

**SITEWIDE CATEGORICAL EXCLUSION FOR OUTDOOR TESTS ON MATERIALS AND COMPONENTS, PACIFIC NORTHWEST NATIONAL LABORATORY, RICHLAND, WASHINGTON**

**Proposed Action:**

The U.S. Department of Energy (DOE) Pacific Northwest Site Office (PNSO) proposes to conduct outdoor tests and experiments on materials and equipment components under controlled conditions. No source, special nuclear, or byproduct materials would be involved, but encapsulated radioactive sources manufactured to applicable standards or other radiological materials could be used in activities under this categorical exclusion (CX).

**Location of Action:**

The locations would include DOE property at the Pacific Northwest National Laboratory (PNNL) Site and other offsite outdoor locations.

**Description of the Proposed Action:**

The proposed action would include outdoor tests and experiments for the development, quality assurance, or reliability of materials, processes, and equipment. Many of the proposed activities are focused on verifying the capabilities of newly developed technologies or adapting existing technologies for new uses. Covered activities would include, but not be limited to, impact tests, drop tests, puncture tests, water-immersion tests, thermal tests, and a variety of other chemical, biological, and physical studies, experiments, and research and development activities. Covered activities would also include any related indoor laboratory work, including, but not limited to, design, modification, and experiments on the same or similar materials and equipment components. Where proposed research activities are to be conducted at offsite locations, the proposals would be coordinated with appropriate local managers to verify land use approval and compliance with local environmental requirements.

The proposed action would also include those activities foreseeably necessary for project implementation, such as associated transportation; equipment setup, maintenance, and calibration; waste analysis, transport, storage, repackaging, and disposal; and award of grants and contracts.

**Biological and Cultural Resources:**

Outdoor tests and experiments on materials and equipment components under controlled conditions are not likely to result in adverse impacts to sensitive biological or cultural resources. However, when special project circumstances warrant it, biological and cultural resource reviews would be conducted to assure that impacts to sensitive resources are avoided and minimized.

Biological resource reviews would assure that impacts to sensitive biological resources are avoided. These reviews would identify the occurrence of federal and state protected species in the project area such as avian species protected under the Migratory Bird

Treaty Act (MBTA); plant and animal species protected under the Endangered Species Act (ESA), including candidates for such protection; and species listed as threatened or endangered by the state of Washington. Resource review recommendations would be followed to assure there are no adverse impacts to sensitive species and resources.

Cultural resource reviews would assure that impacts to sensitive cultural resources are avoided. Impact avoidance and mitigative measures would be implemented as stipulated by the resource review. Tagged historical artifacts would not be damaged. If consultation with the State Historic Preservation Office and/or affected tribes is deemed necessary, it would be initiated before project implementation.

**Categorical Exclusion to Be Applied:**

As the proposed action is to conduct outdoor tests and experiments on materials, processes, and equipment, the following CX as listed in the DOE National Environmental Policy Act (NEPA) implementing procedures, 10 CFR 1021, would apply:

**B3.11 Outdoor tests and experiments for the development, quality assurance, or reliability of materials and equipment (including, but not limited to, weapon system components), under controlled conditions. Covered actions may include, but are not limited to, burn tests (such as tests of electric cable fire resistance or the combustion characteristics of fuels), impact tests (such as pneumatic ejector tests using earthen embankments or concrete slabs designated and routinely used for that purpose), or drop, puncture, water-immersion, or thermal tests. Covered actions would not involve source, special nuclear, or byproduct materials, except encapsulated sources manufactured to applicable standards that contain source, special detector/sensor development and testing and first responder field training.**

**Eligibility Criteria:**

The proposed activity 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 EIS preparation.

The "Integral Elements" of 10 CFR 1021 are satisfied as discussed below:

<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.
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 are identified prior to generating waste and waste generation is minimized.
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 in a manner that results in uncontrolled or unpermitted releases.
<p>Have the potential to cause significant impacts on environmentally sensitive resources, including, but not limited, to:</p> <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> </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, or special sources of water.</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, 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.

