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(1.08.09.13)

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

RECIPIENT: Antares Group, Inc **STATE:** MD

PROJECT TITLE: Enabling Sustainable Landscape Design for Continual Improvement of Operating Bioenergy Supply Systems

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0001179	DE- EE0007088	GFO-0007088-001	

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:

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.
B3.16 Research activities in aquatic environments	Small-scale, temporary surveying, site characterization, and research activities in aquatic environments, limited to: (a) Acquisition of rights-of-way, easements, and temporary use permits; (b) Installation, operation, and removal of passive scientific measurement devices, including, but not limited to, antennae, tide gauges, flow testing equipment for existing wells, weighted hydrophones, salinity measurement devices, and water quality measurement devices; (c) Natural resource inventories, data and sample collection, environmental monitoring, and basic and applied research, excluding (1) large-scale vibratory coring techniques and (2) seismic activities other than passive techniques; and (d) Surveying and mapping. These activities would be conducted in accordance with, where applicable, an approved spill prevention, control, and response plan and would incorporate appropriate control technologies and best management practices. None of the activities listed above would occur within the boundary of an established marine sanctuary or wildlife refuge, a governmentally proposed marine sanctuary or wildlife refuge, or a governmentally recognized area of high biological sensitivity, unless authorized by the agency responsible for such refuge, sanctuary, or area (or after consultation with the responsible agency, if no authorization is required). If the proposed activities would occur outside such refuge, sanctuary, or area and if the activities would have the potential to cause impacts within such refuge, sanctuary, or area, then the responsible agency shall be consulted in order to determine whether authorization is required

and whether such activities would have the potential to cause significant impacts on such refuge, sanctuary, or area. Areas of high biological sensitivity include, but are not limited to, areas of known ecological importance, whale and marine mammal mating and calving/pupping areas, and fish and invertebrate spawning and nursery areas recognized as being limited or unique and vulnerable to perturbation; these areas can occur in bays, estuaries, near shore, and far offshore, and may vary seasonally. No permanent facilities or devices would be constructed or installed. Covered actions do not include drilling of resource exploration or extraction wells.

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.

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to provide funding to ANTARES Group, Inc. to design and demonstrate advanced bioenergy sustainable landscape design practices. The project would develop sustainable landscape designs for the growth of bioenergy feedstocks through agronomic and sustainability analysis. The project's objective would also demonstrate improved water quality through the implementation of landscape design practices in those areas and improve the health of the wetland.

The proposed project would harvest a yearly maximum of 50,000 acres of corn stover, 3,000 acres of perennial grass, and 500 acres of cover crops. The following locations have been identified, and additional locations would be added as the project progresses:

- Near Emmetsburg, IA - 12,943 acres (grain production)
- Near Oskaloosa, IA - 1,396 acres (grain production and conservation habitat)
- Near Burkeville, VA – 333 acres (conservation habitat and energy feedstocks)
- Near Elkton, VA – 441 acres (conservation habitat and energy feedstocks)
- Marion, Madison, and Tickaway Counties, OH - 1,200 acres (conservation habitat)

The project would conduct harvesting activities on acres which are currently being farmed and have a cropping history and would not convert native natural grasslands or native natural forests into agricultural production systems - this would include all future harvesting locations that have yet to be identified, including locations in Kansas. Low-lying areas may be taken out of traditional row-crop production and planted with a perennial grass to act as a nutrient runoff filter in the landscape.

The harvested feedstock would be processed at POET-DSM's Project LIBERTY biorefinery in Emmetsburg, IA, DuPont Cellulosic's biorefinery in Nevada, IA, and Abengoa Bioenergy's biorefinery in Hugoton, KS. No change in the use, mission or operation of these existing facilities would arise out of this effort.
All harvesting activities would occur using accepted farming practices for that crop and follow established safety protocols. If needed, all pertinent equipment and biomass transportation related permits would be obtained when transporting equipment and/or biomass to project locations. Traffic associated with harvesting activities would be unchanged, as crop removal at each proposed harvest location would normally occur.

Soil sampling and water quality sampling would also be a part of the project. All land is privately owned. Computer modeling would identify the fields to be sampled. Soil sampling would be conducted with vehicle mounted soil coring equipment. This equipment would be towed by a vehicle through the fields. A 1"- 4" core would be taken at depths between 1' and 3'. The soil sample would be analyzed at a laboratory. For water sampling, flow meters and ISCO Automatic Sampling Stations would be temporarily placed in strategic locations in the watershed and would be used specifically for watershed monitoring. The Automatic Sampler would be placed in a small shelter (wooden box) at the edge of the stream and a collection tube would run into and left in the stream flow. The machine would collect water samples automatically and bottle them for future analysis. Water samples would be approximately 1 liter when collected in grab samples. Continuous water quality sampling would be conducted using fixed instruments in strategic stream flows. The flow meter would be staked to the stream bottom and stored within a 2" PVC tubing. This equipment is specific to watershed monitoring. Water sampling would occur in the Raccoon River Watershed, the Boone River Watershed, and the South Fork of the Iowa River Watershed. All equipment would be removed at the completion of the project.

The proposed soil and water sampling would require minimal surface disturbance, and would not lead to adverse impacts to the critical habitat. Water sampling may occur in the critical habitat of the Topeka Shiner. In discussion with the Columbia Ecological Services Field Office, (Aleshia Kinney 2/2/16), a no effects determination was agreed

upon for the Topeka Shiner. Adverse impacts are not expected to any other resources of concern regardless of location, since any changes in water quality would be improvements.

Outreach and analysis would be conducted by Oak Ridge National Laboratory. Water quality modeling and analysis, and the establishment of historical baseline and future scenario designs would be developed by Argonne National Laboratory. In-field data collection planning and execution; feedstock analysis and modeling would be completed by Idaho National Laboratory. All work completed at these DOE National Laboratories may be subject to additional NEPA review by the appropriate DOE NEPA Compliance Officer.

Based on a review of the project information and the above analysis, DOE has determined the proposed activities would not have a significant individual or cumulative impact to human health and/or environment. DOE has determined the proposed project is consistent with actions contained in DOE categorical exclusions A9 "information gathering, analysis and dissemination," B5.15 "small-scale renewable energy research and development and pilot projects," and B3.1 "Site characterization and environmental monitoring" and B 3.16 "Research activities in aquatic environments" and is categorically excluded from further NEPA review.

NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

If the Recipient intends to make changes to the scope or objective of this project, the Recipient is required to contact the Project Officer, identified in Block 15 of the Assistance Agreement before proceeding. The Recipient must receive notification of approval from the DOE Contracting Officer prior to commencing with work beyond that currently approved. If the Recipient moves forward with activities that are not authorized for Federal funding by the DOE Contracting Officer in advance of a final NEPA decision, the Recipient is doing so at risk of not receiving Federal funding and such costs may not be recognized as allowable cost share.

Insert the following language in the award:

You are required to:
Any work proposed to be conducted at a DOE laboratory may be subject to additional NEPA review by the cognizant DOE NEPA Compliance Officer for the specific DOE laboratory prior to initiating such work. Further, any work conducted at a DOE laboratory must meet the laboratory's health and safety requirements.

Note to Specialist :

Bioenergy Technologies Office
This NEPA determination requires a tailored NEPA provision.
Review completed by Diana Heyder on 3/07/2016

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: Electronically Signed By: Kristin Kerwin Date: 3/8/2016

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