



# U.S. Department of Energy Categorical Exclusion Determination Form

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Proposed Action Title: University of California, Los Angeles - Thermal Energy Storage with Supercritical Fluids

Program or Field Office: Advanced Research Projects Agency - Energy

Location(s) (City/County/State): Los Angeles, CA

Proposed Action Description:

The University of California, Los Angeles (UCLA), in conjunction with Southern California Gas (SCG) and NASA's Jet Propulsion Laboratory, was originally selected to develop a low-cost Thermal Energy Storage (TES) technology that stores thermal fluids at supercritical conditions for use in solar-thermal power generation applications. UCLA now proposes, in conjunction with SCG, California Polytechnic Institute Pomona, and Hyperlight Energy, Inc., to conduct laboratory-based, bench-scale research and development activities to build upon the original scope of work for the project, with a particular focus on the development and demonstration of a sulfur-based TES system for higher temperature thermal storage.

Categorical Exclusion(s) Applied:

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

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:

Date Determined: 01/26/2015



# U.S. Department of Energy

## Categorical Exclusion Determination Form

**Program or Field Office:** Advanced Research Projects Agency - Energy

**Project Title:** 25A2461 Regents of the University of California, Los Angeles - Thermal Energy Storage with Supercritical Fluids

**Location:** California

**Proposed Action or Project Description:**

American Recovery and Reinvestment Act:

Funding will support laboratory and on-site research, design, testing, and fabrication of a novel thermal energy storage tank to be integrated into concentrated solar power applications.

Proposed work consists entirely of RD&D to be completed in laboratory facilities at the University of California, Los Angeles (Los Angeles, CA); analytical and testing facilities operated by the Jet Propulsion Laboratory (Pasadena, CA); and analytical facilities operated by SoCalGas (Pico Rivera, CA). The work performed will be limited to in-lab and on-site testing, design, analysis, fabrication, and evaluation.

**Categorical Exclusion(s) Applied:**

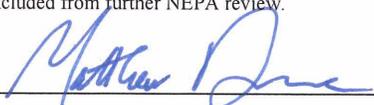
X - B3.6 Siting/construction/operation/decommissioning of facilities for bench-scale research, conventional laboratory operations, small-scale research and development and pilot projects

\*-For the complete DOE National Environmental Policy Act regulations regarding categorical exclusions, see Subpart D of 10 CFR 10 21 [Click Here](#)

This action would not: threaten a violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health, including DOE and/or Executive Orders; require siting, construction, or major expansion of waste storage, disposal, recovery, or treatment facilities, but may include such categorically excluded facilities; disturb hazardous substances, pollutants, contaminants, or CERCLA-excluded petroleum and natural gas products that pre-exist in the environment such that there would be uncontrolled or unpermitted releases; or adversely affect environmentally sensitive resources (including but not limited to those listed in paragraph B.(4)) of Appendix B to Subpart D of 10 CFR 1021). Furthermore, there are no extraordinary circumstances related to this action that may affect the significance of the environmental effects of the action; this action is not "connected" to other actions with potentially significant impacts, is not related to other proposed actions with cumulatively significant impacts, and is not precluded by 40 CFR 1506.1 or 10 CFR 1021.211.

Based on my review of information conveyed to me and in my possession (or attached) concerning 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:



Date Determined: Aug 25, 2010

Comments:

Webmaster:

