



U.S. Department of Energy Categorical Exclusion Determination Form

Submit by E-mail

Proposed Action Title: (0470-1509) University of California-Los Angeles (UCLA) - Energy Plant Design

Program or Field Office: Advanced Research Projects Agency - Energy

Location(s) (City/County/State): Los Angeles, CA; Cambridge, MA; Saskatoon, Saskatchewan, Canada

Proposed Action Description:

Funding will support efforts to develop *Camelina satvia* (camelina) with more efficient carbon fixation pathways.

Proposed work will consist of: (1) design and production of plant transformation constructs that encode for more efficient carbon fixation pathways and of vectors for engineering the constructs into various camelina lines; (2) growth of various engineered camelina lines in contained laboratory and greenhouse facilities; and (3) analysis of the resulting engineered camelina plants and their bioproducts.

Proposed work will not involve the release of potential plant pests or transgenic plant material into the environment. Proposed interstate transport of constructs and/or transgenic plant material will be carried out in accordance with USDA APHIS movement permits. Proposed work with recombinant DNA molecules, including work with vectors for engineering constructs into various camelina lines, will be carried out at UCLA's laboratory facilities in Los Angeles, CA and Metabolix's laboratory facilities in Cambridge, MA. Work at these locations will be carried out in accordance with the NIH Guidelines for Research Involving Recombinant DNA Molecules.

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: 09/21/2012



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Proposed Action Title: (0470-1509) University of California-Los Angeles - Energy Plant Design

Program or Field Office: Advanced Research Projects Agency - Energy

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

Proposed Action Description:

Funding will support development of genetically modified (GM) switchgrass with a re-designed carbon dioxide-fixation (CO₂-fixation) cycle that uses less than 50 percent of the energy consumed in the natural CO₂-fixation cycle.

Proposed work will consist of (1) laboratory-based genetic modification of cyanobacteria and other microorganisms, Arabidopsis, and switchgrass; (2) growth of GM Arabidopsis and GM switchgrass in contained growth chambers and growth of GM switchgrass in contained greenhouses; and (3) laboratory-based analysis of GM organisms developed during the project using standard techniques. This project will not involve field tests of GM plants.

Proposed genetic modification of microorganisms and Arabidopsis and growth and testing of the resulting GM microorganisms and GM Arabidopsis will take place at the University of California-Los Angeles campus in Los Angeles, CA. Proposed genetic modification of switchgrass and growth and testing of the resulting GM switchgrass will take place at the Samuel Roberts Noble Foundation in Ardmore, OK. Research teams at both organizations will receive approval from their respective Institutional Biosafety Committees prior to beginning work with recombinant DNA molecules.

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.

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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: 11/22/2011