is listed here since that data analysis is part of this award. While the TidGen® is no longer deployed, the monitoring system is still functional. The contractor continues to collect side-looking acoustics data at the TidGen® site.
- Task 6 - Side-looking hydroacoustics data analysis

- Task 7 - Down-looking hydroacoustics data analysis (of 2014 data)
- Task 8 - Finalize dB differencing – incorporating 2014 data with baseline data (2010 – 2013)
- Task 9 - Finalize probability of encounter model – incorporating 2014 data with baseline data (2010 – 2013)
- Task 10 - Finalize side-looking hydroacoustics data assessment
- Task 11 - Project Management and final reporting

DOE has determined that all proposed project tasks and activities proposed for these are consistent with actions defined in DOE categorical exclusion under A9, "Information gathering, analysis, and dissemination" and B3.3 "Research related to conservation of fish, wildlife, and cultural resources," and are categorically excluded from further NEPA review. However, DOE must conduct required Endangered Species Act consultations for activities associated with Task 4.0. Authorization for federal funds for the collection of down-looking hydroacoustics data at a control site and at the OCGen® site is subject to the completion of ESA consultations. The recipient is restricted from initiating these activities until all consultations are complete.

NEPA PROVISION

DOE has made a conditional NEPA determination for this award, and funding for certain tasks under this award is contingent upon the final NEPA determination.

Insert the following language in the award:

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

Prohibited actions include:

Task 4 – Collect down-looking hydroacoustics data at a control site (March, May, August, and November) and at the OCGen® site and the control site for four consecutive weeks while the device is deployed; and in five benthic and pelagic trawl samples in May (1), June/July (3) and Aug (1).

This restriction does not preclude you from:

Tasks 1, 2, 3, 5, 6, 7, 8, 9, 10, and 11

If you move forward with activities that are not authorized for federal funding by the DOE Contracting Officer in advance of the final NEPA decision, you are doing so at risk of not receiving federal funding and such costs may not be recognized as allowable cost share.

Insert the following language in the award:

You are required to:

DOE must complete Section 7 Endangered Species Act consultations prior to DOE authorizing funds for collecting down-looking hydroacoustics data activities under Task 4. The recipient is restricted from initiating collection of down-looking hydroacoustic data until all consultations are complete and notification has been received by DOE. The DOE Contracting Officer will notify the recipient in writing, when the consultation has been completed and of any mitigation measures that must be implemented for down-looking hydroacoustic data collection activities.

Note to Specialist :

Requires a tailored NEPA provision.

Completed by Diana Heyder 12/17/2013

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____

 Electronically Signed By: Lori Gray
NEPA Compliance Officer

Date: 12/17/2013

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