

PMC-EF2a

(2.0402)

**U.S. DEPARTMENT OF ENERGY  
EERE PROJECT MANAGEMENT CENTER  
NEPA DETERMINATION**

**RECIPIENT:**Auburn University**STATE:** AL**PROJECT TITLE :** Auburn University Bioenergy and Bioproducts Laboratory

<b>Funding Opportunity Announcement Number</b>	<b>Procurement Instrument Number</b>	<b>NEPA Control Number</b>	<b>CID Number</b>
CDP	DE-EE0000418	GFO-0000418-001	0

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

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

Description:

**B3.1**

Onsite and offsite site characterization and environmental monitoring, including siting, construction (or modification), operation, and dismantlement or closing (abandonment) of characterization and monitoring devices and siting, construction, and associated operation of a small-scale laboratory building or renovation of a room in an existing building for sample analysis. Activities covered include, but are not limited to, site characterization and environmental monitoring under CERCLA and RCRA. Specific activities include, but are not limited to:

**A9**

Information gathering (including, but not limited to, literature surveys, inventories, audits), data analysis (including computer modeling), document preparation (such as conceptual design or feasibility studies, analytical energy supply and demand studies), and dissemination (including, but not limited to, document mailings, publication, and distribution; and classroom training and informational programs), but not including site characterization or environmental monitoring.

**B3.8**

Outdoor ecological and other environmental research (including siting, construction, and operation of a small-scale laboratory building or renovation of a room in an existing building for sample analysis) in a small area (generally less than five acres) that would not result in any permanent change to the ecosystem.

**B3.6**

Siting, construction (or modification), operation, and decommissioning of facilities for indoor bench-scale research projects and conventional laboratory operations (for example, preparation of chemical standards and sample analysis); small-scale research and development projects; and small-scale pilot projects (generally less than two years) conducted to verify a concept before demonstration actions. Construction (or modification) will be within or contiguous to an already developed area (where active utilities and currently used roads are readily accessible).

**Rational for determination:**

DOE proposes to provide federal funding to the Auburn University Bioenergy and Bioproducts Laboratory to perform multiple research tasks focused on biorefining feedstocks, and production chain efficiency. Two agricultural energy crops, sweet sorghum and sweet potatoes, and forest biomass would be utilized to produce gaseous and liquid fuels. Three laboratory tasks would also be performed: developing biomass fractionation techniques, computer modeling and bench-scale gasification/gas-to-liquids experiments, and development of Fischer-Tropsch processes to convert syngas to liquid fuels.

The field effort for this project is identified in Task 1 of the Statement of Project Objectives and contains two elements: (1) agricultural crop production at the Alabama Agricultural Experiment Station located in Brewton, AL. The acreage used for this research has been used regularly for research on various types of agronomic crops. And, (2) observational investigation of forest product harvest techniques on private/commercial forests.

Field crop activities would include planting and cultivation of two biomass crops conducive to optimum calorie production: industrial (non-edible) sweet potatoes and sweet sorghum. A second field activity would be observation of commercial timber harvest for the purpose of modeling cost, efficiency, and environmental effects.

The agricultural crops would be produced on a 10 acre plot utilizing existing cropland at the Brewton facility. This research station, located in Escambia County near the Alabama - Florida border, is 80 acres in size and has been in operation for over 80 years. Field site activities would include growing, measuring, and harvesting biomass feedstock using standard agricultural techniques. No genetically modified organisms would be used. An automated planting system would be developed and tested.

Pesticides would be used to control weeds and insects when necessary using label recommended rates, application methods, and equipment. Pesticides would be stored, applied, and disposed of using standard agricultural practices

by trained and licensed staff. This project would not generate hazardous waste.

Due to previous soil disturbance and ongoing agricultural activity at the research site, DOE does not anticipate impacts to cultural resources or state or federal listed species.

Forest harvest observation would be conducted for forest stand cutting planned, funded, and operated by private company(s) independent of Auburn University. These harvests would occur irrespective of the DOE funded research project. As such, forest harvest operations that would be observed and analyzed as part of this investigation have independent utility under NEPA and are not subject to NEPA review by DOE at this time. This NEPA Determination applies to the forest harvest observation activity.

Laboratory and gasifier research would entail studies of biomass fractionation, gasification, and gas- to- liquid conversion would be conducted at the Auburn University Forest Products Laboratory located at 520 DeVall Drive; Auburn, AL 36849. Auburn University laboratories operate under the oversight of Auburn University's Risk Management and Safety office. The gasification unit would operate under a Synthetic Minor Operating permit No. 206-0013-X013 issued by the Alabama Department of Environmental Management. Procedures and training would be in place to address hazards due to machinery, heat, particulates, gas emissions, as well as standard laboratory practices. No effluent would result from this research.

DOE has determined that the Auburn University Bioenergy and Bioproducts Laboratory investigation of forest and agricultural crop biomass production and refining comprises computer modeling activities, conventional laboratory research and development, field work that would not result in any permanent change to the ecosystem and characterization and monitoring of ongoing forest harvest operations. CX A9, B3.6, B3.8 and B3.1 apply.

#### NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

If you intend to make changes to the scope or objective of your project you are required to contact the Project Officer identified in Block 11 of the Notice of Financial Assistance Award before proceeding. You must receive notification of approval from the DOE Contracting Officer prior to commencing with work beyond that currently approved.

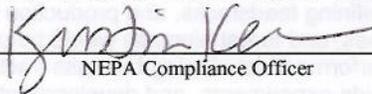
Note to Specialist :

John A. DuWaldt 11-07-2011

DOE Funding: \$ 951,500  
 Cost Share: \$ 240,328  
 Total Project Cost: \$ 1,191,828

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

NEPA Compliance Officer Signature: \_\_\_\_\_

  
 NEPA Compliance Officer

Date: 11/7/2011

#### FIELD OFFICE MANAGER DETERMINATION

Field Office Manager review required

#### NCO REQUESTS THE FIELD OFFICE MANAGER REVIEW FOR THE FOLLOWING REASON:

- Proposed action fits within a categorical exclusion but involves a high profile or controversial issue that warrants Field Office Manager's attention.
- Proposed action falls within an EA or EIS category and therefore requires Field Office Manager's review and determination.

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

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

Field Office Manager

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