

PMC-EF2a

(2.04.02)

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



RECIPIENT: Iowa Office of Energy Independence

STATE: IA

**PROJECT TITLE :** SEP - Cedar Rapids Linn County Solid Waste Agency Landfill Gas Cogeneration Project

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA000052	DE-EE0000162	GFO-09-144-009	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:

The Iowa Office of Energy Independence proposes to provide \$650,000 of SEP funds to the Cedar Rapids/ Linn County Solid Waste Agency (Agency) near Marion, Iowa. The Cedar Rapids/Linn County sanitary landfill has been in operation since 1972. The oldest landfill cells now produce methane which is currently migrating into the atmosphere. The Agency proposes to capture the gas, which will provide a long term (20 year), reliable, local source of electricity and usable heat.

The project will install the infrastructure and equipment needed to capture landfill gas and convert it to electricity via reciprocating engines to power electrical generators. The excess heat from the generators will be used to heat buildings on or near the landfill site. The project is divided into three phases. The Agency funded and constructed Phase 1 beginning in 2009. Phase 1 consisted of the construction and commissioning of the gas collection and destruction system. Twenty-one vertical gas wells and 3 horizontal wells and the associated gas compressor have been installed and are operational. Collected gas is currently destroyed by flaring.

Phase 2 can proceed now that Phase 1 commissioning is complete, and sufficient gas is being produced. Phase 2 will include the design and construction of two reciprocating engine generators, which will use the gas to produce 3.2 Megawatts of power.

Phase 3 is the heat recovery portion of the project, and will include installation of piping and retrofitting existing heating systems to utilize engine waste heat for replacement of building heating fuels. The heat recovery system consists of a heat exchanger placed in line with the engine coolant system. Heat piping will be installed to two buildings on the landfill site, and the building heating systems will be retrofitted to utilize recovered heat. Phase 3 is the portion of the project for which SEP funds will be used and will be installed at the same time the generators are put into place.

The project will be confined to a previously disturbed area within the existing landfill. The footprint of the existing facility will not be impacted. There is no known wildlife use of the site and no significant vegetation. The landfill is located in a rural area and the primary adjacent land use is agricultural lands with a few isolated homes.

In October 2009, the Iowa Department of Natural Resources issued an amended operating permit, Permit No. 57-SDP-01-72P, for the installation and operation of the gas collection system completed in Phase 1.

## Air Quality:

The Agency possesses a Linn County (IA) air quality construction permit to flare the gas (Permit No. 5913) for Phase 1. The permit will be amended to include Phase 2 and Phase 3 activities approximately 10 days prior to beginning

construction. The Agency is not required to amend their Title V permit at this time.

**Water Quality:**

The Agency has an NPDES General Permit No. 1 (Permit No. 5917-5727) from the Iowa Department of Natural Resources for storm water discharge associated with industrial activities. This permit also covers soil disturbing activities that take place at the landfill. Thus, a separate construction permit is not required.

No water features will be affected by this project.

**Cultural Resources:**

In 1998, the landfill site was surveyed for archeological resources and no sites were identified near the project limits of the current undertaking. One historic property was identified; a historic cemetery on the west boundary of the property. The landfill officials are aware of the cemetery's location and have already taken steps to preserve it by erecting a fence around the site's perimeter. In March 2010, the SHPO concurred that no historic properties would be affected by this project provided the Agency maintains the existing 400 foot buffer around the cemetery.

**Noise:**

The generators will be housed in a new building and noise will not be an issue.

**Hazardous or Toxic Materials:**

According to the recipient, there is no potential for encountering asbestos in the landfill or in any building modifications that may be needed to retrofit the existing heating systems.

Based on the scope of the proposed project provided by the State and recipient, 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 :

The EF-2a was prepared by Chris Paulsen on Sept. 30, 2010.

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

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

NEPA Compliance Officer

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

10/8/10

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