

PMC-ND

(1.08.09.13)

**U.S. DEPARTMENT OF ENERGY**  
**OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY**  
**NEPA DETERMINATION**

**RECIPIENT:** Mississippi State University**STATE:** MS**PROJECT TITLE:** PoSIES: Populus in the Southeast for Integrated Ecosystem

<b>Funding Opportunity Announcement Number</b>	<b>Procurement Instrument Number</b>	<b>NEPA Control Number</b>	<b>CID Number</b>
DE-FOA-0002203	DE-EE0009280	GFO-0009280-001	G09280

**Based on my review of the information concerning the proposed action, as NEPA Compliance Officer (authorized under DOE Policy 451.1), I have made the following determination:**

**CX, EA, EIS APPENDIX AND NUMBER:**

Description:

**A9 Information gathering, analysis, and dissemination** Information gathering (including, but not limited to, literature surveys, inventories, site visits, and audits), data analysis (including, but not limited to, computer modeling), document preparation (including, but not limited to, conceptual design, feasibility studies, and analytical energy supply and demand studies), and information dissemination (including, but not limited to, document publication and distribution, and classroom training and informational programs), but not including site characterization or environmental monitoring. (See also B3.1 of appendix B to this subpart.)

**B3.6 Small-scale research and development, laboratory operations, and pilot projects** Siting, construction, modification, operation, and decommissioning of facilities for smallscale research and development projects; conventional laboratory operations (such as preparation of chemical standards and sample analysis); and small-scale pilot projects (generally less than 2 years) frequently conducted to verify a concept before demonstration actions, provided that construction or modification would be within or contiguous to a previously disturbed or developed area (where active utilities and currently used roads are readily accessible). Not included in this category are demonstration actions, meaning actions that are undertaken at a scale to show whether a technology would be viable on a larger scale and suitable for commercial deployment.

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to provide funding to Mississippi State University (MSU) to identify genetics and cultural practices of Populus clonal varieties that improve productivity and generate a suite of ecosystem services.

Work would include planting two Populus field trials at the edge of agricultural or pasture fields adjacent to riparian areas located in Mississippi and measuring their growth, biomass, water use, soil properties, wildlife, and water quality throughout a four year period. Populus field trials would be planted in or adjacent to pre-existing rural agricultural fields in areas which are previously disturbed. Populus cuttings would be planted on 6 by 6 foot spacing, utilizing a total area of approximately 2.4 acres.

During the 4 year period of study MSU would collect soil, water and tree (wood and leaf) samples from the sites as well as measure sap flow. Analysis of the samples would be completed by MSU at Siegert Laboratory using combustion analysis, colorimetry, and inductively coupled plasma analysis. Analysis would be bench scale and would be conducted in a pre-existing university laboratory. No changes to facilities or new permits would be required. MSU would follow all existing University Health and Safety procedures during Populus planting, collection of samples, and analysis.

MSU would also perform wildlife monitoring including using pitfall traps to collect carabid beetle. Collected beetle samples would be sorted and identified.

MSU would also conduct LiDAR scans of the field sites using backpack LiDAR. No permanent LiDAR facilities or installations would be required. MSU would use small Uncrewed Aerial Systems (sUASs or drones) to collect hyperspectral images of the field sites and combine that imaging with LiDAR data to develop a more complete 3-D profile of the sites. Drone work would be conducted in cooperation with Mississippi State University's Geosystems Research Institute. Data analysis would occur at MSU.

Development of some computer models to predict soil and biomass properties would occur at the University of Tennessee at Labbe Laboratory, in Knoxville, TN.

This project includes the use of drones. The recipient is responsible for ensuring that all activities involving drones are

compliant with 14 CFR Part 107 or an applicable Certificate of Waiver or Authorization (COA). This includes, but is not limited to, aircraft requirements such as remote pilot-in-command certification, authorities and responsibilities; ensuring the drone is in a condition for safe operation; registration; understanding airspace classifications and requirements; and accident reporting (if applicable).

## NEPA PROVISION

DOE has made a final NEPA determination.

Include the following condition in the financial assistance agreement:

This project includes the use of drones. The recipient is responsible for ensuring that all activities involving drones are compliant with 14 CFR Part 107 or an applicable Certificate of Waiver or Authorization (COA). This includes, but is not limited to, aircraft requirements such as remote pilot-in-command certification, authorities and responsibilities; ensuring the drone is in a condition for safe operation; registration; understanding airspace classifications and requirements; and accident reporting (if applicable).

Notes:

Bioenergy Technology Office  
This NEPA determination does require a tailored NEPA provision.  
Review completed by Roak Parker, 11/18/2020

## FOR CATEGORICAL EXCLUSION DETERMINATIONS

The proposed action (or the part of the proposal defined in the Rationale above) 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 proposed action that may affect the significance of the environmental effects of the proposal.

The proposed action 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.

The proposed action is categorically excluded from further NEPA review.

## SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:

  
NEPA Compliance Officer

Date: 11/18/2020

## FIELD OFFICE MANAGER DETERMINATION

- Field Office Manager review not required  
 Field Office Manager review required

**BASED ON MY REVIEW I CONCUR WITH THE DETERMINATION OF THE NCO :**

Field Office Manager's Signature: \_\_\_\_\_  
Field Office Manager

Date: \_\_\_\_\_