

FINDING OF NO SIGNIFICANT IMPACT TENNESSEE VALLEY AUTHORITY

POWER PURCHASE AGREEMENT FOR RENEWABLE ENERGY FROM BIOGAS - INSTALLATION OF GENERATING CAPACITY AT MEMPHIS WASTEWATER TREATMENT PLANT

The Tennessee Valley Authority (TVA) proposes to enter into a power purchase agreement (PPA) with The City of Memphis, Tennessee for the acquisition of electric power generated at the M. C. Stiles Wastewater Treatment Plant (WWTP) in Shelby County, Tennessee. The proposed action is the subject of an environmental assessment (EA) prepared by TVA which is incorporated by reference.

TVA produces or obtains electricity from a diverse portfolio of energy sources such as nuclear, fossil, hydro, solar, wind, and biomass. In order to help fulfill the objectives of its 2011 Integrated Resource Plan and 2008 Environmental Policy, TVA has recently undertaken efforts to expand the contribution of renewable and low greenhouse gas-emitting sources in its generation portfolio. The utilization of biogas for the production of electricity would qualify as a renewable power source. The more energy generated from renewable resources such as biogas, the less energy would need to be generated from nonrenewable resources such as fossil fuels. The proposed project is to utilize biogas as an energy source for generating electricity, which would otherwise be combusted by a flare into the atmosphere.

The installation of a single reciprocating engine and generator system would result in an electric generating capacity of 2.0 megawatts (MW) at the WWTP, thereby reducing or eliminating the amount of biogas being incinerated in the existing flare and continuation of the reduction in methane (a greenhouse gas) emissions from the WWTP.

Alternatives

This EA evaluated two alternatives – the No Action Alternative and the Action Alternative.

Under the No Action Alternative, TVA would not purchase power from the facility, and the biogas-fueled engine and generator system would not be installed by the City of Memphis. The excess biogas produced by the WWTP would continue to be flared to the atmosphere, up to the maximum capacity of the flare.

Under the Proposed Action Alternative, TVA would enter into a PPA to purchase electric power generated from the proposed facility at the WWTP. The City of Memphis would install a single biogas-fueled engine and generator system inside an existing building. The project also includes a short extension of piping to the biogas collection and supply lines, a short on-site transmission line for interconnect to the existing distribution system, and associated equipment. The biogas produced by the WWTP would be used in the engines to produce up to 2.0 MW of power.

TVA's Preferred Alternative is the Proposed Action Alternative under which TVA would enter into a PPA with the City of Memphis to purchase power generated from the installation of a single biogas-fueled engine and generator system at the M. C. Stiles WWTP.

Impacts Assessment

The project location is not within a floodplain and the proposed addition of a biogas-fueled engine and generator system would not affect floodplain values or functions. Therefore, the proposed action is consistent with Executive Order 11988 Floodplain Management. No direct, indirect, or cumulative effects to wetlands are anticipated from the proposed project. Therefore, the proposed action would not require permitting under Sections 401 and 404 of the Clean Water Act and complies with Executive Order 11990 Protection of Wetlands. Adoption of the Proposed Action Alternative is not expected to cause direct or indirect impacts to any threatened or endangered terrestrial or aquatic plant or animal species or their habitats. Therefore, the requirements of Section 7 of the Endangered Species Act are satisfied. The proposed project area does not contain archaeological or other cultural resources, and because the integrity of setting of the area has been destroyed, the proposed undertaking has no potential to affect historic properties. Pursuant to 36CFR Part 800.3(1), the requirements of Section 106 of the National Historic Preservation Act are satisfied.

Additionally, the project would not have impacts on water quality and aquatic ecology, hazardous and nonhazardous wastes or environmental justice. Impacts to terrestrial plants and animals, noise levels, transportation and visual aesthetics would be minimal and insignificant. The project's impacts on air quality are considered beneficial but insignificant.

Public and Intergovernmental Review

The EA for the proposed action did not undergo public or intergovernmental review. The air pollution control permit received from the Shelby County Health Department (SCHD) for construction and initial operation of the facility was publicly noticed on the SCHD website as a monthly permitting action (<http://www.shelbycountyttn.gov/index.aspx?NID=865>).

Mitigation

Best management practices and other routine measures will be implemented during installation activities. TVA has not identified the need for any other nonroutine mitigation measures to reduce potential environmental impacts.

Conclusion and Findings

Based on the findings listed above and the analyses in the EA, TVA concludes that the proposed action of PPA approval of this project would not be a major federal action significantly affecting the environment. Accordingly, an environmental impact statement is not required.



Aaron B. Nix, Senior Manager
NEPA Interface
Environmental Permits and Compliance
Tennessee Valley Authority

March 7, 2012

Date Signed