



# U.S. Department of Energy

## Categorical Exclusion Determination Form

**Proposed Action Title:** CATEGORICAL EXCLUSION (CX) DETERMINATION FOR SITE CHARACTERIZATION, INVESTIGATION, AND ENVIRONMENTAL MONITORING ACTIVITIES (CX-GEN-004)

**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:**

As required by agreements among DOE, the Environmental Protection Agency, and the affected states, a variety of characterization actions would be performed to determine the presence or nature and extent of environmental contamination at the referenced locations. Characterization under these agreements would be done in accordance with applicable regulatory drivers, such as the Resource Conservation and Recovery Act (RCRA), the Atomic Energy Act, and/or state laws. These laws require monitoring and investigation of all environmental media that might have been affected by waste that was either treated, stored, or disposed of at the sites.

A variety of investigation/characterization actions would be performed to obtain geological, geophysical, and geochemical 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. Samples would be analyzed for site-specific parameters including (but not limited to) pH, conductivity, dissolved oxygen, metals, mercury, lead, volatile organics, semivolatile organics, polychlorinated biphenyls, asbestos, uranium, and various other radiological analyses of concern. Specific actions might include (but would not be limited to) the following:

1. Drilling of boreholes to obtain subsurface core samples. Core materials might be characterized in the field, archived for later analysis, or sampled for contamination.
2. Collection and analysis of surface soil samples.
3. Installation and development of long-term or short-term groundwater monitoring wells. Groundwater wells and temporary piezometers would be installed to monitor and characterize groundwater flow. Well installation would include soil and bedrock coring and sampling, well drilling, construction, and development of groundwater investigation and monitoring of wells (including vadose zone wells and installation). Construction and development would include (1) emplacement of well casings, screens, and annular seals and (2) construction of the concrete pad of the well, protective posts, and access road, if needed. Groundwater monitoring wells would be constructed in accordance with RCRA-quality requirements and would include seals to prevent infiltration of surface water and mixing of groundwater. Temporary piezometers (simple well screens without filter packs and seals) could be used for some characterization. Piezometers would be used only in shallow formations where mixing of groundwater due to penetration of the borehole would be of no concern. Wells and piezometers would be periodically purged and sampled for groundwater contamination. Aquifer testing would be conducted at some wells.
4. Well plugging and abandonment (including inspection and sampling of wells to verify location, method of construction, and current conditions) and purging water, as required. Well plugging and abandonment would take place using a variety of methods such as casing removal, overdrilling, grout filling, etc. Minor excavation around wellheads might be required prior to commencement of plugging and abandonment actions.
5. Well plugging and abandonment that would include (1) decommissioning groundwater investigation or monitoring wells that have been damaged or destroyed or (2) wells that are a hindrance to construction activities or environmental restoration projects.
6. Installation of water-level monitoring equipment at wells and surface water stations. The latter might require construction of flumes/gaging stations within stream channels.
7. Surface and groundwater sampling and analysis. Some surface water sampling sites would require installation of temporary, removable devices for measurement of surface water flow rates. Actions would include dye tracer studies.
8. Aquifer testing that would include slug, hydraulic packer, and pump testing to characterize hydraulic properties of aquifers. This would include installation of water-level recording devices into characterization, monitoring, and/or piezometric wells to determine vertical and horizontal groundwater flow directions.
9. Installation/relocation of Surface Water Hydrological Information Support Systems houses to surface water monitoring locations.

10. Geophysical exploration including electromagnetic profiling, seismic reflection/refraction, wireline geophysics, and ground penetrating radar.
11. Installation of shallow (<1-foot deep) soil gas monitors or insertion of soil gas withdrawal tubes.
12. Installation of rain gauges, evaporative pans, anemometers, or other meteorological monitoring equipment.
13. Construction and use of air monitoring stations to determine ambient air quality or potential air quality impacts during assessment actions.
14. Routine decontamination of equipment.
15. Sampling of solid waste streams including soil cuttings, personal protective equipment, and process equipment and process waste streams.
16. Sampling of nonendangered plant and animal species.
17. Sampling of stack effluent emissions.
18. Establishment of staging areas for purposes of conducting characterization work. Staging areas would be used for material and equipment laydown and as temporary satellite accumulation areas for wastes (in drums, tanks, or other containers) generated by characterization actions (e.g., drill cuttings and decontamination wastes). Staging areas would be operated and maintained in compliance with site waste management procedures for the duration of their operation and during setup of decontamination trailers/change houses. Staging areas would be established in previously disturbed areas (or in areas that would require minimal grading) and would be covered with gravel or gravel and geotextile material. Temporary access roadways (or temporary extensions of existing roadways) might also be constructed, as necessary. Clearing of low brush or removal of trees and shrubs with the goal of minimization of clearing might also occur.
19. Installation and operation of field instruments, such as flow-measuring devices.
20. Maintenance and modification of existing wells and structures (i.e., painting, minor surface grading/sloping, cleaning, tagging, etc.).

The proposed action would be evaluated before implementation to identify options to reduce or eliminate generation of waste materials. Environmental samples would be analyzed in on-site or off-site laboratories. The analysis procedures often consume the sample. Should the sample not be consumed, the remaining sample would be acceptable for disposal in existing permitted/approved facilities in accordance with laboratory operating procedures. Any wastes generated would be acceptable for disposal in existing permitted/approved or exempt facilities.

The proposed site characterization, investigation, and environmental monitoring 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 site characterization, investigation, and environmental monitoring 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 would be warranted prior to initiating the proposed actions.

To ensure that sensitive resources are protected, existing maps, surveys and studies on threatened and/or 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 NEPA document would be prepared and submitted to DOE-ORO for review and approval.

Although an action might fall under the category of "site characterization, investigation, and environmental monitoring," 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.

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**Categorical Exclusion(s) Applied:**

**B3.1 - Site characterization and environmental monitoring**

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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): (See full text in regulation)

The proposal fits within a class of actions that is listed in Appendix A or B to 10 CFR Part 1021, Subpart D.

To fit within the classes of actions listed in 10 CFR Part 1021, Subpart D, Appendix B, 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, those listed in paragraph B(4) of 10 CFR Part 1021, Subpart D, Appendix B; (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 those listed in paragraph B(5) of 10 CFR Part 1021, Subpart D, Appendix B.

There are no extraordinary circumstances related to the proposal that may affect the significance of the environmental effects of the proposal.

The proposal has not been segmented to meet the definition of a categorical exclusion. This 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 10 CFR 1021.211 concerning limitations on actions during preparation of an environmental impact statement.

Based on my review of the proposed action, as NEPA Compliance Officer (as authorized under DOE Order 451.1B), 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: \_\_\_\_\_ /s/ \_\_\_\_\_ Date Determined: 11/19/2012