PMC-EF2a
(2.04.02)

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

RECIPIENT: Nevada State Office of Energy **STATE:** NV

PROJECT TITLE: Renewable Energy and Energy Efficiency Revolving Loan Program - Avatar Energy - Desert Hills Dairy # 2

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000052	DE-EE-0000084	GFO-0000084-010	EE84

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 Nevada State Office of Energy is proposing to award $2,040,662 in SEP funding to Avatar Energy, LLC to install an anaerobic digester and a 75kW combined heat and power generation unit at Desert Hills, an existing dairy farm in Yerington, NV.

Potential environmental impacts of the Avatar Energy project and associated actions include:

• Air Quality – Impacts to air quality will be negligible to positive. The level of greenhouse gases allowed into the atmosphere will be reduced by their use for the generation of electricity. The proposed project will reduce the odor normally produced from the farm.

• Water Quality – There are no nearby wetlands, or floodplains that will be adversely affected by the proposed project. No new waste water will be generated and no new ponds are needed. Due to the separation of solids the total liquid waste volume storage requirements will be reduced by at least 15%. The Avatar digester is a water neutral project; therefore, water resources at the dairy will not be affected as a result of the proposed project.

• Threatened and Endangered Species – The proposed site has been utilized as part of the existing facility operation and has been previously disturbed. It currently consist of open dirt areas and alfalfa crop land. The surrounding area is actively farmed agricultural land to the east, and open desert to the north, south, and west. While there are two state-listed vulnerable species, the Lemmon buckwheat and the Tihem peppergrass, it is unlikely that they occur at the project site due to its current use as a dairy and active alfalfa crop land. Therefore, it is highly unlikely that there will be an adverse effect to these plant species.

• Cultural Resources - The proposed site has been utilized as part of the existing facility operation and has been previously disturbed. This project site has undergone review from the Nevada SHPO; who found no adverse effect to historic resources; however, both the SHPO and the Yerington Paiute Tribe requested archeological surveys be conducted during any construction activities. However, due to the extensive disturbance at the project site, it is unlikely that cultural resources will be unearthed.

• Permits - The Desert Hills Dairy is an existing operating dairy at this time with all existing permits including a Concentrated Animal Feeding Operation (CAFO) permit; for any construction activity, this current permit will need to be modified. The Bureau of Water Pollution wrote a statement in support of this project. In order to place a digester for use at this facility, an Air Quality permit will be required from the State of Nevada Division of Environmental Protection and Lyon County for building and engineering plan review and approval, as well as testing and inspection during construction. Both agencies have been contacted regarding this project with permit application to follow.

• Ground Disturbance – The Avatar digester utilizes a modular and scalable design platform and can be configured to accommodate the needs of most dairy farms. It is an above-ground, tubular, fiberglass-based design. The digester hulls are placed inside a solar barn for protection from the elements and sit on packed gravel. The barn footprint for the anaerobic digester system will be 80' x 175'. Due to the relatively flat topography and current use of the site, only minor excavation will need to occur to allow placement of the building and equipment. A small, approximately 12' by 12' utility shed will be placed adjacent to the solar barn to house the water heaters and control systems. A flare will be located adjacent to the digester shelter, with a 2' x 2' concrete pad. A trench approximately 200' long, 4' wide, 5'deep from the lagoon to the digester will need to be prepared to accommodate access to the milk parlor wash water pipe system. The primary electric line is typically buried electrical cable requiring a 2' wide x 3' deep trench between the generator and the utility source. In addition, there is ample space on the property site for parking of construction and/or delivery vehicles. All aspects of the proposed project will occur on land that has been utilized as part of the existing facility operation and has been previously disturbed.

The USDA conducted an Environmental Assessment for this project and found no or minimal impacts to all resources areas. At the conclusion of its EA, the following mitigation measures were implemented:

- The dairy will conduct and pay for archeological monitoring, per the request of the SHPO and Yerington Paiute Tribe.

- The dairy will update its existing CAFO permit.

• Waste Management – The dairy manure will be collected as per the normal farm operation and then diverted into the anaerobic digester for processing. Effluent from the digester will flow into a screw press to separate the solids and liquids. The liquids from the separator flow into the farm's existing storage lagoon and the solids will be collected for bedding. No new waste water is generated and no new ponds are needed. All products of the digester will remain at the farm.

• Utilities – Less than 100 feet from the proposed site at the dairy is a single-phase power line to which the genset can be connected. This connection will be a buried electrical cable requiring a 2' wide by 3' deep trench. The farm's current consumption is in excess of what the digester will generate. According to the recipient, the electricity generated by the digester and generator will be used solely to run a corn cracking machine which processes corn for cow feed.

DOE CX's another SEP-funded anaerobic digester for location at this dairy. The company installing that digester, GHD, has not been able to produce the leveraged funds required by the State of Nevada (NEPA control number GFO-10-145-006). While the dairy has the capacity for both digesters, it is unlikely that the GHD-digester will be funded and the dairy would receive only the one digester, which would be installed by Avatar Energy.

However, because the proposed project has been determined to have no adverse impacts to the environment, DOE finds that there are not significant individual or cumulative impacts to the human environment as a result of the two potential digester projects being implemented at the dairy. Therefore this project is categorically excluded under CX B5.1 "actions to conserve energy" from further NEPA review.

NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

Note to Specialist :

None Given.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____ Date: 12/9/10

NEPA Compliance Officer

FIELD OFFICE MANAGER DETERMINATION

☐ Field Office Manager review required