



U.S. Department of Energy Categorical Exclusion Determination Form

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Proposed Action Title: University of California, Irvine (UCI) - Thermocomfort Cloth Inspired by Squid Skin

Program or Field Office: Advanced Research Projects Agency - Energy

Location(s) (City/County/State): Irvine, CA and Baltimore, MD

Proposed Action Description:

UCI, in conjunction with Under Armour, Inc. (UA), proposes to develop a dynamically tunable, thermoregulatory fabric which utilizes a biomimetic reconfigurable infrared device to maintain skin temperature at a constant and comfortable level in cooler external environments.

UCI will conduct small-scale research and development activities involving generation of recombinant DNA and synthetic biological materials in an enclosed, dedicated laboratory facility that will be performed by UCI in accordance with the NIH Guidelines for Research Involving Recombinant DNA Molecules. All organisms that will be used in the proposed project are non-pathogenic, and genes that will be cloned are from non-pathogenic microorganisms. UA's participation in the proposed project will be limited exclusively to assembly of fabric using standard commercial techniques which comply with applicable federal, state, and local requirements. Project activities will take place at UCI's Biosafety Level 1 laboratory facility in Irvine, CA and UA's industrial manufacturing facilities in Baltimore, MD.

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: 03/23/2015