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

<b>Would the proposed action:</b>		<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	

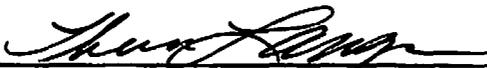
#### **Explanations:**

1. It is possible that certain outdoor activities might generate airborne emissions. These would be minimized as necessary, for example, using water applications or other emission controls, and would be compliant with applicable permits, local, state, and federal regulations, DOE orders, and PNNL guidelines.
3. Although the proposed activities would not involve source, special nuclear, or byproduct materials, projects might involve encapsulated sources or other radiological materials or occur within outdoor areas that require a radiological work permit. Activities would be performed in compliance with as low as reasonably achievable principles, applicable state and federal regulations, DOE Orders, and PNNL guidelines. The radiation received by workers during the performance of activities would be administratively controlled below DOE limits as defined in 10 CFR 835.202(a). Under normal circumstances, those limits control individual radiation exposure to below an annual effective dose equivalent of 5 rem.
5. Certain research projects might require minor releases of liquids to the environment. Effluents would be managed in accordance with applicable local, state, and federal regulations, PNNL requirements and best management practices.
7. Some outdoor research projects might require an excavation permit. Some proposals might require the installation of wells or boreholes for monitoring, injection, extraction, or other purposes. Such wells would be installed in accordance with requirements in WAC 173-160, *Minimum Standards for Construction and Maintenance of Wells* and registered as necessary per the requirements of WAC 173-218, *Underground Injection Control Program*. Stipulations in the excavation permit to minimize potential impacts to safety and the environment would be followed.

8. Proposed intrusive activities in undeveloped areas would largely be limited to areas that have been previously disturbed (e.g., previously farmed areas, areas with unpaved trails/paths). If proposed activities are located on or cause impacts to sensitive species or their habitats, such as old-growth sagebrush, additional NEPA would be required. Additional NEPA review would be required for activities on the Hanford Reach National Monument; within ¼-mile of the Columbia River; other sensitive environments, including wetlands, 100-year floodplains, critical habitats, and areas of traditional cultural properties or properties of historic, archeological, or architectural significance.
9. The proposed activities might involve the use of carcinogens, hazardous and/or toxic chemicals and materials. For example, certain equipment or machinery might contain or require the use of chemicals such as antifreeze, hydraulic fluids, or fuel. In addition, project decontamination and closeout activities might require the use of cleaning materials such as cleaning solutions and solvents. Project inventories would be maintained at the lowest practicable levels, and chemical wastes would be recycled, neutralized, or regenerated if possible. Product substitution (use of less toxic chemicals in place of more toxic chemicals) would be considered where reasonable.
10. Proposed activities might generate radioactive or mixed wastes resulting from tests and experiments on materials and equipment components (e.g., glass, paper, plastic, metal components, personal protective equipment). Proposed activities might also generate hazardous, polychlorinated biphenyl, or asbestos wastes. If unrecyclable, such wastes would either be returned to the client or characterized, handled, packaged, transported, treated, stored, and/or disposed of in existing Hanford Site or offsite treatment, storage, and disposal facilities in accordance with applicable local, state, and federal regulations, DOE Orders and guidelines.
11. Although it is expected to be a rare occurrence under this CX, outdoor research might require air emission permits from the State Departments of Health, Ecology, or the Benton County Clean Air Authority. It is also possible, but considered equally unlikely, that a WAC 173-216 state waste discharge permit might be required, as discussed above. Any necessary permit applications would be coordinated with PNSO staff.

**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 451.1B, Change 2, I have determined that the proposed action may be categorically excluded from further NEPA review and documentation.

Signature:  Date: 11/28/11  
 Theresa L. Aldridge  
 PNSO NEPA Compliance Officer

cc: JA Stegen, PNNL