PMC-EF2a
(2.04.02)

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

RECIPIENT: Miami-Dade Water & Sewer Department **STATE:** FL

PROJECT TITLE : SDWWTP-Installation of Co-Gen Units 4 & 5 and Landfill Gas Pipeline Construction

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000013	EE0000790.001		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:

Miami-Dade County Florida, through the Miami-Dade County Waster and Sewer Department (MDWASD), would utilize EECBG funds to implement two phases of a related project: 1) construction of an integrated cogeneration system at the County's South District Wastewater Treatment Plant (SDWWTP), located at 8950 SW 232nd Street, Miami; and 2) construction of a landfill gas (LFG) pipeline from the adjacent South Dade Landfill (23707 SW 97th Avenue, Miami), operated by the County's Department of Solid Waste Management (DSWM), to the SDWWTP.

Both facilities are located in unincorporated southeast Miami-Dade County and collectively occupy approximately 1-square mile of land between SW 87th Avenue to the east, SW 97th Avenue to the west, SW 232nd Street to the north, and SW 248th Street to the south. The Black Creek Canal (Canal C-1) divides the two properties in an approximate northwest to southeast configuration with the SDWWTP located north of the canal and the landfill located south of the canal. The Black Creek canal is under the jurisdiction of the South Florida Water Management District (SFWMD).

The SDWWTP is a large treatment facility that processes an average flow of approximately 112.5 million gallons of wastewater per day (MGD). It currently operates with three existing 900 kW co-generation units within an existing Co-generation Building, to generate heat and electricity for on-site use from the biogas generated by the facility's' 12 digesters. The South Dade Landfill is a Class I landfill consisting of 3 closed cells, 1 active cell, and 1 proposed cell. The five cells occupy approximately 200 acres. A LFG collection system, with flare, is currently in place at the landfill.

The proposed cogeneration project would expand the SDWWTP's ability to supply its own heat and power utilizing immediately available county-generated waste energy sources and would involve the installation of two new co-generation units (approximately 2 MW capacity each), associated electrical equipment, electrical accessories, conduits and feeders in duct-banks, a new electrical room for arc-flash switchgear, and other ancillary equipment to the existing facility. To install the new co-generators, the current co-generator building (approximately 135' x 75') would be expanded within the existing concrete pad that surrounds it. The new units would be capable of operating, with a seamless transition, between fuels from 100% digester gas, 100% natural gas and 100% landfill gas, or any combination between fuels.

To facilitate delivery of LFG from the South Dade Landfill to the SDWWTP, a new LFG compressor station (at the flare station), metering station (at the SDWWTP Co-generation Building), an approximate 5,206 foot LFG pipeline (8-inch diameter HDPE underground, and 8-inch coated carbon steel aboveground), and a 104-foot pipe bridge over the Black Creek canal, would be constructed. The LFG pipeline would be routed from the landfill's existing flare station to the new metering station located at the cogeneration building at the SDWWTP. The pipeline is expected to supply 500 standard cubic feet per minute (SCFM) of LFG starting in 2012, with production expected to increase to 900 SCFM by 2030.

The route for the proposed pipeline would run along the northern boundary of the landfill (which is the south right-of-way [ROW] line of the Black Creek Canal), across the canal approximately 1,200 feet east of SW 97th Avenue (in the vicinity of SDWWTP Wastewater Injection Well #1-10), then follow the southern boundary of the SDWWTP (which is the north ROW line of the canal to the plant's existing Co-Generation Building. Except for that portion of the alignment that crosses the Black Creek Canal, the entire gas pipeline would be located within County-owned property. The County has obtained a Right-of-Way Occupancy Permit (Permit No. 13176) for construction of the pipeline across the canal from the SFWMD. The permit is valid through September 30, 2010.

To address construction of the pipeline across the Black Creek Canal, and following initial consultation with the Florida Department of Environmental Protection (FDEP), MDWASD has submitted a joint application to the FDEP for an Environmental Resource Permit, US Army Corps of Engineers Dredge and Fill Permit (under Nationwide Permit based on initial consultation with the USACE), and an Application for Authorization to use Sovereign Submerged Lands. Installation of the pipeline bridge would consist of a metal truss bridge, two concrete piles on each end to support the weight of the pipeline, and placement of rip-rap along both canal banks for structural support in accordance with the SFWMD ROW Permit. The Miami-Dade County Department of Environmental Resources Management (DERM) prepared a letter which stated, in part, "...be advised that the South Dade Landfill and the South District Waste Water Treatment Plant are located in the Southwest Biscayne Bay Wetland Basin. However, our environmental assessment found that the location of the proposed gas pipeline does not contain wetlands as defined by Chapter 24-5 of the Code of Miami-Dade County. Therefore, a Miami-Dade County Class IV Permit will not be required for the proposed pipeline. Permits from the U.S. Army Corps of Engineers (USACOE), the State of Florida Department of Environmental Protection (DEP) and the South Florida Water Management District (SFWMD) may be required for any proposed project(s) at this location. It is the responsibility of the applicant to contact the USACOE, the DEP and the SFWMD." As noted above, MDWASD has initiated these reviews and has completed or is completing the permitting process.

