



U.S. Department of Energy

Categorical Exclusion Determination Form

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Proposed Action Title: **Y12-NEPA-004-R&D, Rev 0, Analytical Laboratory and Research and Development (R&D) Activities Conducted by the Analytical Chemistry and Y-12 Development Organization, CY 2022 to CY 2024.**

Program or Field Office: NNSA Production Office - Y-12 National Security Complex (Y-12) and 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's proposed action is to perform the necessary and routine analytical laboratory operation, research and development (R&D) activities, and pilot scale demonstration actions to meet NNSA's missions at the Y-12 National Security Complex (Y-12). This Umbrella Categorical Exclusion Determination (UCXD) comprises the **recurring, routine, and necessary** analytical services and research and development (R&D) activities conducted by the Analytical Chemistry and Y-12 Development Organization. Additional details are documented in NEPA Review Form "**Y12-NEPA-0621-004, Rev 0**". The proposed action covers activities and actions performed at Y-12, 113-C Union Valley Rd, 103 Palladium Way, and 350 Centrifuge Drive 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 include general laboratory and R&D operations, as well as routine, corrective, preventive, and predictive maintenance activities on laboratory equipment, instrumentation, and R&D facility components (e.g. electrical and HVAC) and prototype (pilot scale) equipment, such as presses, rolling mills, tanks, ultrasonic cleaners, furnaces, humidifiers, extruders, grinders, dust collectors, pumps, etc.. Such actions are performed by the Analytical Chemistry and Y-12 Development Organization, and not maintained by the Y-12 Infrastructure Organization. Such activities would include the fabrication, modification, installation, repair, replacement, test and checkout, and operation of:

- Building equipment: electrical system utilities, hoist, lifts, cranes, tanks, water and instrument air system utilities, security systems, and Heating, Ventilating, and Air-conditioning (HVAC) systems (including lab hoods, gloveboxes, and exhaust systems);
- Analytical instrumentation, analytical and sample preparation equipment, material processing equipment (pulverizers, blenders, baths) bench-top equipment, ovens and furnaces, temperature/humidity control equipment, and refrigerators/freezers;
- Fabricating equipment: mills, grinders, dust collectors, polishers, saws, shears, shredders, lathes, presses, and wire drawing;
- R&D production prototype equipment (e.g. ovens, furnaces, extruders, molders, wire drawing, lathes, mills, presses, etc.);
- Other tooling or machining equipment, welding, and brazing;
- Minor building modification of interior surfaces (e.g. walls, windows, doors, ceiling, etc.).

These activities would be performed in accordance with applicable laws, regulations, permits, and stipulations and controls as stated in Y12-NEPA-0621-004, 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.

Any proposed maintenance action must be considered: 1) routine in nature; 2) preventive, predictive, or corrective maintenance to preserve infrastructure, including roads, right-of-ways, vehicles, building structures, and equipment; 3) a custodial service to preserve facilities appearance, working conditions, and sanitation; 4) an action to maintain the structure/ infrastructure/equipment in a condition suitable for a facility to be used for its intended purpose; and 5) an in kind replacement, such that it is a "like for like replacement" and is not considered a substantial upgrade or improvement, but replaces outmoded components.

Various types of wastes would be generated as a result of performing the above-listed actions due to the missions of the organization; however, these wastes are typically generated and disposed of in existing facilities according to established regulations and procedures.



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Solid and liquid waste of any type generated during analytical and R&D operations would require a Waste Management Plan and be disposed according to well-defined and established procedures addressing each characteristic waste stream (See Y12-NEPA--006, rev 0, *Waste Management, Waste Minimization, Energy Conservation, Sustainability, and Pollution Prevention Activities*).

The proposed analytical services and development support actions that 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, DOE 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 "analytical services and development support actions," 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:

B3.6, Small-scale research and development, laboratory operations, and pilot projects

B1.3, Routine maintenance

B1.4, Air conditioning systems for existing equipment

B1.7, Electronic equipment

B1.16, Asbestos removal

B1.17, Polychlorinated biphenyl (PCB) removal

B1.27, Disconnection of utilities

B1.28, Placing a facility in an environmentally safe condition

B1.31, Installation or relocation of machinery and equipment

B2.1, Workplace enhancements

B2.2, Building and equipment instrumentation

B2.5, Facility safety and environmental improvement

B2.3, Personnel safety and health equipment

B4.10, Removal of electrical transmissions facilities

B4.11, Electric power substation and interconnection facilities

B5.4, Repair or replacement of pipelines

B5.2, Modifications to pumps and piping

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.
- ☐ 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;



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- ☐ (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.

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: