



Meeting Date: August 27, 2018

Report No. SUA-18-34

Agenda Item No. 5a

Purpose: Bid Recommendation: Substation Transformers - SUA Bid #01-18/19

Budget Impact: Funding for the contract is available in the electric rate stabilization fund. No additional appropriations are necessary for this action.

Prior Council Action or Part of an Approved Project: Yes

Related Items: [Substation Transformer Replacement Project](#)

Alternatives:

1. Accept staff's recommendation for bid award.
2. Reject all bids and direct staff to repeat the bidding process. This would not likely result in a different outcome and would cause project delays and project cost increases.

Recommendation: Staff recommends that the Trustees award the bid and authorize staff to execute the contract for six electric substation transformers to the lowest responsible bidder, Pennsylvania Transformer, in the amount of \$3,466,326 and authorize expenditures from the electric RSF up to \$3,812,958 (includes a 10% contingency).

Prepared by: Loren Smith, Electric Utility Director

Reviewed by: Norman McNickle, City Manager

Submitted by: Norman McNickle, City Manager

Background Information: On March 12, 2018, the Trustees approved the substation transformer replacement project and authorized staff to enter into a professional services agreement with Burns & McDonnell for the engineering design and procurement support required for project. Since then staff has been working to acquire the transformers, which are the longest lead time equipment associated with the project.

Discussion: Specifications and bid documents for the transformers were prepared by the project engineer Burns and McDonnell (BMcD). Bid solicitations were advertised in accordance with the City’s purchasing manual and bid specifications were sent to perspective bidders on June 20, 2018. On July 11, 2018, five bids were received and opened. The bids were then evaluated with BMcD and staff.

Power transformers convert some electrical energy to waste heat in the electric power transformation process. The waste heat, called loss, is used to evaluate the operational efficiency of the transformer and is a large part of the cost of ownership to the utility. Well designed and manufactured transformers are highly efficient and the losses are relatively small in comparison to the transformer power rating. However, the electric energy cost to supply the losses equate to a considerable sum of money when subjected to a present worth analysis over the expected life of the transformer.

All bidders were required to include the transformer losses expressed in kilowatts. For evaluation purposes, all bid prices were subjected to a “cost of loss” adder to the bid price. The actual losses of the transformers are measured at the factory acceptance test. If actual losses are greater than the losses stated in the bid, the bidder must reduce their bid price based on a formula similar to that used to determine the adder. This process allows staff to determine the lowest responsible bidder by assuring that important differences in value as well as price of the product have been considered.

The following table summarizes the cost related information provided in the bids. Base Price is the initial purchase amount. It is the sum of the cost of the transformer and related expenses to ship and set it on the concrete pad. Losses are the value of the energy converted to waste heat over the life of the transformer. The loss calculation considers the present price of power, an assumed escalation over the projected 30 year transformer life and transformer loading. Evaluated Cost is the sum of the Base Price and Losses.

Summary of Evaluation

Manufacturer	<u>Base Price</u> (\$)	<u>Losses</u> (\$)	<u>Evaluated Cost</u> (\$)
Pennsylvania Transformer	3,466,326	1,916,715.54	5,383,041.54
OTC Services	4,499,460	1,910,824.24	6,410,284.26

While five bids were received, three of the bids were considered non-responsive. They would not agree to our commercial terms and conditions without negotiation, and would not commit to firm pricing. Pennsylvania Transformer did agree to both making them the lowest responsible bidder.