

PMC-EF2a

(2.01.02)

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



RECIPIENT: South Dakota State University

STATE: SD

PROJECT TITLE : Beneficial plant microbe interactions and their potential to increase biomass production in prairie cordgrass

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
	GO88073	GFO-GO88073-028	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:

- 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.
- B3.6** 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).
- 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:

South Dakota State University proposes to use federal funds to conduct research and development to improve the nutrient efficiency and biomass productivity of prairie cordgrass through the study of plant to microbe interactions.

This project will study genotypic differences in nutrient efficiency for various soil types, identify natural communities of arbuscular mycorrhizal fungi and diazotrophic bacteria and study their effects on prairie cordgrass, identify fungi to plant interactions that lower necessary fertilizer inputs, and identify genotypic differences that allow prairie cordgrass to make the best use of indigenous soils.

The work included in this research includes collecting samples from the field, laboratory experiments, and greenhouse plantings of prairie cordgrass and soils. The recipient submitted an R & D Questionnaire for this project with thoroughly addresses the chemical and safety handling protocols associated with the laboratory work. This project will use radioactive isotopes in which the laboratory has been pre-approved for working – carbon 14 and phosphorus 33. These isotopes will be used in genotypic marking of prairie cordgrass. The waste generated will be handled in a standard procedure according to university regulations. No GMOs will be released to the natural environment in the implementation of this project.

This project includes sample collecting of prairie cordgrass and soil as well as laboratory research for genetic research of prairie cordgrass; therefore CX 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 3/7/2011

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____
Kindin Lee
NEPA Compliance Officer

Date: 3/8/2011

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: _____