



U.S. Department of Energy Categorical Exclusion Determination Form

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Proposed Action Title: Clemson University - Breeding High Yielding Bioenergy Sorghum for the New Bioenergy Belt

Program or Field Office: Advanced Research Projects Agency - Energy

Location(s) (City/County/State): Pendleton, SC; St. Louis, MO; Pittsburgh, PA; College Station, TX

Proposed Action Description:

Funding will support small-scale, research and development activities that will develop commercializable automated crop sensing platforms, novel algorithms for inferring phenotypes from sensor data, mapped and genetically characterized yield- and composition- related traits, and high-yielding, high-quality sorghum hybrids for commercial seed companies. The proposed activities will be designed to improve the process of breeding bioenergy crops-from automated, high-resolution sensing of the crop to finding biomarkers and the genetic bases for high-yield and desirable composition traits through integrated genetics, genomics, and bioinformatics to establish critical phenotype-to-genotype associations.

The proposed action consists of the use by the Project Team (Near Earth Autonomy, in particular) of small unmanned aerial vehicles (UAVs), which are regulated by the Federal Aviation Administration (FAA). Near Earth Autonomy will maintain compliance with all applicable FAA regulations governing the operation of UAVs and adapt operations to conform to any changes in the applicable regulatory requirements.

The proposed action consists of the Clemson University (Clemson) importing sorghum plants from a winter nursery in Puerto Vallarta, Mexico. Clemson will maintain compliance with all applicable regulatory and permitting requirements associated with these activities, including permitting requirements imposed by the US Department of Agriculture (USDA) Animal and Plant Health Inspection Service (APHIS).

Project tasks will be conducted in accordance with applicable Federal, State, and local safety and environmental 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:08/11/2015

