



U.S. Department of Energy Categorical Exclusion Determination Form

Submit by E-mail

Proposed Action Title: Plant Sensory Systems - Development of High-Output, Low-Input Energy Beets

Program or Field Office: Advanced Research Projects Agency - Energy

Location(s) (City/County/State): Baltimore, MD; Beltsville, MD; Burnsville, MN; Fort Pierce, FL; Okeechobee, FL; Avon Park, FL

Proposed Action Description:

Funding will support the project team's small-scale, research and development activities to continue to develop an enhanced energy beet engineered to use fertilizer and water more efficiently and to produce higher levels of fermentable sugars for use in biofuel production. If successful, the engineered beets could lead to a significant reduction in the price of raw fermentable sugar, which will significantly increase the profit margin for ethanol producers, and decrease the carbon intensity associated with ethanol production. Specifically, the project team proposes to conduct field trials in three Florida locations in order to determine if beneficial traits of engineered beets grown in an enclosed USDA greenhouse facility and hybrid beets (i.e., beets developed through traditional breeding practices) can be replicated in the field.

The project team has not yet received permits from U.S. Department of Agriculture's Animal and Plant Health Inspection Service's (APHIS) to conduct field trials. Therefore, funding under this award may not be used to carry out field trials with genetically engineered plants until the project team has (1) received a release permit from USDA APHIS for those purposes; (2) provided the permit to ARPA-E; and (3) received a supplemental NEPA determination and written approval from ARPA-E to proceed with field trials.

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.

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.

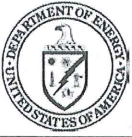
There are no extraordinary circumstances related to the proposal that may affect the significance of the environmental effects of the proposal.

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: 02/03/2016



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Proposed Action Title: Plant Sensory Systems - Development of High-Output, Low-Input Energy Beets

Program or Field Office: Advanced Research Projects Agency - Energy

Location(s) (City/County/State): Baltimore, MD; Beltsville, MD; Fargo, ND

Proposed Action Description:

Plant Sensory Systems, in conjunction with North Dakota State University, proposes to perform research to develop an enhanced energy beet engineered to use fertilizer and water more efficiently and to produce higher levels of fermentable sugars for use in biofuel production.

Project activities involving transformation of composite beet roots will take place at Plant Sensory Systems's enclosed biochemical laboratory facility in Baltimore, MD. Project activities involving growth and characterization of engineered beet plants will take place at the USDA Agricultural Research Service's APHIS-approved enclosed greenhouse facility in Beltsville, MD. North Dakota State University will only perform project activities involving economic and analytical modeling and will carry out all work at its office facility in Fargo, ND.

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.

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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: 03/08/2013