PMC-EF2a
(2.06.02)

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

RECIPIENT: VA Dept of Mines, Minerals and Energy **STATE:** VA

PROJECT TITLE : Mecklenburg County Landfill Energy Project

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000013	DE-EE0000864		0

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:

Mecklenburg County, VA is proposing to use $413,414 in EECBG ARRA funding to construct a landfill gas capture system at the towns closed landfill. The construction of the landfill gas capture system at the landfill is the first phase in a two phase process. EECBG ARRA funds are only being used for the first phase of the process. The second phase consists of installing one generator to convert the captured gas to electricity and connecting to the electrical distribution grid. Due to the small size of the landfill (30 acres), the projected size of each generator will be approximately .5MW. The electricity generated will be fed into the grid. New power poles will be located inside the property boundary of the landfill, but away from the landfill cap so there will be no contact with landfill waste or contaminated soil while setting the poles in the ground. There are existing transmission lines that run to the landfill property that will be used to make the connection to the grid. Based on preliminary modeling, the local utility has assured the recipient that the existing lines have the capacity to handle the proposed generator output and no new transmission lines are anticipated for completing the interconnection. There are not expected to be any adverse effects from this aspect of Phase 2 of the project based on generator and power pole placement within the existing disturbed landfill boundaries. The total cost of completing both phases of the project is estimated to be $1,700,000 with EECBG funds comprising 24% of the total project cost.

The proposed project will convert the 25 existing passive vents to active gas extraction wells. The proposed project will consist of two parts: a blower/flare station and a subsurface pipe collection system. The pipe system will be trenched two feet deep into the four foot cap of the landfill and will not come into contact with landfill waste. The construction of the subsurface pipe collection system will encompass 5.5 acres of disturbance. Once collection system piping has been installed, the disturbance will be restored and revegetated. The blower/flare station will be constructed on 0.5 acres and will remain in place throughout the life of the project. The pipe system will feed into a vacuum blower which will induce flow out of the landfill from the 25 extraction wells and route it all to a central location where it will be combusted by an open flare. The flare will have a stack height of 20ft and is estimated at 99% destruction efficiency for methane.

All construction will take place within the property boundaries of the landfill. There will be no adverse visual impacts as the landfill is surrounded by wooded areas and the majority of the installation will be buried. Also, existing power lines will be used and no new utilities or roads will be constructed during the project. Any waste created during construction will be collected in a roll off dumpster and taken to the local landfill. There will be no adverse effects to threatened and endangered species, wetlands, floodplains or cultural resources resulting from installation of the landfill gas capture system.

As required by the guidelines for closure, the landfill have a stormwater plan in place. The project has been approved by the Virginia Department of Environmental Quality as having no exposure risk for stormwater impacts and released

from monitoring requirements. For the Mecklenburg site, a revision to the landfill gas management plan in the solid waste permit is required and a minor permit amendment application will need to be submitted. Approval for this is expected to take 30 days. An air permit is not required. Application for an exemption from the NSR must be completed and submitted to the DEQ.

While EECBG ARRA funding will only be used for the first phase of the project, DOE has determined that all phases of the project will not have a significant impact to human health and/or environment. The proposed project will result in increased energy generation from the captured landfill gases and a reduction in conventional fossil fuel energy consumption; therefore, the proposed project is categorically excluded from further NEPA review under CX B5.1 "actions to conserve energy".

NEPA PROVISION

Insert the following language in the award:

You are required to:
The recipient is required to obtain all the necessary local, state, and federal permits regarding all actions involved in the project.

Note to Specialist :

None Given.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____ Date: 7/22/2010
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