



Department Source: City Utilities - Water and Light

To: City Council

From: City Manager & Staff

Council Meeting Date: August 19, 2024

Re: Authorizing an agreement for professional engineering services with Leidos Engineering, LLC for a Utility Scale Battery Study

## Executive Summary

Staff has prepared for Council consideration a resolution authorizing the City Manager to execute an engineering services agreement with Leidos Engineering, LLC in an amount not to exceed \$99,957.00 to provide a utility scale battery study. The purpose of this study is to determine the technical feasibility, reliability impacts, costs, and operational aspects of a battery energy storage system at either the 69kV or 13.8kV voltage levels in City's substations. This study will make recommendations for how City owned utility scale batteries may impact the reliability and capacity of the electric system and potentially move the City toward its goals of increasing renewable energy adaptation.

## Discussion

The Integrated Resource Plan and Master Plan completed by Siemens for the Electric Utility in 2022 discusses implementation of battery storage solutions to meet renewable energy targets. The Water and Light Advisory Board asked staff to conduct a study to determine the technical feasibility, reliability impacts, costs, and operational aspects of a battery energy storage system in the City's substations.

Leidos Engineering, LLC has performed various studies of Columbia's electric system. Their project team consists of consulting engineers with technical expertise in modeling, system protection, dynamic stability and NERC compliance. The scope of work for this Utility Scale Battery Study to be conducted by Leidos Engineering, LLC includes:

- Provide an operational analysis, including estimated capital and operating costs, an overview of expected maintenance procedures and bulk electric battery storage safety considerations.
- Summarize the specifications and performance requirements for the inverter technology
- Develop a list of potential suppliers and technology options available in the market today.
- Summarize the safety considerations for bulk electric battery storage systems based on industry best practices to support the City in informing involved personnel and residents.
- Conduct power flow simulations for both steady state and dynamic system modeling scenarios to determine system stability impacts.



# City of Columbia

701 East Broadway, Columbia, Missouri 65201

Results of the study will be discussed with the Water and Light Advisory Board to determine feasibility of adding battery energy storage systems to support the City's move towards renewable energy. The contractual agreement with Leidos Engineering, LLC includes a not to exceed amount of \$99,957.00 to be paid from the Electric Utility operating budget.

## Fiscal Impact

Short-Term Impact: \$99,957.00.

Long-Term Impact: None.

## Vision & Strategic Plan Impact

### Strategic Plan Impacts:

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

### Comprehensive Plan Impacts:

Primary Impact: Infrastructure, Secondary Impact: Livable & Sustainable Communities, Tertiary Impact: Not Applicable

## Legislative History

Date	Action
none	none

## Suggested Council Action

Approval of the resolution.