



# U.S. Department of Energy

## Categorical Exclusion Determination Form

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Proposed Action Title: **Y12-NEPA-005-SC&EM, Rev 0, Site Characterization and Environmental Monitoring Activities, CY 2022 to CY 2024.**

Program or Field Office: NNSA Production Office - Y-12 National Security Complex (Y-12), other NNSA-owned and contractor operated facilities, and ancillary areas associated with Y-12, but does not apply to the Pantex Plant

Location(s) (City/County/State): Oak Ridge / Anderson and Roane Counties / Tennessee

### Proposed Action Description:

National Nuclear Security Administration (NNSA)'s proposed action is to perform site characterization and routine environmental monitoring activities to comply with established permits, regulatory requirements, and to meet NNSA's missions at the Y-12 National Security Complex (Y-12). As required by agreements among DOE, NNSA, the Environmental Protection Agency (EPA), and the State of Tennessee agencies, a variety of characterization actions would be performed to determine the presence or nature and extent of environmental contamination at determined locations. Characterization under these agreements and permits would be done in accordance with applicable regulatory drivers and may require continued monitoring and/or investigation of contaminated environmental media. A variety of actions would be performed to obtain soil, geological, surface water, and groundwater data and to determine the presence or nature and extent of environmental contamination. Actions would include collection and analysis of samples and interpretation of the data.

This Umbrella Categorical Exclusion Determination (UCXD) comprises the following routine and necessary activities to assure regulatory compliance and to support Y-12 projects: ambient air and stack exhaust effluent monitoring, plant and animal sampling, toxicological samples, surface water and groundwater sampling, soil sampling, and actions that would include but not be limited to geological, geophysical, geochemical, hydrological, engineering surveys, and mapping. In addition, the proposed action would assess the soil and subsurface conditions in proposed construction projects; perform subsurface drilling; monitor and characterize groundwater flow; obtain data on aquifers; assess active and inactive waste management areas; and assess subsurface contaminated facilities that are potential sources of release to the environment. Additional details are described in NEPA Review Form "**Y12-NEPA-0621-005, Rev 0**". Documentation of NEPA reviews for individual projects/programs/activities will provide greater detail, state the applied control/stipulation, and would be tiered from the appropriate Categorical Exclusion Determination. The proposed action would occur at Y-12, NNSA properties at East Tennessee Technology Park, 113-C Union Valley Rd, 103 Palladium Way, and other NNSA owned properties for calendar year (CY) 2022 thru CY 2024. **Proposed actions NOT covered under this UCXD include**, capital asset projects conducted under DOE O 413.3b, *Programs and Project Management for the Acquisition of Capital Assets*. This single categorical exclusion determination (i.e. UCXD) has considered the aggregate impacts of the proposed action, as authorized by §1021.410(f), and documented in the associated NEPA Review Form.

The scope of this UCXD includes sampling/characterization, investigation, inspection, and monitoring of the following: environmental media (plant, animal, soil, rock, water, groundwater, air), process waste streams, waste containers, sanitary waste discharges, wastewater discharges, contaminated structures (building structures, tanks, paint, floors, sumps, pavement, etc.), containerized liquids (i.e. dike water), and oil-filled equipment. This includes any of the above in the event of a spill or release. Such activities would include, but not limited to, the following:

1. The installation (i.e. subsurface drilling), modification, removal (plugging and abandonment), monitoring, or refurbishment of boreholes, piezometers, or groundwater monitoring wells (temporary or permanent). This includes the subsurface monitoring of water, rock, and soil (e.g. direct push technology and geophysical equipment);
2. Maintenance and modification of existing wells and associated structures (e.g. bollards, concrete pad, well rehab, etc.);
3. Aquifer testing equipment (packers, slugs, etc.) and downhole monitoring equipment (e.g. transducer, Westbay);
4. Surface water flow-measuring devices (e.g. flumes), in situ monitoring devices and field instruments, and automated sampling equipment;
5. Surface Water Hydrological Information Support Systems (SWHISS) houses that perform real time monitoring of surface water locations. This includes the installation, modification, and repair of SWHISS monitoring equipment and field instrumentation, refrigeration, HVAC, generators, plumbing/piping, hoses, pumps, and solar panels;
6. Meteorological towers and associated instrumentation;
7. Ambient air monitoring stations or stack exhaust air monitoring devices; and
8. The establishment of equipment staging areas, including satellite waste accumulation areas and equipment decontamination areas.

