PMC-EF2a

(2.04.02)

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

RECIPIENT: City of Memphis Public Works **STATE:** TN

PROJECT TITLE: Cogeneration at M.C. Stiles Wastewater Treatment Plant

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000013	DE-EE0000955		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 City of Memphis would develop a cogeneration facility, through a design-build contract, at the existing M.C. Stiles Wastewater Treatment Plant, located at 2302 N. Second Street, Memphis. Specifically, EECBG funds would be used to procure the necessary equipment and reconfigure existing piping to develop a first phase cogeneration facility. The facility would utilize biogas currently generated by the existing anaerobic wastewater lagoons to power new internal combustion engines or micro-turbines, thereby generating power and heat to be used in existing plant processes.

The proposed facility would be constructed on previously disturbed land located adjacent to and to the immediate south of the plant's existing blower building and primary and secondary flare systems. Biogas infrastructure exists between the sludge lagoons and the blower building and flares, therefore limited piping work would be required to connect the existing biogas source with the new equipment. The cogen facility would consist of cogeneration equipment installed on a concrete slab at the selected location (a building enclosure would only be constructed if directed by an equipment manufacturer). The concrete footprint would be approximately 900 sf. A review of FEMA Flood Insurance Rate Maps (FIRM) shows that the project location and the plant itself is located outside of the 500-year (0.2%) floodplain.

While the design-build contract will ultimately determine where heat and power would be utilized at the plant (initial alternatives include providing heat and power to the dewatering building, using heat for drying dewatered sludge, or heating the sludge lagoons), the City has stated that ground disturbances to support the new heat/power infrastructure would occur in existing roadways, drives, parking lots, or storage areas, and that no previously undeveloped area would be disturbed. A review of aerial imagery provided by the City and images available on-line shows all areas within the plant as previously disturbed to support the construction of the facility in 1977.

Based on the available funding, the City anticipates that the proposed activity would constitute the first phase of a cogeneration facility that would not be capable of utilizing all of the biogas generated by the plant. Over time, as additional funds become available the City would incorporate additional heat and power generators to expand the cogeneration capacity for additional on-site use.

This project comprises actions to minimize waste generation, conserve energy, demonstrate energy conservation, and promote energy efficiency, and is therefore categorically excluded under NEPA under CX B5.1 and CX B6.8.

B6.8 Minor operational changes at an existing facility to minimize waste generation and for reuse of materials. These changes include, but are not limited to, adding filtration and recycle piping to allow reuse of machining oil, setting up a sorting area to improve process efficiency, and segregating two waste streams previously mingled and assigning new

identification codes to the two resulting wastes.

NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

Insert the following language in the award:

You are required to:
Prior to the expenditure of Federal funds to implement the above activity, the recipient shall obtain all required planning and/or building permits/approvals (mechanical, electrical, plumbing, etc.).

Prior to the expenditure of Federal funds to implement the above activity, the recipient shall obtain the required air permit (permission to construct, permission to operate, etc.) from the appropriate state and/or local regulatory agency.

Prior to the expenditure of Federal funds the recipient has the affirmative responsibility to ensure that it has a waste management plan addressing waste generated by their proposed actions. The plan will describe the plan to dispose of any sanitary or hazardous waste, e.g. construction and demolition debris, old light bulbs, lead ballasts, piping, roofing materials, discarded equipment, debris, packaging materials, asbestos, etc. generated as a result of the proposed project. The recipient must ensure that it will comply with all federal, state and local regulations for waste disposal.

NHPA Requirements
Prior to the expenditure of Federal funds to implement the above activity, the recipient has the affirmative responsibility to ensure compliance with Sec. 106 of the National Historic Preservation Act (NHPA). Section 106 applies to historic properties, districts, etc... that are listed in or eligible for listing in the National Register of Historic Places. Supporting documentation will be reviewed by the DOE as part of its post-award monitoring.

Note to Specialist :

None Given.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____ Date: 4/29/10
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