



PMC-EF2a

(20102)

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



RECIPIENT: State of North Carolina - Subrecipient Robeson County

STATE: NC

PROJECT TITLE : Greenhouse Gas to Energy Projects

<b>Funding Opportunity Announcement Number</b>	<b>Procurement Instrument Number</b>	<b>NEPA Control Number</b>	<b>CID Number</b>
	DE-EE0000771	GFO-10-634-002	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:

Robeson County is proposing to use EECBG funding to expand the existing landfill gas collection system and construct an electricity-generating facility onsite. The gas collection system construction will consist primarily of installing 24 new extraction wells, approximately 9,000 linear feet of HDPE piping, a condensate removal vessel and 4 isolation valves. EECBG funding will also be used for the electricity generating facility which will have an estimated capacity of 1.4MW. The generators will be housed in a building or container where there will be electrical controls for the engines and switchgear equipment to convert the electricity into the proper voltage for distribution on the power line. Minimal grading/site preparation is anticipated. Utility work will be required to provide power and light for the facility and to meter and transfer the generated electricity onto the grid. Specifically, EECBG funds will be used to provide the necessary capital for purchase of equipment and construction of a fully functional electricity generating facility that will be fueled by landfill gas. Construction items include but are not necessarily limited to concrete pads, building/enclosure, equipment placement, utilities, and SCADA system installation. Equipment includes but is not limited to the engine-generator unit, switch gear, controls, transformer and radiator. The closed landfill is approximately 79 acres. The entire landfill property totals 485 acres. The methane recovery system is and will be constructed within the landfill footprint with the exception of the flare station and treatment skid, which is in place on the landfill property just to the south of the scales and east of the landfill, occupying approximately 0.1 acres, and the electricity generating station which will occupy approximately 2 acres.

Potential environmental impacts of the project and associated actions include:

- Air Quality – Air quality should improve as a result of the proposed project. Methane gas that is currently being vented directly into the atmosphere will be captured and used to produce electricity.
- Water Quality – State of NC requires a Sedimentation and Erosion Plan if more than one (1) acre is being disturbed. Landfill closure guidelines require a stormwater management plan be in place. Robeson County currently has an NPDES permit for the facility as well as an approved Erosion & Sedimentation Control Plan for the landfill facility which will cover the planned construction activities. The proposed project is not expected to have adverse effects to water quality.
- Ground Disturbance – The proposed 24 extraction wells are standard vent wells that are required as part of the closure of the landfill. The collection system piping is to be trenched 2 feet deep into areas of the landfill that have not had final closure construction performed. The areas of the landfill where gas is being collected have intermediate soil cover 1-2 feet deep. Closure construction will be performed at a later date when the landfill reaches capacity. The condensate collection vault will be approximately 13.5 feet deep and will allow condensate to drain by gravity to the landfill Leachate collection system. The collection system expansion pipe trenching will disturb approximately a 4 foot

wide strip along the trench line, which will be approximately 9,000 total feet in length, for a total of 36,000 square feet on the landfill footprint. The site work for the electricity generation facility is expected to disturb less than 1 acre (43,560 square feet).

- Noise – The power generation system will be totally enclosed within a sound suppressing container. The site is a low density, rural area with no occupied structure within 100 yards. Adverse effects from noise will be negligible.
- Visual – The proposed project will occur at a closed landfill in a rural area that is surrounded by wooded areas. Adverse visual effects are not expected as a result of the proposed project.
- Threatened and Endangered Species – The proposed project will occur on a partially closed landfill that is fenced. The site is graded and graveled. There will be no adverse effects to threatened and endangered species or critical habitat as a result of the proposed project.
- Permits – No new solid waste or wastewater permits will be needed. The landfill is not regulated by the Clean Air Act's New Source Performance Standards (NSPS) at this time due to the design capacity being below the threshold. Therefore, no Title V Operating Permit from the NC DENR's Division of Air Quality is required. The Division of Air Quality will be notified prior to construction of electricity generating equipment onsite. The North Carolina Department of Environment and Natural Resources (NCDENR) does not require a special permit for installation of a landfill gas extraction wells.

DOE has assessed potential impacts from all phases of the proposed project. After a thorough review of the information submitted for the proposed project, it has been determined that the actions involved will not have a significant impact to human health and /or the environment. The proposed project will result in a reduction in the use of conventional fossil fuels; therefore it is hereby Categorical Excluded B5.1 "actions to conserve energy," from further NEPA review.

**NEPA PROVISION**

Insert the following language in the award:

You are required to:

The recipient is required to obtain the necessary permits for all actions involved with the proposed project.

Note to Specialist :

EF-2a prepared by Logan Sholar.

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

NEPA Compliance Officer Signature: \_\_\_\_\_



NEPA Compliance Officer

Date: \_\_\_\_\_

9/22/10

**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: \_\_\_\_\_