These activities would be performed in accordance with applicable laws, regulations, permits, and stipulations and controls as stated in **Y12-NEPA-0621-005, Rev 0**. Documentation of NEPA reviews for individual projects/programs/activities will provide greater detail, state the applied control/stipulation, and will be tiered from the appropriate Categorical Exclusion Determination.



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Various types of media wastes, personal protective equipment (PPE), sampling containers/equipment, disposables, chemicals, decontamination liquids, and recyclables would be generated as a result of the above actions depending on the type of activity and location; however, these wastes are typically generated with Y-12 and disposed of in compliance with the regulations, procedures, and at established locations. Project characterization activities, well drilling fluids and cuttings, liquid waste (including purge water), PPE, and other solid waste of any type generated during well installation, plugging and abandonment geophysical, sampling and characterization, and excavation would require a Waste Management Plan and be recycled or disposed of according to well-defined and established procedures addressing each characteristic waste stream (See Y12-NEPA-0621-006, rev 0, *Waste Management, Waste Minimization, Energy Conservation, Sustainability, and Pollution Prevention Activities*).

The proposed site characterization, investigation, and environmental monitoring actions would take place on the Oak Ridge Reservation (ORR) have been reviewed in accordance with the Cultural Resource Management Plan (CRMP) or applicable sections in a Programmatic Agreement and would not result in an adverse effect to historic properties included or eligible for inclusion in the National Register of Historic Places (National Register). If the proposed ORR actions would have an adverse effect on properties included or eligible for inclusion in the National Register, NNSA would consult with the State Historic Preservation Officer (SHPO) and initiate actions specified in procedures set forth in the Advisory Council's regulations in 36 CFR Part 800.

To ensure that sensitive resources are protected, existing maps and surveys/studies on threatened and endangered species, wetlands and floodplains, and historically sensitive areas would be used to locate these areas. In addition, personnel responsible for identifying these resources would be consulted and, if warranted, additional surveys and walkovers would be conducted to confirm or update available information.

Although an action might fall under the category of "**Site Characterization and Environmental Monitoring Activities**" a separate NEPA review would be performed and documented should the action, or aggregate impacts of the action, have the potential to result in an unusual or significant impact to the environment.

### Categorical Exclusion(s) Applied:

#### **B3.1, Site characterization and environmental monitoring**

- (a) "Geological, geophysical..., geochemical, and engineering surveys and mapping....Seismic techniques would not include large- scale reflection or refraction testing;"
- (b) "Installation and operation of field instruments;"
- (c) "Drilling of wells for sampling or monitoring of groundwater or vadose zone...;"
- (d) "Aquifer and underground reservoir response testing;"
- (e) "Installation and operation of ambient air monitoring equipment;"
- (f) "Sampling and characterization of water, soil, rock, or contaminants (such as drilling using truck-or mobile-scale equipment, and modification, use, and plugging of boreholes);"
- (g) "Sampling and characterization of water effluents, air emissions, or solid waste streams;"
- (h) "Installation and operation of meteorological towers and associated activities...;"
- (i) "Sampling of flora and fauna; and"
- (j) "Archeological, historic, and cultural resource identification in compliance with 36 CFR part 800 and 43 CFR part 7."

#### **B3.3, Research related to conservation of fish, wildlife, and cultural resources**

#### **B1.6, Small-scale research and development, laboratory, and pilot projects**

For the complete DOE National Environmental Policy Act regulations regarding categorical exclusions, including the full text of each categorical exclusion, see Subpart D of [10 CFR Part 1021](#).

