

**GENERIC CATEGORICAL EXCLUSION FOR SMALL-SCALE RENEWABLE ENERGY  
RESEARCH AND DEVELOPMENT AND PILOT PROJECTS IN AQUATIC ENVIRONMENTS  
PACIFIC NORTHWEST NATIONAL LABORATORY, RICHLAND, WASHINGTON**

**Proposed Action**

Pacific Northwest National Laboratory (PNNL) proposes to deploy and operate equipment in aquatic environments for the purpose of renewable energy research and development and pilot projects.

**Location of Action**

The actions may occur in freshwater and/or marine aquatic environments throughout the United States, including the Outer Continental Shelf.

**Description of the Proposed Action**

The proposed action includes, but is not be limited to, the installation or deployment, and operation of, instrumentation and equipment to characterize renewable energy resources; instrumentation to monitor and evaluate the potential environmental and biological impacts of technologies that harvest renewable energy resources; and small-scale pilot projects to test new means to harvest renewable energy resources. Instrumentation may include, but is not limited to, passive devices to monitor meteorological and aquatic physical parameters, and active devices such as sonar or lidar or other technologies to characterize and monitor resources. Small-scale research and development and pilot projects may be installed to characterize, monitor, or utilize solar, wind, wave, tidal, or other aquatic renewable energy resources. Devices may be set on the bottom substrate, or may be attached to boats, rafts, piers, or buoys of any size.

**Biological and Cultural Resources**

Installation and operation of research and development equipment or pilot projects is not likely to result in adverse impacts to sensitive biological or cultural resources. Biological and cultural resource reviews will be conducted prior to deployment and operation to assure that impacts to sensitive resources are avoided or minimized.

The biological resource review will identify the occurrence of federal and state protected species in the project area such as avian species protected under the Migratory Bird Treaty Act; plant and animal species protected under the Endangered Species Act (ESA), including candidates for such protection; species listed as threatened or endangered by the state where the project is located; species protected under the Marine Mammal Protection Act (MMPA); and essential fish habitat as defined by the Magnuson-Stevens Fisheries Conservation and Management Act (MSA). Resource review recommendations will be followed during deployment and operation to assure there are no adverse impacts to sensitive species and resources.

The cultural resource review will assure that impacts to sensitive cultural resources are avoided. Consultation with the State Historic Preservation Office and/or affected tribes, if deemed necessary, would be initiated before project implementation.

If the biological and/or cultural resource review determines that significant resources may be adversely affected, the conclusions of this categorical exclusion (CX) would need to be reevaluated, and either the site would not be used, mitigation measures would be developed to render the impacts not significant, or additional National Environmental Policy Act (NEPA) analysis and review would be performed.

**Categorical Exclusion to Be Applied**

The following CX, as listed in the U.S. Department of Energy (DOE) NEPA implementing procedures, Title 10 of the Code of Federal Regulations (CFR) Part 1021, Subpart D, Appendix B, would apply to the proposed action:

**B5.25** Small-scale renewable energy research and development projects and small-scale pilot projects located in aquatic environments. Activities would be in accordance with, where applicable, an approved spill prevention, control, and response plan, and would incorporate appropriate control technologies and best management practices. Covered actions would not occur (1) within areas of hazardous natural bottom conditions or (2) within the boundary of an established marine sanctuary or wildlife refuge, a governmentally proposed marine sanctuary or wildlife refuge, or a governmentally recognized area of high biological sensitivity, unless authorized by the agency responsible for such refuge, sanctuary, or area (or after consultation with the responsible agency, if no authorization is required). If the proposed activities would occur outside such refuge, sanctuary, or area and if the activities would have the potential to cause impacts within such refuge, sanctuary, or area, then the responsible agency shall be consulted in order to determine whether authorization is required and whether such activities would have the potential to cause significant impacts on such refuge, sanctuary, or area. Areas of high biological sensitivity include, but are not limited to, areas of known ecological importance, whale and marine mammal mating and calving/pupping areas, and fish and invertebrate spawning and nursery areas recognized as being limited or unique and vulnerable to perturbation; these areas can occur in bays, estuaries, near shore, and far offshore, and may vary seasonally. No permanent facilities or devices would be constructed or installed. Covered actions do not include drilling of resource exploration or extraction wells, use of large-scale vibratory coring techniques, or seismic activities other than passive techniques.

**Eligibility Criteria**

The proposed action meets the eligibility criteria of 10 CFR 1021.410(b) because the proposed action does not have any extraordinary circumstances that might affect the significance of the environmental effects, 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 environmental impact statement preparation.

