

PMC-EF2a

(2010)

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



RECIPIENT: Mississippi State University

STATE: MS

PROJECT TITLE : MSU Sustainable Energy Research Center

Funding Opportunity Announcement Number
FY10 CDPProcurement Instrument Number
DE-FG36-06GO86025NEPA Control Number
GFO-GO86025-003CID Number
GO86025

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:

B5.15 Small-scale renewable energy research and development and pilot projects

Small-scale renewable energy research and development projects and small-scale pilot projects, provided that the projects are located within a previously disturbed or developed area. Covered actions would be in accordance with applicable requirements (such as local land use and zoning requirements) in the proposed project area and would incorporate appropriate control technologies and best management practices.

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.

Rational for determination:

DOE is proposing to provide funding to the Mississippi State University (MSU) Sustainable Energy Research Center (SERC) to continue renewable transportation fuel research focused on bio-oil, biocrude, microbial oil, hydrocarbons derived from synthesis gas, biomass combustion, and biomass feedstock. These activities are a follow-on to SERC renewable fuel research funded by DOE in 2009 (NEPA Determination GFO-06-245b; CX B3.6, B5.1; 9/17/2010).

The research program involves MSU and a number of industrial and government partners working to develop bench and pilot scale biofuel production systems and their application. Research activities encompass the entire chain of feedstock production, composition analyses, and economics; to laboratory synthesis and testing of biofuels; and bench-scale and pilot plant testing and scale-up at SERC-affiliated facilities on and near the MSU campus in Starkville, MS 37962.

MSU has an existing pilot-scale bio-oil pyrolysis reactor and a biocrude fermentation/extraction apparatus. Under this award, the bio-oil reactor would generate approximately 140 gallons of bio-oil per day, while the syngas to hydrocarbon facility and the biocrude and microbial oil pilot plant would produce approximately 1 gallon of product per day. These facilities would be used to perform economic analysis and tests to verify scale-up of these technologies to the commercial level.

No new construction would result from this funding, and tasks defined for FY10 funds are focused on furthering research to bring the five transportation fuels from bench-scale to pilot-scale, and commercialization. Plant feedstock growth experiments would be confined to existing agricultural experiment plots at MSU. Forest-derived feedstock for experimental use in the pyrolysis reactor would be sought from non-MSU sources.

The applicant has submitted an R & D Questionnaire which thoroughly addresses all laboratory chemical and safety handling protocols, as well as permits for all air emissions, water effluents, and hazardous waste accumulation and disposal.

This project is comprised of bioenergy research activities focused on multiple liquid fuel laboratory, bench- and pilot-scale production, and economic scale-up analyses. As such CX A9, B3.6, & B5.15 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 DuWaldt 11-17-2011

DOE Funds: \$10,000,000

Cost Share: \$2,500,000

Total Funds:\$12,500,000

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: *Kynthia Lee* Date: 11/23/2011
NEPA Compliance Officer

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: _____ Date: _____
Field Office Manager