



Department Source: City Utilities - Water and Light

To: City Council

From: City Manager & Staff

Council Meeting Date: July 19, 2021

Re: Public Hearing: consider construction of an additional electrical generation unit at the Landfill Gas Electric Generation Plant at the Columbia Sanitary Landfill.

## Executive Summary

This is the public hearing for the proposed construction of an additional electrical generation unit at the Landfill Gas Electric Generation Plant located at the City's Sanitary Landfill. This facility produces renewable electric energy to help achieve goals required by the ordinance and in the Climate Action and Adaptation Plan. The current estimated cost is \$2,000,000 and will be paid from Electric Utility funds.

## Discussion

Water & Light (CWL) owns and operates an electrical production plant at the City's Sanitary Landfill that uses methane produced in the landfill to fuel three GE-Jenbacher reciprocating engine/generators. Each GE-Jenbacher engine-generator set has a capacity of 1 MW. The plant entered service in June 2008, was expanded in 2013, and has produced an annual average of 15,000 MWHs over the past five years. As the fuel for the engines is from the natural decay of material in the landfill, the energy produced at the Landfill Gas Plant is part of CWL's renewable energy portfolio. On an annual basis, the Landfill Gas Plant has provided about 1.2% of Columbia's total energy.

This project will add a fourth and final unit to the plant as originally designed, and has been designated in the Capital Improvement Plan (CIP) as project E0175. This project would increase the Landfill Gas Plant's capacity to 4.0 MW. Based on the project requiring expertise in landfill gas electric generation, staff is recommending this project be completed utilizing the Design-build process including in Section 22-76 of the City Code of Ordinances. An interested parties meeting was held on February 15, 2018. The Water and Light Advisory Board considered the addition of the fourth unit to the Landfill Gas Plant at the April 7, 2021 meeting. The board supported moving forward with a public hearing for this proposed project.

This project is estimated to cost \$2,000,000. \$1,350,000 has been appropriated and an additional \$650,000 is proposed in the fiscal year 2022 CIP and will be funded by Electric Utility Revenue Funds.

## Fiscal Impact

Short-Term Impact: The capital expense is anticipated to be \$2,000,000

Long-Term Impact: Annual operation and maintenance expenses will be included in operating budgets in future years and will not be known until design is complete and



# City of Columbia

701 East Broadway, Columbia, Missouri 65201

operation and maintenance requirements are provided. It is not anticipated to be a significant increase in the operating budget.

## Strategic & Comprehensive Plan Impact

### Strategic Plan Impacts:

Primary Impact: Infrastructure, Secondary Impact: Not Applicable, Tertiary Impact: Not Applicable

### Comprehensive Plan Impacts:

Primary Impact: Infrastructure, Secondary Impact: Not applicable, Tertiary Impact: Not Applicable

## Legislative History

Date	Action
07/06/2021	R117-21 Setting a public hearing: proposed design and construction of an additional electrical generation unit at the Landfill Gas Electric Generation Plant; providing for construction of the proposed improvement using a design/build contract.
09/06/2016	B214-16 Authoring replacement of reciprocating engine/generators at the Landfill Gas Electric Generation Plant; authorizing the Purchasing Division to enter into a contract for the purchase and installation of the replacement engine/generators.
08/15/2016	R108-16 Resolution setting a public hearing; declaring the necessity for proposed replacement of reciprocating engine/generators at the Landfill Gas Electric Generation Plant.
08/12/2012	B197-12 Authorizing design and construction of an engine/generator set to provide additional capacity at the Landfill Gas Electric Generation Plant; providing for request for proposals through the Purchasing Division, appropriating funds.
04/17/2006	Authorizing the design of a renewable fuels facility at the Sanitary landfill, authorizing a request for proposals.
02/06/2006	R28-06 Resolution providing that the City Water and Light Department and Public Works Department jointly operate a renewable fuels project using landfill gas.

## Suggested Council Action

Direct staff to proceed with the design and construction of Unit #4 at the Landfill Gas Electric Generation Plant.