



U.S. Department of Energy Categorical Exclusion Determination Form

Proposed Action Title: Continuation of Energy-Water Desalination Program (LB-CX-23-04)

Program or Field Office: Berkeley Site Office, Lawrence Berkeley National Laboratory

Location(s) (City/County/State): Berkeley, California (and other locations to be determined)

Proposed Action Description: The US Department of Energy (DOE) proposes to continue to fund, conduct, and support a nationwide, early-stage research: the Energy-Water Desalination Program (the Program). The Program would continue to be administered by the National Alliance for Water Innovation (NAWI), a consortium of national laboratories, universities, public facilities, and private institutions that is led by the Lawrence Berkeley National Laboratory (LBNL). In its lead NAWI role, LBNL would continue to coordinate Program efforts, which would include reviewing, awarding, and overseeing funded research by a variety of nationwide applicants. This NEPA determination considers both LBNL's key administrative role in implementing the Program as well as the actual Program-funded research activities that would take place at various facilities and research institutions. The Program was initially reviewed under a NEPA Categorical Exclusion (CX-LB-20-03, approved January 8, 2020) that considered five years of Program operation. This Categorical Exclusion considers an approximately ten-year continuation of the Program, after which time the Program may be re-evaluated for changing conditions and potential refinements.

The objective of the Energy-Water Desalination Program is to support early-stage research and development for energy-efficient and cost-competitive desalination technologies and for treating nontraditional water sources for various end uses.

Under the Program, applicants (expected to include mainly government and university laboratories, public facilities, and private research institutions) would apply for and be awarded funding for research that meets the Program objective. Program prioritization and goal-setting, application reviews, funding decisions, and other administrative activities would be undertaken by the NAWI consortium; such efforts would be led by and centralized at LBNL. The NAWI consortium currently consists of LBNL, Oak Ridge National Laboratory, the National Renewable Energy Laboratory, the National Energy Technology Laboratory, and over 100 Research Consortium organizations including national laboratories, universities, and industry partners. Federal funding would be total approximately \$235 million and the Program is expected to last 10 years.

Research supported by the Program would continue to include conventional bench-scale laboratory activities, such as investigations into novel membrane separation materials and processes as well as adsorption materials and processes, and development of computational models and simulations of water treatment processes. Small-scale demonstration and pilot projects would continue to be supported, including assembly and field-testing of small, pilot-scale desalination equipment and processes under controlled conditions and in non-environmentally sensitive areas. Research would be conducted by qualified scientific staff; all legal and regulatory requirements governing laboratory protocols and environmental, health, and safety issues would be met. Research would typically take place in existing, appropriately designed and outfitted laboratory and research facilities under controlled conditions. Such research would not include unconventional hazards, such as work with special nuclear or heightened biosafety-level materials, nor would it include large-scale demonstration activities. The Program would not support construction or expansion of large, permanent facilities. Related research would also be conducted by LBNL and the other NAWI consortium members at their respective sites, all under the conditions described above.

LBNL and the NAWI Consortium would continue to ensure that future funded activities meet the above research conditions by implementing "flow-through" requirements through the application and contracting processes. In any cases where it is not clear whether these activities would meet those conditions, DOE would conduct individual NEPA reviews of the specified research at such times.

Categorical Exclusion(s) Applied:

A1 - Routine DOE business actions

A2 - Clarifying or administrative contract actions

A9 - Information gathering, analysis, and dissemination

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

B3.15 - Small-scale indoor research and development projects using nanoscale materials

B1.31 - Installation or relocation of machinery and equipment

B3.8 - Outdoor terrestrial ecological and environmental research

B3.11 - Outdoor tests and experiments on materials and equipment components

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 Environmental Planner:



Jeff Philliber

6/30/2023

Date Determined

BSO Project Manager:

Mary Gross

[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 NEPA Program Manager:

Jose Roldan

Digitally signed by Jose Roldan
Date: 2023.07.03 09:52:31 -07'00'

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

Jose Roldan

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