As discussed below, the “Integral Elements” of 10 CFR 1021 Subpart D, Appendix B are satisfied for this project.

| <b>INTEGRAL ELEMENTS, 10 CFR 1021, Subpart D, Appendix B (1)-(5)</b>  |  |
|---|--|
| <b>Would The Proposed Action:</b>   | <b>Evaluation:</b>   |
| Threaten a violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health? | The proposed action would not threaten a violation of regulations or DOE or Executive Orders. Appropriate permits would be acquired prior to project implementation.   |
| Require siting and construction or major expansion of waste storage, disposal, recovery, or treatment facilities?     | No waste management facilities would be constructed under this CX. Any generated waste would be managed in accordance with applicable regulations in existing facilities. Waste disposal pathways would be identified prior to generating waste and waste generation would be minimized. |

| <b>INTEGRAL ELEMENTS, 10 CFR 1021, Subpart D, Appendix B (1)-(5)</b>   |  |
|--|--|
| <b>Would The Proposed Action:</b>  | <b>Evaluation:</b>   |
| Disturb hazardous substances, pollutants, or contaminants that preexist in the environment such that there would be uncontrolled or unpermitted releases?  | No preexisting hazardous substances, pollutants, or contaminants would be disturbed by the proposed action in a manner that would result in uncontrolled or unpermitted releases.  |
| Have the potential to cause significant impacts on environmentally sensitive resources, including but not limited to: <ul style="list-style-type: none"> <li>• protected historic/archaeological resources</li> <li>• protected biological resources and habitat</li> <li>• jurisdictional wetlands, 100-year floodplains</li> <li>• Federal- or state-designated parks and wildlife refuges, wilderness areas, wild and scenic rivers, national monuments, marine sanctuaries, national natural landmarks, and scenic areas</li> <li>• prime or unique farmland</li> <li>• special sources of water, such as sole-source aquifers</li> <li>• tundra, coral reefs, or rainforest.</li> </ul> | <p>No environmentally sensitive resources would be adversely affected. Resource reviews would be conducted for special circumstances. Refer to the Biological and Cultural Resources section for details regarding the application of cultural and biological resource reviews.</p> <p>The proposed action would not adversely affect floodplains, wetlands regulated under the Clean Water Act, national monuments, or other specially designated areas, prime agricultural lands, special sources of water, or other special habitats.</p> <p>As described above, activities would not occur within or near special and/or sensitive aquatic areas without close coordination with the federal and/or state agencies responsible for the area.</p> |
| Involve genetically engineered organisms, synthetic biology, governmentally designated noxious weeds, or invasive species?   | The proposed action would not involve the use of genetically engineered organisms, synthetic biology, governmentally designated noxious weeds, or invasive species.  |

Checklist Summarizing Environmental Impacts: The following checklist summarizes environmental impacts considered when preparing this CX determination. Answers to relevant questions are explained in detail following the checklist.

| <i>Would the Proposed Action:</i>  | <b>YES</b> | <b>NO</b> |
|--|------------|-----------|
| 1 Result in more than minimal air impacts?   |            | X         |
| 2 Increase offsite radiation dose measurably?                                      |            | X         |
| 3 Require a radiological work permit?  |            | X         |
| 4 Cause more than a minor or temporary increase in noise level?                    | X          |           |
| 5 Discharge any liquids to the environment?  |            | X         |
| 6 Require a Spill Prevention Control and Countermeasures plan?                     | X          |           |
| 7 Require an excavation permit (e.g., for test pits, wells, utility installation)? |            | X         |
| 8 Disturb an undeveloped area?   |            | X         |
| 9 Use carcinogens, hazardous, or toxic chemicals/materials?                        |            | X         |
| 10 Involve hazardous, radioactive, polychlorinated biphenyl, or asbestos waste?    |            | X         |
| 11 Require environmental permits?  | X          |           |

**Explanations**

- Some of the equipment, especially active sonar, may result in more than a minor increase in noise in the air and/or aquatic environments. The impacts of this will be carefully evaluated for each action, appropriate agencies will be consulted if necessary, for instance with NOAA under the MMPA, and mitigation measures identified and instituted if needed.

6. Some equipment, such as oceanographic buoys or other devices, could carry diesel fuel for an emergency generator. The fuel tanks will be certified and pressure tested, and when possible, the internal buoy compartments will provide double containment in case of fuel tank failure or leakage. The tanks will be filled at an onshore marina prior to deployment and existing spill-prevention procedures developed for the marina will be followed. Project personnel will assure that the marina has all required spill-response equipment readily available at the fuel dock prior to fueling. For mid-deployment servicing, the buoy will either be towed to shore and the tanks refilled at a marina with spill-prevention equipment or the tanks will be refilled at sea under an approved spill prevention and control program, and the servicing crew will assure that all required spill prevention and response equipment is available on board before leaving shore.
  
11. Depending on the specifics of the equipment and proposed location, permits may be required from federal, state, and local agencies. These permits may include permits from the U.S. Army Corps of Engineers under Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act, navigation aid permits from the U.S. Coast Guard, federal permits under the ESA, MMPA, or MSA, state fish and wildlife permits, aquatic leases, and local shoreline development permits, among others.

**Compliance Action**

I have determined that the proposed action satisfies the DOE NEPA eligibility criteria and integral elements, does not pose extraordinary circumstances, and meets the requirements for the CX referenced above. Therefore, using the authority delegated to me by DOE Order 451.1 B, Change 3, I have determined that the proposed action may be categorically excluded from further NEPA review and documentation.

Signature:  Date: 6-4-15  
Thomas M. McDermott  
PNSO NEPA Compliance Officer

cc: MR Sackschewsky, PNNL