

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) proposed 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 of the proposed action would include DOE property at the Pacific Northwest National Laboratory (PNNL) campuses in Richland and Sequim, Washington, and other offsite outdoor locations.

Description of the Proposed Action:

The proposed action would include outdoor tests and experiments for the development, quality, 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.

These activities would be managed in accordance to, and in compliance with, DOE orders, as well as federal and state regulations and guidelines.

Biological and Cultural Resources:

Biological and cultural resources reviews will be conducted prior to such activities to assure that impacts to sensitive resources are avoided or minimized.

The biological resources review will identify the occurrence of federally and state-protected

species and habitats in the project area such as avian species protected under the Migratory Bird Treaty Act (MBTA); species protected by the Marine Mammal Protection Act (MMPA); essential fish habitat as defined by the Magnuson-Stevens Fisheries Conservation and Management Act (MSA); plant and animal species and critical habitat protected under the Endangered Species Act (ESA), including candidates for such protection; and state species listed as threatened or endangered. Resource review recommendations will be followed during outdoor tests and experiments on materials and equipment components to assure there are no adverse impacts to sensitive species and resources.

DOE will conduct a cultural resources review as part of the Section 106 process of the National Historic Preservation Act (NHPA). The Section 106 process assesses undertakings to determine if the undertaking will have an adverse effect/impact to historic properties.

If the biological and/or the cultural resources review determines that resources may be adversely affected/impacted, the use of this CX would be reevaluated. Potential options could be, but are not limited to, changing the proposed activity location, the development of mitigation measures to render the impacts not significant, or the performance of additional National Environmental Policy Act (NEPA) analysis and review.

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 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 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 nuclear, or byproduct materials may be used for non-destructive actions such as detector/sensor development and testing and first responder field training.

Generic CXs are authorized by 10 CFR 1021.410(f) for recurring activities to be undertaken during a specified period of time, after considering potential aggregated impacts.

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 environmental impact statement preparation.

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

INTEGRAL ELEMENTS, 10 CFR 1021, SUBPART D, Appendix B (1)-(5)	
<i>Would the Proposed Action:</i>	Evaluation
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 would be identified prior to generating waste and waste generation would be 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 or results in uncontrolled or unpermitted releases.
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).
Have the potential to cause significant impacts on environmentally sensitive resources, including, but not limited, to: • protected historic/archaeological resources • protected biological resources and habitat • jurisdictional wetlands, 100-year floodplains • Federal- or state-designated parks and wildlife refuges, wilderness areas, wild and scenic rivers, national monuments, marine sanctuaries, national natural landmarks, and scenic areas.	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. 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.

Summary of Environmental Impacts:

The following table summarizes environmental impacts considered when preparing this CX determination.

Environmental Impacts Considered when Preparing this CX Determination
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<i>Would the Proposed Action:</i>	Evaluation
Result in more than minimal air impacts?	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.
Increase offsite radiation dose measurably?	The proposed action would not affect offsite radiation dose measurably.
Require a radiological work permit?	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 (ALARA), 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.
Discharge any liquids to the environment?	Certain research projects might require minor releases of liquids to the environment. Effluents would be managed in accordance with applicable regulations and best management practices.
Require a Spill Prevention, Control, and Countermeasures plan?	The proposed action would not require a Spill Prevention, Control, and Countermeasures plan.
Use carcinogens, hazardous, or toxic chemicals/materials?	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.

Involve hazardous, radioactive, polychlorinated biphenyl, or asbestos waste?	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 treatment, storage, and disposal facilities in accordance with applicable regulations.
Cause more than a minor or temporary increase in noise level?	The proposed action would not cause more than a minor or temporary increase in noise level.
Create light / glare, or other aesthetic impacts?	The proposed action would not create long-term light, glare, or other aesthetic impacts. There could be short-term use of lights if work at night is required.
Require an excavation permit (e.g., for test pits, wells, utility installation)?	Some outdoor research projects might require an excavation permit, such as a PNNL or Hanford Site 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 113-160, <i>Minimum Standards for Construction and Maintenance of Wells</i> , and registered as necessary per the requirements of WAC 173-218, <i>Underground Injection Control Program</i> . Stipulations in the excavation permit to minimize potential impacts to safety and the environment would be followed.
Disturb an undeveloped area?	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). Additional NEPA would be required if disturbances would impact sensitive species and/or habitats; cultural resources, including historic buildings and Traditional Cultural Properties; or other resources.
Result in more than minimal impacts on transportation or public services?	The proposed action would not impact transportation or public services.
Disproportionately impact low-income or minority populations?	The proposed action would not disproportionately impact low-income or minority populations.

Require environmental or other permits from federal, state, or local agencies?	Although it is expected to be a rare occurrence under this CX, outdoor research might require air emission permits from air regulatory agencies. It is also possible, but considered equally unlikely, that a WAC 173-216 State Waste Discharge Permit might be required, as discussed above.
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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, I have determined that the proposed action may be categorically excluded from further NEPA review and documentation. This determination must be reviewed at least once every 5 years.

Signature:  Digitally signed by
THOMAS MCDERMOTT
Date: 2023.03.31
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Tom McDermott
PNSO NEPA Compliance Officer

cc: ES Norris, PNNL