PMC-EF2a
(2.04.02)

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

RECIPIENT: Ohio Department of Development **STATE:** OH

PROJECT TITLE: SEP ARRA - Wooster Renewable Energy

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
	EE0000165	GFO-0000165-023	GO0

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:

Proposed Project – The Ohio Department of Development would allocate $1,000,000 in SEP ARRA funding to Wooster Renewable Energy for purchase and installation of an anaerobic digester in Wooster, OH. The project involves installation of the following components at an existing Waste Water Treatment Plant with less than 1 acre of ground disturbance planned:

- 800 kW genset (new) at WWTP (approx. 6'W x 15'L x 8'H)
- 230,000 gal equalization tank (32' dia x 40' H)
- 40'L x 10'W container for the existing 350kW genset relocated from the WWTP to the WTP
- mixers attached to the sides of the 4 tanks
- 12,000 gal receiving tank (18'L x 10'W x 10'D)
- gravity belt thickener (9'W x 10'L x 6'H) installed inside of vacuator building
- biofilter (8'W x 20'L x 8'H)
- gas scrubber (10'W x 10'L x 10'H)
- Two electrical transfer switches and two transformers
- heat exchanger in existing digester basement (10'L x 4'W x 8'H)
- Three, double membrane roofs for the existing digester tanks

The facility will accept 133 wet tons/day or 48,545 wet tons/year of biosolids and food waste. Biosolids will be delivered by conveyor to the digester. All other sources of biomass will be delivered in dump and tank trucks. The facility would generate digestate which will contain plant nutrients (NPK) and organic matter. The biosolids will be dewatered onsite and hauled out seasonally when field conditions allow for beneficial agronomic application rates. The WWTP currently manages the biosolids generated by land application of a similar quantity of material and stores biosolids onsite seasonally. Filtrate from dewatering goes back to WWTP head works. Biogas stays on property to run the proposed 800 kW generator and an existing 350kW generator allowing the facilities to be energy independent. Excess electricity will be sold back to the utility grid. A site specific transformer will be installed, and interconnection to the existing power source will be required for the project. Electric cable will run through a concrete encased PVC conduit for approximately 500ft. At this point, the electricity will transfer from underground to overhead wires for approximately 200ft. Electricity will be metered and sold to the local utility. Additional poles will not be required.

New Facilities and Infrastructure – The site location for the proposed project is located at an existing municipal waste water treatment plant. The facility was established over forty years ago. Adjacent activities include agricultural fields, wooded areas, commercial business and isolated residences. The closest residence is 850ft from the proposed digester site at the existing WWTP. The proposed project will retrofit existing digesters disturbing less than one acre of ground. The facility will make use of existing in ground tanks containerized mechanical equipment that will not rise

more than 10ft above ground. The infrastructure for the proposed digester consist of a 12,000 gal receiving tank (18'L x 10'W x 10'D), 230,000 gal equalization tank (32' dia. x 40' H), 800 kW genset (new) at WWTP (approx. 6'W x 15'L x 8'H), 40'L x 10'W container, biofilter (8'W x 20'L x 8'H), gas scrubber (10'W x 10'L x 10'H) and two transformers. Other ground disturbance related to the project will be a one mile long, biogas pipeline in a 6ft deep trench that runs between the WWTP and the WTP and 500ft of trenching for electrical conduit from the transformer to the existing power line. The proposed pipeline between the WWTP and the WTP will be located on City-owned property with the exception of where it crosses under a county road. The areas where the pipeline will be placed consist of mowed, grassy areas around the WWTP and WTP and the edge of an actively-farmed field. The City will obtain the required permission for the underground road crossing from the County. The proposed site location is flat, ground disturbance will be temporary for the construction process, and there are no nearby rivers, streams, or other bodies of water that would be adversely affected by potential erosion and sedimentation. According to the recipient, the Stormwater Permit and Stormwater Pollution Prevention Plan are in place. Adverse visual effects are not expected from the installation of the digester as the site is fairly isolated and any additional infrastructure will not have a greater height than the existing WWTP infrastructure. Noise attenuation from the generator will be handled by a container. Noise levels at two meters are estimated at 68db. The nearest residence is 850ft away from the proposed digester. Waste (feedstocks) in the capacities outlined above represent approximately 3-4 tanker trucks or dump trucks per day. In addition, approximately 5 trucks per day will manage the system's dewatered solids. Filtrate from dewatering goes back to the WWTP headworks.

Air Quality – The recipient is in the process of obtaining a Permit to Install and Operate from the Ohio EPA. This permitting process will assess potential impacts from all sources of emissions resulting from the proposed anaerobic digestion facility including storage of feedstock and electricity generation. It is expected that the diversion of waste materials, currently being incinerated or sent to landfills for disposal, to the proposed anaerobic digestion facility will have a beneficial impact to air quality as all gas from the digestion process would be intentionally captured where emissions from incineration and landfills go directly into the atmosphere. "U.S. EPA recognizes in its waste management hierarchy that technologies for recovering energy from waste are preferable to simply incinerating waste or disposing of waste in landfills. This is due to the benefits associated with waste-to-energy technologies. Chief among these benefits are lower pollution emissions, creation of alternatives to fossil fuels, and reduced reliance on landfills" (2009 State Solid Waste Management Plan, Ohio EPA DSIWM. Pg.16). There will be a net decrease in odor as the incoming biomass would be placed into the in-ground receiving tank which is enclosed, and the displaced air when material is being received would be sent to a bio-filter. The anaerobic digestion process would break down the volatile organic solids in the biomass that are responsible for the offensive off-gassing of hydrogen sulphide in the air at landfills where waste is currently disposed.

Biological Resources – The Ohio Dept. of Natural Resources and the U.S. Fish and Wildlife have been consulted and determined that the proposed project will not result in adverse effects to threatened and endangered species (Documentation attached).

Cultural Resources – The Ohio State Historic Preservation Officer has reviewed a detailed application and agrees that historic and/or archeological buildings and/or assets such as Native American protected lands (burial grounds) are not present; therefore, the proposed project will not result in adverse effects to cultural resources (Documentation attached).

After a thorough review of the information submitted for the proposed project, it has been concluded that the proposed project will not have a significant impact to human health and /or the environment. Therefore the proposed project is hereby Categorically Excluded under 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 :

EF2a completed by Logan Sholar

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____ Date: 5/17/11

NEPA Compliance Officer