

PMC-EF2a

(2.06.02)

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



RECIPIENT: MO Dept. of Natural Resources/Division of Energy

STATE: MO

**PROJECT TITLE :** Missouri Biogas 1 - Hampton Feedlot

<b>Funding Opportunity Announcement Number</b>	<b>Procurement Instrument Number</b>	<b>NEPA Control Number</b>	<b>CID Number</b>
DE-FOA000052	DE-EE0000131	GFO-0000131-007	EE131

**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.

Rational for determination:

The State of Missouri Department of Natural Resources is proposing to provide \$450,000 of SEP ARRA funds to Hampton Feed Lot, Inc. to build an Andigen Induced Blanket Reactor Anaerobic Digester at an existing beef cattle custom feeding operation. The feed lot is located two miles east of Triplett, MO in a rural agricultural area. The feed lot has been in operation since 1972 and all project work will occur on previously disturbed land within the existing facility.

Upgrades to existing infrastructure will include construction of a new steel building to house six modular anaerobic digestion reactors with an attached generator room, a reception pit, input pit, and solids storage as well as construction of the new digester. The total area of construction disturbance will be less than one acre in a previously disturbed area. Manure is currently held in pits under the four confinement barns and one outdoor pen and it is hydrated using water from the existing storage lagoon. Minimal additions to waste storage will be required, principally for staging and preparation of influents being pumped into the digester tanks. The waste will be redirected from the site retention lagoons and processed through the digester.

Biogas from the anaerobic digester will be utilized on site to generate electricity. Two engine generators will be utilized; one with the maximum capacity of 120 kW and one with a maximum output of 180 kW. The expected power output will average about 234 kW. The electricity will be sold to the local utility through a connection to the transmission grid. No new construction will be needed for the grid connection because three phase electrical is already on site at the transformers between the two upper barns. Excess biogas will be flared. Liquid anaerobic digester effluent will be recycled into the hydration process or discharged into the existing lagoon. Solids waste will be sold as a soil amendment or land applied.

Potential environmental impacts of the project and associated actions include:

- The MO Natural Resource Conservation Service (MO NRCS) reviewed the project and identified only two species of concern in project area; the great egret and the Indiana bat. MO NRCS determined that neither of the two species will be affected by the proposed project. The area does not have rookery habitat for the Great Egret or mature tree habitat to support the Indiana bat. A review of the US Fish and Wildlife Service endangered species web site show three other listed or candidate species that may occur in Chariton County. The species are the least tern, the pallid sturgeon, and the eastern massasauga rattle snake. All species are associated with wet areas and riverine habitat which is not present in the project area.
- The NRCS reviewed the proposed project and confirmed that no prime or unique farmland will be converted.

- The western edge of the Hampton property is located in a floodplain but the proposed project is located outside of the floodplain and a floodplain permit is not required.
- The SHPO has determined that no historic properties would be adversely affected by the proposed project.
- The resulting noise generator engine noise would be approximately 25 dBA at the nearest residence which is lower than typical town nighttime noise ordinances (typically 45 dBA). Even though generator noise levels would be low, depending on ambient noise conditions, generator noise could be audible at times.
- The Missouri DNR, Air Pollution Control Program reviewed the proposed project and determined that all emissions from the two 174mbhp (brake horse power) biogas-fired engines would be below de minimis levels. No air quality permit is required.

The Hampton Feed Lot has a Construction Permit (Permit No. CPCF00027, dated October 28, 2010) from the MODNR for the management of waste water. The Hampton Feed Lot is a no-discharge animal feeding operation manure management system which means that the entire system from water storage to final land application has been designed to operate without discharges to waters of the United States.

Hampton Feed Lot, Inc currently operates under Missouri Operating License GO10110. That operating license will be modified to include an anaerobic digestion process after the project is constructed.

Based on the information provided by the State and the applicant, DOE has determined that the work outlined is consistent with activities identified in Categorical Exclusion B5.1, Actions to Conserve Energy.

#### NEPA PROVISION

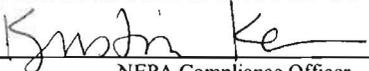
DOE has made a final NEPA determination for this award

Insert the following language in the award:

Note to Specialist :

This EF2a was prepared by Chris Paulsen

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

NEPA Compliance Officer Signature:   
NEPA Compliance Officer

Date: 1/26/2011

#### 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: \_\_\_\_\_