The SDWWTP currently operates with a Title V Air Permit from the State of Florida for its existing co-generation units and backup generators. MDWASD recently received the approval to install an additional 6 – 7 backup generator units that will be necessary once the HLD equipment is on line. Revision of the Title V permit to incorporate the proposed new co-generation units will be a requirement of the design-build contractor upon award.

Potential environmental impacts of the project and associated actions include:

• Air quality – Air quality impacts are not anticipated to be significant as there will be little to no change in the volume of landfill gas or biogas being combusted. Landfill gas being generated at the landfill will primarily be combusted in the new cogenerators instead of the landfill's flare station. The SDWWTP currently consumes 100% of the biogas generated at the plant in the existing cogeneration units. The proposed project will not increase the volume of landfill or biogas being generated therefore all such gas will continue to be combusted in the cogeneration process. Air emissions would likely improve with the use of the new cogenerators as existing units 1 through 3 (which will be changed out over time) are almost 30 years old, thus improved combustion efficiency is expected. Similarly, improved combustion efficiency is expected compared with the efficiency of the older LFG flare system.

• Floodplain - Based on the review of FEMA Flood Insurance Rate Map Number 12086C0612L (Revised September 11, 2009) the County properties and all surrounding areas are located within the FEMA designated Special Flood Hazard Area Subject to Inundation by the 1% Annual Chance Flood, with base flood elevations determined (Zone AE). Adherence to construction standards within the floodplain is not expected to contribute to increased flooding in the area during significant storm events. MDWASD has indicated that new construction is required to be at or above established base flood elevations and that has been factored into the proposed design and will be a requirement for the design-build contractor upon award.

• Wetlands/Submerged Lands/Water Quality – While wetlands exists along the banks of the Black Creek Canal, the proposed path for the LFG pipeline across the canal has been chosen to avoid wetland impacts. Construction activity at the Black Creek Canal has the potential to impact water quality in the canal which discharges into Southern Biscayne Bay and Biscayne National Park, also designated as an Outstanding Florida Water. The recipient is actively engaged with the FDEP in obtaining a Standard General Permit for the proposed pipeline construction over the canal which will incorporate conditions intended eliminate or minimize potential impacts to wetlands and submerged lands, and to assure that water quality standards will not be violated.

• Threatened and Endangered Species - While work is not proposed to take place within the canal, the selected contractor will be required to adhere to the Florida Fish and Wildlife Conservation Commission's Standard Manatee Conditions for In-Water Work, as manatees are known to inhabit the Black Creek Canal.

• Odor – While odors are frequently present at both the landfill and the treatment plant due to the nature of the operations, the proposed activity is not expected to increase odors at either property as it does not involve any increased generation or processing of waste materials, just the continued combustion of LFG and biogas generated at each facility.

• Traffic – There could be a small increases in traffic required for the delivery of equipment and construction. The area surrounding the landfill and treatment plant is rural, subject to daily truck traffic for solid waste disposal; therefore the new construction activity is not likely to have an impact on the surrounding area.

• Hazardous waste – The generation of hazardous waste is not anticipated as the project involves the construction and installation of additional infrastructure to manage existing LFG and biogas resources currently being produced at both facilities. An increase in or expansion of LFG or biogas development is not proposed.

Based on a thorough evaluation of the proposed project, no extraordinary circumstances exist. This activity constitutes actions to conserve energy and is therefore categorically excluded under NEPA under CX B5.1.

NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

Note to Specialist :

Recipient shall ensure the safety and structural integrity of any repair, replacement, construction and/or alteration performed under this project.

Prior to the expenditure of Federal funds, the recipient shall obtain all necessary local, state and/or federal permits required to construct and operate the proposed pipeline, expanded co-generation facility, and new co-generators.

Prior to the expenditure of Federal funds the recipient has the affirmative responsibility to comply with Section 106 of the National Historic Preservation Act (NHPA). Section 106 applies to historic properties that are listed in or eligible for listing in the National Register of Historic Places. If applicable, the recipient must contact the State Historic Preservation Officer (SHPO) to coordinate the Section 106 review outlined in 30 CFR Part 800. Supporting documentation will be reviewed by the DOE as part of its post-award monitoring.

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.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____ Date: 6/7/10

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