

PMC-EF2a

(20402)

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



RECIPIENT: Illinois State University

STATE: IL

**PROJECT TITLE :** Economic and environmental assessment of switchgrass production on high-fertility soil, and an assessment of anaerobic digesters as an intermediate market – Phase II

<b>Funding Opportunity Announcement Number</b>	<b>Procurement Instrument Number</b>	<b>NEPA Control Number</b>	<b>CID Number</b>
GO88039	GO88039	GFO-09-106a	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:

- B3.6** 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).
- 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.
- B5.1** Actions to conserve energy, demonstrate potential energy conservation, and promote energy-efficiency that do not increase the indoor concentrations of potentially harmful substances. These actions may involve financial and technical assistance to individuals (such as builders, owners, consultants, designers), organizations (such as utilities), and state and local governments. Covered actions include, but are not limited to: programmed lowering of thermostat settings, placement of timers on hot water heaters, installation of solar hot water systems, installation of efficient lighting, improvements in generator efficiency and appliance efficiency ratings, development of energy-efficient manufacturing or industrial practices, and small-scale conservation and renewable energy research and development and pilot projects. The actions could involve building renovations or new structures in commercial, residential, agricultural, or industrial sectors. These actions do not include rulemakings, standard-settings, or proposed DOE legislation.
- 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.

## Rational for determination:

Illinois State University proposes to use federal funding to continue the efforts of the existing award and adds 2 additional tasks. A total of 3 tasks are addressed on this NEPA determination (task C, D, & E).

This project will include task C which is an extension/continuation of study A from the previous award for the Assessment of switchgrass cultivation on high fertility soil. New studies will consist of task D: Assessment of Anaerobic Digesters as an Intermediate Market for Switchgrass, and task E: Using Farming Experience to Improve strategies Encouraging Farmers to Grown Switchgrass.

Task C will consist of a corn/soybean assessment, and a switchgrass assessment. These assessments will analyze the economic and environmental impacts of the plantings on high-fertility soil. This will entail planting crops and sampling the soil and water for analysis.

Task D will consist of pretreatment testing for low cost methods to enhance digestibility and methane production of switchgrass in digesters. Also, ensiled switchgrass will be tested for comparison to the standard method in digester as well as the testing of using a manure based digester.

Task E will consist of evaluation of fertility treatments in two field plots of hgh-fertility soil, and outreach and dissemination efforts of their findings.

All field plots are on the Illinois State University (ISU) campus and have been previously used for agriculture uses. Soil and water samples will be taken from existing 160 acre plots currently in corn and soy cultivation. Switchgrass will be planted in two 20 acre plots that are currently in corn and soy cultivation.

No Genetically Modified Organisms (GMOs) will be used in the laboratory component of this project. In crop

cultivation, only GMO varieties available commercially and regularly used by farmers in the area will be used.

This project includes field planting of switchgrass for research analysis in efforts to advance biomass as an energy source and information dissemination activities; therefore a CX A9, B3.6, B3.8 & B5.1 apply.

**NEPA PROVISION**

DOE has made a final NEPA determination for this award

Insert the following language in the award:

Note to Specialist :

Eugene Brown 9/16/2010

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

NEPA Compliance Officer Signature: Kristin Kerwin Date: 9/16/2010  
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