

U.S. Department of Energy

Categorical Exclusion Determination Form

Proposed Action Title: Categorical Exclusion Determination for Indoor, Small- and Pilot-Scale Research and Development (CX-22-03)

Program or Field Office: Berkeley Site Office

Location(s) (City/County/State): Berkeley, California, and other DOE-operated facilities and ancillary facilities associated with Lawrence Berkeley National Laboratory (LBNL)

Proposed Action Description:

Lawrence Berkeley National Laboratory is a multi-program scientific research campus managed and operated by the University of California (UC) for the U.S. Department of Energy (DOE). The DOE Berkeley Site Office (BSO) proposes that LBNL continue conducting ongoing indoor, small- and pilot-scale research and development activities and laboratory operations involving advanced computing, advanced materials, biological and ecological systems, energy science, manufacturing, nanotechnology, national security, neutron sciences, chemical sciences, nuclear physics, and related disciplines at its main hill site and offsite facilities. This CX determination assesses continued indoor research operations by LBNL over the next approximately five-year period.

At present, the LBNL main hill site occupies 202 acres and includes approximately 150 buildings and support structures. Buildings include wet and dry laboratories, accelerators, shops and manufacturing spaces, offices, and support services facilities (e.g., cafeteria, guest house). There are seven national "user facilities" at LBNL, including the Advanced Light Source, the National Center for Electron Microscopy, the National Energy Research Scientific Computing Center, the Energy Sciences Network, Joint Genome Institute, FLEXLAB, and the Molecular Foundry. LBNL research and office work is also conducted in off-site locations, including the UC Berkeley campus (primarily) and other UC campuses, commercially leased space in nearby cities, and various field locations such as the Sanford Underground Research Facility in South Dakota. The proposed action supports DOE's research mission by conducting unclassified research to reach a deeper understanding of the physical universe and deliver science-based solutions to problems of national significance.

The proposed actions would occur at existing DOE-owned and/or operated facilities; at other DOE-operated facilities and ancillary areas associated with BSO sites, programs, and projects; at non-DOE-operated locations involving project collaboration between DOE and public, private, or academic partners; and at selected aquatic research facilities. These proposed actions could involve siting, construction, modification, operation, and decommissioning of facilities for small-scale research and development projects with applicable requirements (such as engineering, worker safety, procedural, and administrative regulations); conventional laboratory operations (such as preparation of chemical standards and sample analysis); software research, development, and packaging; and small-scale pilot projects (generally less than 5 years) frequently conducted to verify a concept before demonstration actions; however, construction or modification would be within or contiguous to a previously disturbed or developed area (where active utilities and currently used roads are readily accessible). Not included in this proposed action are demonstration actions, meaning actions that are undertaken at a scale to show whether a technology would be viable on a larger scale and suitable for commercial deployment. The proposed actions would be in accordance with applicable requirements in the proposed project area and would incorporate appropriate control technologies and best management practices.

Most LBNL laboratory research is "bench-scale," in that it involves equipment and staging that may take place within rooms in enclosed laboratory facilities, typically on laboratory tables and benches. Large-scale and "heavy lab" research include sizable research machinery such as accelerators that may be on the scale of conventional buildings. All scientific research at LBNL is conducted under carefully controlled conditions and with oversight from the DOE and LBNL's Environment, Health, and Safety (EH&S) Division. Research activities comply with all applicable federal, state, and local laws, regulations, and procedures. All operations and activities ancillary to the actual research, including procuring and receiving supplies and chemicals, training and equipping scientific staff and support personnel, and disposing of post-research materials, are similarly controlled and monitored and in compliance with applicable laws, regulations, and procedures.

The indoor, small- and pilot-scale research and development proposed actions would be reviewed in accordance with the National Historic Preservation Act 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 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 other consulting parties and initiate actions specified in procedures set forth in the Advisory Council's regulations in 36 CFR Part 800.

Although an action might fall under the category of "indoor, small- and pilot-scale research and development," the action or related/cumulative effect of the action may in some circumstances have the potential to result in an unusual or significant environmental impact. In such cases, further NEPA review would be conducted and a higher level of NEPA documentation may be warranted.

Description of the Affected Environment

The LBNL main hill site is approximately 200 acres straddling the border between the cities of Berkeley and Oakland in Alameda County, California. It is located in the East Bay hills adjacent to the UC Berkeley campus. The LBNL main hill site is on land owned by the Board of Regents of the University of California (UC). Under contractual arrangements with the UC Regents, DOE occupies and owns buildings and facilities on the main hill site. LBNL's off-site facilities include leased building spaces used for research and office activities; these are mainly located in commercial areas of the San Francisco bay area, including in the cities of Berkeley, Emeryville, Oakland, and Walnut Creek. Other space is located on institutional property at the UC Berkeley campus and the City of Richmond. Still other LBNL research - particularly small-scale field research - is conducted at more remote and distant locations as identified above.

Categorical Exclusion(s) Applied:

- A9 - Information gathering, analysis, and dissemination
 - A11 – Technical advice and assistance to organizations
 - B1.2 – Training exercises and simulations
 - B1. 7 - Electronic equipment
 - B1.31 – Installation and relocation of machinery and equipment
 - B3.6 - Small-scale research and development, laboratory operations, and pilot projects
 - B3.10 - Particle accelerators
 - B3.12 - Microbiological and biomedical facilities
 - B3.15 - Small-scale indoor research and development projects using nanoscale materials
 - B5.1 - Actions to conserve energy or water
 - B5.15 - Small-scale renewable energy research and development and pilot projects
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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.

I concur that the above description accurately describes the proposed action.

**LBNL Sr. Site &
Environmental Planner:**



Jeff Philliber

Dec 22, 2021

Date Determined

**BASO NEPA Program
Manager:**

Click here to enter a
date.

Jose Roldan

Date Determined

The above description accurately describes the proposed action, which reflects the requirements of the CX cited above. Therefore, I recommend that the proposed action be categorically excluded from further NEPA review and documentation.

**BASO NEPA Program
Manager:**

Click here to enter a
date.

Mary Gross

Date Determined

Based on my review of the proposed action, as NEPA Compliance Officer (as authorized under DOE Order 451.1 B), 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:**

Click here to enter a
date.

Peter Siebach

Date Determined