City Council Report

Date: July 5, 2016

To: City Council

Through: Karolyn Kent, Assistant City Manager

From: Dan Cleavenger, Water Resources Department Director

Subject: Approving the sale of biogas at the jointly owned 91st Avenue Wastewater Treatment Plant ("Plant") in accordance with the Intergovernmental Agreement for the Construction, Operation and Maintenance of the Jointly Used Sewerage Treatment and Transportation Facilities, No. C-1294 ("IGA").

Strategic Initiatives

Purpose and Recommendation

The City of Phoenix, acting as the management agent for the 91st Avenue Plant in accordance with the IGA, has recently negotiated with Ninety-First Avenue Renewable Biogas, L.L.C (or "91RB", a subsidiary of Ameresco, Inc) the sale of excess digester gas as a renewable green energy commodity for processing and beneficial use. This sale will create a positive revenue stream for the SROG members. The Plant generates digester gas as a product of treating wastewater. A small portion of the gas produced is used in the treatment process as boiler fuel to heat the digesters. The excess gas produced is currently burned in flares at the Plant.

The Plant is jointly owned by the Cities of Glendale, Scottsdale, Tempe, Phoenix and Mesa (referred to as the Sub-regional Operating Group, or "SROG"). In accordance with Section 17 of the IGA, Mesa and the other SROG cities must provide Phoenix "written approval to enter into contractual disposition of effluent and products contributed to the Plant by the other Cities". The Water Resources Department recommends that the Mesa City Council authorize the City Manager to provide Phoenix with such written approval.

Background and Discussion

The digester biogas produced at the plant is a result of the natural breakdown of organic matter in the wastewater treatment process, and is captured in the anaerobic digesters. Currently, quantities of gas are produced at the Plant equivalent to approximately 600,000 million British Thermal Units (Btu) of energy, or enough to meet annual consumption of around 6700 household's.

Under the deal negotiated by Phoenix through a public process, 91RB proposes to lease a small area of land at the Plant to construct and operate a processing facility for the excess biogas. Gas processing will include removal of moisture, removal of selected contaminants, and pressurization of the product gas to interstate gas transportation pipeline pressures. An additional component of the project is a new pipeline from the gas processing facility to the Kinder-Morgan Pipeline, which is about 3 miles west of the Plant.

Benefits of this program to the SROG members include reduction of digester gas wasted by flaring to the atmosphere, reduction in the amount of air emissions at the Plant, potential future use of cleaned gas on-site for emergency power, and receipt of revenue from the sale of the biogas which 91RB will process into pipeline quality clean and renewable green energy. Under the Agreements negotiated by Phoenix (attached as Exhibits A and B), 91RB generally assumes the risks of financial loss from the project, and will pay for all capital costs for installing the equipment and pipeline, as well as all costs for operating the gas processing facility. Certain aspects of this transaction are still under legal review at the time of the preparation of this Report.

Alternatives

Mesa could decline to approve the sale of biogas, but then would forego the opportunity to receive a revenue source from a wasted resource. Processing the waste biogas may lower wastewater treatment costs and help protect the environment.

Fiscal Impact

The SROG could receive annually an estimated $1.2 million in revenues from this project. Mesa’s share would be approximately 13 percent of the total amount, or over $150,000 per year based on wastewater sent to the Plant. Over time, the City could receive more revenue if gas volumes increase at the Plant.