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

RECIPIENT: University of Nebraska **STATE:** NE

PROJECT TITLE: EXCHANGE: Expanding the Conversion of Habitat in the Northern Great Plains Ecosystem

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0002203	DE-EE0009279	GFO-0009279-001	GO9279

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.)
B3.1 Site characterization and environmental monitoring	Site characterization and environmental monitoring (including, but not limited to, siting, construction, modification, operation, and dismantlement and removal or otherwise proper closure (such as of a well) 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). Such activities would be designed in conformance with applicable requirements and use best management practices to limit the potential effects of any resultant ground disturbance. Covered activities include, but are not limited to, site characterization and environmental monitoring under CERCLA and RCRA. (This class of actions excludes activities in aquatic environments. See B3.16 of this appendix for such activities.) Specific activities include, but are not limited to: (a) Geological, geophysical (such as gravity, magnetic, electrical, seismic, radar, and temperature gradient), geochemical, and engineering surveys and mapping, and the establishment of survey marks. Seismic techniques would not include large-scale reflection or refraction testing; (b) Installation and operation of field instruments (such as stream-gauging stations or flow-measuring devices, telemetry systems, geochemical monitoring tools, and geophysical exploration tools); (c) Drilling of wells for sampling or monitoring of groundwater or the vadose (unsaturated) zone, well logging, and installation of water-level recording devices in wells; (d) Aquifer and underground reservoir response testing; (e) Installation and operation of ambient air monitoring equipment; (f) Sampling and characterization of water, soil, rock, or contaminants (such as drilling using truck- or mobile-scale equipment, and modification, use, and plugging of boreholes); (g) Sampling and characterization of water effluents, air emissions, or solid waste streams; (h) Installation and operation of meteorological towers and associated activities (such as assessment of potential wind energy resources); (i) Sampling of flora or fauna; and (j) Archeological, historic, and cultural resource identification in compliance with 36 CFR part 800 and 43 CFR part 7.
B3.3 Research related to conservation of fish, wildlife, and cultural resources	Field and laboratory research, inventory, and information collection activities that are directly related to the conservation of fish and wildlife resources or to the protection of cultural resources, provided that such activities would not have the potential to cause significant impacts on fish and wildlife habitat or populations or to cultural resources.
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 the University of Nebraska, Lincoln (UN) to evaluate agricultural ecosystem landscapes utilizing switchgrasses and other perennial grasses in an effort to increase soil organic carbon, reduce nutrient losses and improve other ecosystem functions including soil health, greenhouse gas emissions, and insect and avian diversity.

UN would plant switchgrasses or other perennial grasses on 13 pre-existing farm plots in Hayes County, Nebraska. In addition, UN would plant grasses on several small plots at the University of Nebraska properties in North Platte, Nebraska.

Prior to planting UN would establish baseline conditions regarding soil conditions and greenhouse gas emissions. Some soil samples would be collected and analyzed for chemical composition and microbial composition. In addition, on site monitoring equipment would be set up including cameras, audio monitors, insect traps, soil moisture monitors, and other sensors.

UN would then plant different grasses on the plots and collect further data including soil conditions, greenhouse gas emissions, soil moisture, bird and avian activity, and plant growth over several years. UN would collect data from both on site monitors as well as from harvesting soil and plant samples as well as insects in traps, and analyzing those samples at laboratories. On site data collection would include reading data from soil moisture sensors and other passive monitoring instruments. UN would collect both audio and photographic recording of bird and avian activity through the use of passive camera and audio recording devices. UN would collect soil samples (up to 5 kg), plant samples (up to 25 kg), and insect samples (small amounts from insect traps) for analysis.

Analysis of data collected from passive instrumentation, soil samples collected, and insect samples collected would be analyzed at a Agroecosystems Entomology Lab at the West Central Research and Extension Center in North Platte, NE, at Argonne National Laboratories in Lamont, Illinois, and/or at the USDA-ARS Agroecosystem Management Research Unit in Lincoln, NE. Analysis of plant materials collected would be completed at the USDA-ARS Wheat, Sorghum, and Forage Research Unit in Lincoln, NE as well as at Idaho National Laboratories.

UN would also conduct both techno-economic analysis and life cycle assessment of the project.

There are seven Endangered Species Act listed species which could be found within the proposed project locations, including northern long-eared bat, piping plover, whooping crane, American burying beetle, pallid sturgeon, blowout penstemon, and western prairie fringed orchid. All field work, including all plantings, would be conducted on previously disturbed farm lands which are currently in farm use. No new insecticide or pesticides would be introduced during the field work. As such, DOE has determined that the proposed action, including planting grasses on the pre-existing farmlands, would have no effect on the listed species.

Existing university and corporate health and safety measures would be undertaken during all field work. All laboratory analysis would occur in pre-existing interior laboratory facilities. Preexisting university, government and corporate health and safety measures would be followed during all laboratory work. No new permits or modifications to facilities would be required.

Any work proposed to be conducted at a federal facility may be subject to additional NEPA review by the cognizant federal official and must meet the applicable health and safety requirements of the facility.

NEPA PROVISION

DOE has made a final NEPA determination.

Notes:

Bioenergy Technology Office
This NEPA determination does not require a tailored NEPA provision.
Review completed by Roak Parker, 08/17/2021

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: Electronically Signed By: Roak Parker Date: 8/18/2021

NEPA Compliance Officer

FIELD OFFICE MANAGER DETERMINATION

- [x] 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: _____ Date: _____

Field Office Manager