

PMC-ND  
(1.08.09.13)

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

**RECIPIENT:** Igiugig Village Council**STATE:** ME

**PROJECT TITLE:** Next Generation MHK River Power System, Optimized for Performance, Durability and Survivability

| <b>Funding Opportunity Announcement Number</b> | <b>Procurement Instrument Number</b> | <b>NEPA Control Number</b> | <b>CID Number</b> |
|--|--------------------------------------|----------------------------|-------------------|
| DE-FOA-0001310                                 | DE-EE0007348                         | GFO-0007348-002            | GO7348            |

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.)

**B3.6 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 federal funding to the Igiugig Village Council (IVC) to implement, test and validate system improvements which have been identified through IVC and Ocean Renewable Power Company's (ORPC) prior experience of constructing, installing, operating and maintaining the RivGen® Power System in the Kvichak River at Igiugig, Alaska.

The proposed IVC project is one of three proposed projects selected under the Funding Opportunity Announcement DE-FOA-0001310. Each of the three proposed projects would consist of three budget periods (BP). DOE completed a previous NEPA determination for this project (GFO-00007348-001, CX A9, 3/14/2016). This review is for BP2 and BP3 (Tasks 7 – 15).

The RivGen® Power System is a hydrokinetic horizontal access turbine approximately 19.5 meter long by 3.4 meter high by 13.1 meter wide tidal energy power device. The device contains a vertical fairing over the generator, mounted in the center of the device. It also contains a horizontal fairing located below the turbines.

Tasks 7 - 15 would include design modifications, development of test and risk management plans, market analysis, obtaining necessary permits, lab testing of system components, open water testing of system components, deployment and testing of the system, decommissioning, and final reporting. All tasks would include work that is analytical in nature, as described above. All analytical work would be conducted at ORPC's corporate facility in Portland, Maine.

Task 7 would also include testing of components. Component testing would include both tank testing to test the buoyancy of the system as well as bench testing of individual system components. All tests would occur at ORPC facilities or at vendor facilities that normally conduct such tests.

Task 7.3 would include a full scale anchor test in the Kvichak River. Task 14 would include deployment for up to one

year in the Kvichak River. For these in water tests and deployment ORPC would utilize small aluminum fishing boats (32 feet and 18 feet in length) and a small flexi barge to deploy the devices. For the anchor test ORPC would place the anchor within the river at the approximate proposed location for the device and then test the loaded holding power of the anchor. In Task 14, ORPC would deploy the device in the Kvichak River and test the device for up to one year.

In 2015, ORPC completed a biological evaluation to evaluate potential impacts to threatened or endangered species (T&E species) as well as an Essential Fish Habitat (EFH) assessment, both for the earlier deployments of the proposed project and the proposed project site. The BE determined that the project is possibly within the range of the migration route of the Steller's eider, which was listed as threatened in 1997. During informal consultation with the U.S. Fish and Wildlife Service (USFWS) it was determined that the project would not impact the Stellar eider as the project would be on or under the river and the eider, if migrating through the area, would fly over and not land on or near the vicinity of the river. The USFWS determined that additional consultation with DOE regarding the project was not necessary. The EFH assessment determined no effect to Essential Fish Habtat. The Igiugig Village Council (IVC) has also consulted with the USFWS under section 7 of the Endangered Species Act, through which it was determined that no threatened or endangered species commonly occur in the vicinity of the project. There have been no actions or changes in circumstances which would require DOE to reinitiate consultation since the 2015 consultation. As such, DOE has determined that the proposed project would have no effect to T&E species or EFH. ORPC has entered into a Memorandum of Understanding with the Igiugig Village Council to act on IVC's behalf with respect to permitting. ORPC has obtained, or is in the process of obtaining all necessary permits, including permits from USACE, AK Department of Natural Resources, and FERC.

Task 11.2 would include testing of device deployment and retrieval. For the deployment and retrieval tests ORPC would conduct in water tests to verify system reliability, stability and operational requirements. The location for the testing which would be conducted in Task 11.2 has not yet been determined. As such, there is not enough information available for DOE to complete a meaningful review of this activity.

Based on the review of the proposal, DOE has determined that Tasks 7, 8, 9, 10, 12, 13, 14, 15 and Subtasks 11.1 and 11.3 of the proposal fit within the class of action(s) and the integral elements of Appendix B to Subpart D of 10 CFR 1021 outlined in the DOE categorical exclusion(s) selected above. DOE has also determined that: (1) there are no extraordinary circumstances (as defined by 10 CFR 1021.410(2)) related to the proposal that may affect the significance of the environmental effects of the proposal; (2) the proposal has not been segmented to meet the definition of a categorical exclusion; and (3) the proposal is not connected to other actions with potentially significant impacts, related to other proposals with cumulatively significant actions, or an improper interim action. Tasks 7, 8, 9, 10, 12, 13, 14, 15 and Subtasks 11.1 and 11.3 of this proposal are categorically excluded from further NEPA review.

## 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:

Subtask 11.2: Device deployment, retrieval, and operations tests

This restriction does not preclude you from:

All BP 1 Tasks

Task 7

Task 8

Task 9

Task 10

Task 12

Task 13

Task 14

Task 15

Sustask 11.1

**Subtask 11.3**

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.

Note to Specialist :

**Water Power Program**

This NEPA Determination requires a tailored NEPA provision  
NEPA review completed by Roak Parker 7/27/2018

**SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.**

NEPA Compliance Officer Signature:  **Electronically Signed By: Kristin Kerwin** Date: **7/27/2018**  
NEPA Compliance Officer

**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 Manager's attention.
- Proposed action falls within an EA or EIS category and therefore requires Field Office Manager's review and determination.

**BASED ON MY REVIEW I CONCUR WITH THE DETERMINATION OF THE NCO :**

Field Office Manager's Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Field Office Manager