Regulatory Requirements in 10 CFR 1021.410(b):

- The proposal fits within a class of actions that is listed in Appendix A or B to 10 CFR Part 1021, Subpart D. See paragraph above for specific categorical exclusion(s) applied.



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- The classes of actions listed in 10 CFR Part 1021, Subpart D, Appendix B include conditions that are integral elements of the class of actions which must be satisfied in order to determine that a proposal is categorically excluded under Appendix B. Specifically, a proposal must be one that would not:
- (1) threaten a violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health, or similar requirements of DOE or Executive Orders;
  - (2) require siting and construction or major expansion of waste storage, disposal, recovery, or treatment facilities (including incinerators), but the proposal may include categorically excluded waste storage, disposal, recovery, or treatment actions or facilities;
  - (3) disturb hazardous substances, pollutants, contaminants, or CERCLA-excluded petroleum and natural gas products that preexist in the environment such that there would be uncontrolled or unpermitted releases;
  - (4) have the potential to cause significant impacts on environmentally sensitive resources, including, but not limited to:
    - (i) Property (such as sites, buildings, structures, and objects) of historic, archeological, or architectural significance designated by a Federal, state, or local government, Federally recognized Indian tribe, or Native Hawaiian organization, or property determined to be eligible for listing on the National Register of Historic Places;
    - (ii) Federally-listed threatened or endangered species or their habitat (including critical habitat) or Federally-proposed or candidate species or their habitat (Endangered Species Act); state-listed or state-proposed endangered or threatened species or their habitat; Federally-protected marine mammals and Essential Fish Habitat (Marine Mammal Protection Act; Magnuson-Stevens Fishery Conservation and Management Act); and otherwise Federally-protected species (such as the Bald and Golden Eagle Protection Act or the Migratory Bird Treaty Act);
    - (iii) Floodplains and wetlands (as defined in 10 CFR 1022.4, "Compliance with Floodplain and Wetland Environmental Review Requirements: Definitions," or its successor);
    - (iv) Areas having a special designation such as Federally- and state-designated wilderness areas, national parks, national monuments, national natural landmarks, wild and scenic rivers, state and Federal wildlife refuges, scenic areas (such as National Scenic and Historic Trails or National Scenic Areas), and marine sanctuaries;
    - (v) Prime or unique farmland, or other farmland of statewide or local importance, as defined at 7 CFR 658.2(a), "Farmland Protection Policy Act: Definitions," or its successor;
    - (vi) Special sources of water (such as sole-source aquifers, wellhead protection areas, and other water sources that are vital in a region); and
    - (vii) Tundra, coral reefs, or rain forests; or
  - 5) involve 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, such as the Department of Agriculture, the Environmental Protection Agency, and the National Institute of Health.
- There are no extraordinary circumstances related to the proposal that may affect the significance of the environmental effects of the proposal. Extraordinary circumstances are unique situations presented by specific proposals, including, but not limited to, scientific controversy about the environmental effects of the proposal; uncertain effects or effects involving unique or unknown risks; and unresolved conflicts concerning alternative uses of available resources.
- The proposal has not been segmented to meet the definition of a categorical exclusion. Segmentation can occur when a proposal is broken down into small parts in order to avoid the appearance of significance of the total action. The scope of a proposal must include the consideration of connected and cumulative actions, that is, the proposal 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 §1021.211 of this part concerning limitations on actions during EIS preparation.



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Based on my review of the proposed action, as NEPA Compliance Officer (as authorized under DOE Policy 451.1, National Environmental Policy Act Compliance Program), I have determined that the proposed action fits within the specified class(es) of action, the other regulatory requirements set forth above are met, and the proposed action is hereby categorically excluded from further NEPA review.

NEPA Compliance Officer:

Date Determined:

Chloe L.  
Hutchison

Digitally signed by Chloe L.  
Hutchison  
Date: 2022.03.22 10:44:50  
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