



U.S. Department of Energy

Categorical Exclusion Determination Form

Submit by E-mail

Proposed Action Title: University of Illinois at Urbana-Champaign - Novel Technologies to Solve the Water Use Problem of High Yielding C4 Bioenergy and Bioproduct Feedstocks

Program or Field Office: Advanced Research Projects Agency - Energy

Location(s) (City/County/State): Urbana, IL; Lubbock, TX; Ithaca, NY; Madison, WI; Lincoln, NE

Proposed Action Description:

Funding will support the project team's small-scale, research and development activities to apply molecular breeding and transgenic approaches to isolate sorghum plants with improved water use efficiency (WUE) and determine genes that drive this trait. The project team proposes to conduct greenhouse studies that allow rapid phenotyping of transgenic plants to select promising material for further analysis, followed by field trials using sites in Illinois and Texas to validate the findings. Proposed work authorized under this CX Determination will consist of (1) greenhouse studies that allow rapid phenotyping of transgenic sorghum to select promising material for further analysis; (2) computational analysis of sorghum leaf surface features; and (3) application and development of geospatial statistical approaches for the phenotyping of canopy temperature on sorghum plants.

Field testing with GM/transgenic plants is not authorized at this time, and will not be considered for authorization until the project team has received and provided to ARPA-E all required permits to transport and conduct the field trials involving transgenic sorghum from U.S. Department of Agriculture's Animal and Plant Health Inspection Service's (APHIS).

Project activities will be conducted at existing facilities that are designed for the applicable activities, and will be conducted in accordance with applicable Federal, State, and local safety and environmental requirements. Participants will receive and maintain all required authorizations for all work involving recombinant DNA molecules and GM plants prior to beginning work with these materials. Participants will maintain compliance with all applicable FAA regulations governing the operation of UAVs and will adapt operations to conform to any changes in the applicable regulatory requirements.

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: 01/28/2016