



U.S. Department of Energy

Categorical Exclusion Determination Form

Proposed Action Title: CATEGORICAL EXCLUSION (CX) DETERMINATION FOR ANALYTICAL SERVICES AND DEVELOPMENT SUPPORT ACTIVITIES (CX-GEN-014)

Program or Field Office: Oak Ridge Office, Oak Ridge, Tennessee

Location(s) (City/County/State): Oak Ridge, TN; Berkeley, CA; Menlo Park, CA; Newport News, VA; and other DOE-operated facilities and ancillary areas associated with these sites, programs, and projects

Proposed Action Description:

The purpose of this document is to allow for frequently requested upgrades and modifications which would provide for or enhance current capabilities, support the Technology Transfer Program (e.g., Cooperative Research and Development Agreements), and remediate regulatory deficiencies. Some analytical services and research and development activities require modification or relocation of equipment and instruments to accommodate changes in analytical workloads or sample types during the course of experimentation. In addition, some areas initially dedicated to one project must be altered to provide different capabilities for new projects.

The proposed actions, therefore, cover a wide variety of activities, as would be expected from diverse operations of an analytical chemistry laboratory or an applied research and development organization. Typical activities include the following:

1. Installing, modifying, and/or relocating electrical wiring (in facilities) and electrical devices such as controllers, recorders, breakers, switches, receptacles, and associated equipment used in organization operations.
2. Fabricating, installing, modifying, repairing, and/or relocating utility lines (such as potable, process, and demineralized water lines and steam plant nitrogen, argon, helium, oxygen, propane, and natural gas lines) and equipment for gas cylinders.
3. Fabricating, installing, modifying, repairing, and/or relocating heating, ventilating, and air conditioning systems. This would include laboratory hoods, glove boxes, exhaust and supply fans, duct work, air-handling equipment, heating and cooling equipment, filter housings and filters, and monitoring devices.
4. Fabricating, installing, modifying, repairing, and/or relocating drains and drain lines, guttering, and downspouts both internal and external to organization buildings.
5. Fabricating, installing, modifying, repairing, and/or relocating piping, piping racks, manifolds, ladders and railings, hoists, lifts, cranes, and nonwaste tanks (distilled water, process material, etc.).
6. Minor building alterations such as installing, modifying, repairing, and/or relocating walls, floors, ceilings, doors, windows, furniture, shelving, safes, storage cabinets, lights, and benches.
7. Fabricating, installing, modifying, repairing, and/or relocating laboratory-scale equipment used in performance of sample analysis and research and development projects including, but not limited to, the following:
 - A. Temperature-regulating equipment such as ovens, furnaces, casters, baths, hot plates, calorimeters, temperature/humidity chambers, refrigerators, freezers, and humidifiers.
 - B. Electrical equipment such as vacuum pumps, centrifuges, transformers, power conditioners, and power supplies.
 - C. Fabricating equipment such as blenders, pulverizers, mills, grinders, dust collectors, polishers, grit blasters, saws, shears, shredders, lathes, turning machines, presses, and wire drawing equipment.
 - D. Joining equipment such as welding equipment and brazing equipment.
 - E. Analytical equipment such as X-ray generators and diffractometers, ultrasonic and plasma-generating equipment, lasers, material analyzers, mechanical analyzers, viscometers, microscopes, analytical balances, electronic measuring equipment, chromatographs, mass spectrometers, spectrographs, and computers.
 - F. Material processing equipment such as super-critical cleaning apparatus, microwave sintering equipment, molders, extruders, filament winding equipment, and filtration equipment.
 - G. Sample preparation equipment such as blenders, pulverizers, mills, grinders, polishers, saws, shears, shredders, presses, tumblers, and drying equipment.

8. Fabricating tooling, fixtures, and parts used with equipment for analytical and experimental work.
9. Fabricating, installing, modifying, and/or relocating signs, labels, or other methods of warning and notifications (as needed for regulatory compliance).
10. Conducting regular analytical operations including receipt, preparation, analysis, reporting, and salvaging of routine samples and samples requiring special analysis.
11. Installing and repairing eyewashes and safety showers to maintain safety and health standards.
12. Use of existing facilities, technology, equipment, and personnel in support of the Technology Transfer Program.

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. Solid and liquid waste generated during installation or relocation of the above-mentioned equipment would consist of various types; however, because of the small-scale alterations, only small quantities would be generated. In general, uncontaminated solid waste generated during construction would be disposed of in the existing sanitary landfill. Solid waste contaminated with radioactive, hazardous, or mixed materials would be treated, stored, or disposed, as appropriate, at existing permitted/approved facilities. Solid and liquid waste of any type generated during analytical operations would be disposed according to well-defined and established procedures addressing each characteristic waste stream. Discharges of water to creeks and streams are limited by administrative controls in accordance with the National Pollutant Discharge Elimination System (NPDES) permits. Other potential effluent discharges would also be contained and treated at existing treatment facilities in accordance with their NPDES permits. The proposed action would be evaluated before implementation to identify options to reduce or eliminate generation of waste materials.

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 ratified Programmatic Agreement document 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.

For sites other than the ORR, DOE would follow the Section 106 process and would consult with the respective SHPO, as appropriate.

Should the proposed analytical services and development support actions involve ground disturbances at locations where an archeological survey had not been conducted or take place at previously disturbed locations where the potential exists to exceed the depth of previous ground disturbances, DOE would consult with the SHPO to determine whether an archeological survey is warranted prior to initiating the proposed actions.

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.

No known extraordinary circumstances would be associated with these actions that might affect the significance of the environmental effects of the proposed action based on past similar actions. These actions would not be connected to other actions with potentially significant impacts or related to other proposed actions with cumulatively significant impacts; they would meet the conditions that are integral elements of the classes of actions which may be categorically excluded from further National Environmental Policy Act (NEPA) documentation. Should the action not meet the conditions for CX consideration, a separate specific NEPA determination would be made.

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 related/cumulative effect of the action have the potential to result in an unusual or significant impact to the environment.

Categorical Exclusion(s) Applied:

- B1.15 - Support buildings
 - B3.1 - Site characterization and environmental monitoring
 - B3.6 - Small-scale research and development, laboratory operations, and pilot projects
 - B3.10 - Particle accelerators
-

