



U.S. Department of Energy Categorical Exclusion Determination Form

Proposed Action Title: Advanced Light Source Switchstation A3 And Substation 301-307 Replacements (LB-CX-22-05)

Program or Field Office: Berkeley Site Office, Lawrence Berkeley National Laboratory (LBNL)

Location(s) (City/County/State): Berkeley, Alameda County, California

Proposed Action Description: The US Department of Energy (DOE) proposes to perform mechanical replacements and/or upgrades of the Advanced Light Source (ALS) switchstation A3 (SW-A3) and substations 301 to 307 along with associated switchgear, transformers, and breakers. These actions would address deficient and outdated mechanical systems that are essential to several Berkeley Lab research facilities, Protective Services, and the on-site Firehouse.

The need to address these systems was identified through a facilities infrastructure report for the Advanced Light Source-Upgrade (ALS-U), completed on December 20, 2017. The report identified that the 12kV switchstation and substations that provide power to Buildings 6 and 48 are at the end of their useful life. It was concluded that the equipment identified at the end of useful life would fail high probability of an arc fault of the aged system, reducing the probability of future long-term unplanned outages, and reducing the need for frequent testing and corrective maintenance of equipment.

The project would take place adjacent to Building 6 on the southeast side between the building and Segre Road. The general vicinity is heavily developed and features a relatively high level of activity.

The project proposes to implement like-for-like or functionally equivalent replacements of the SW-A3 15 kilovolt (kV) medium voltage outdoor metal clad switchgear, 12.47 kV/480 Volt (V) secondary unit substations (substations 301 to 306), and the 12.47 kV/4.16 kV primary unit substation (substation 307). Additional relaying for transformer protection and Arc Flash Hazard Reduction for the Building 6 replaced switchyard infrastructure would be implemented along with a new supervisory control and data acquisition (SCADA) system. The replacement of equipment would remain inside the boundaries and footprint of the existing switch stations.

The proposed replacement would involve removal and disposal of retired equipment; minor grading and installation of pads and footings, or re-use of the existing pad to the extent feasible; construction or installation of new equipment; and operation of the new mechanical systems. During project construction, temporary power would be provided, as needed, to Buildings 6 and 37 in order to accommodate the installation process, including planned power shutoffs when disconnecting and reconnecting power source cables.

Work is expected to begin in mid-2025 and last approximately one year. Approximately six concrete truck trips would be required over this time period; 2-3 equipment delivery trucks a day while receiving equipment; with a total count of 30-40 truck trips for the project duration, including cranes, and a peak of up to 20 daily construction workers on site. Construction work would be expected to take place during normal business hours and days, and it may occasionally occur during weekends. No disturbance of undeveloped natural areas would be required; no tree removal is expected. Traffic may temporarily be re-routed and road closures may occur to accommodate the physical location of temporary power needs during construction.

All applicable LBNL "Standard Project Features" to minimize environmental effects would be employed by the project. Dust control would be implemented and all necessary permits would be secured from the Bay Area Air Quality Management District. Construction truck trips would be managed by Berkeley Lab's Construction Coordinator to ensure that all construction trucks accessing the Berkeley Lab campus would stay well below significance thresholds.

Categorical Exclusion(s) Applied:

B1.3 - Routine maintenance

B1.31 - Installation or relocation of machinery and equipment

B2.5 - Facility safety and environmental improvements

B4.6 - Additions and modifications to transmission facilities

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 Site &
Environmental Planner:**



Leana Sossikian

May 18, 2022

Date Determined

**BSO NEPA Program
Manager:**

Jose Roldan

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Date: 2022.05.23 13:03:32 -07'00'

Jose Roldan

[Click here to enter a date.](#)

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.

**BSO Director of
Operations:**

Mary Gross

[Click here to enter a date.](#)

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:**

Peter Siebach

[Click here to enter a date.](#)

Date Determined

