

**COUNCIL ACTION FORM**

**SUBJECT: PRELIMINARY PLANS AND SPECIFICATIONS FOR INSTALLATION  
SERVICES FOR 69KV UG POWER CABLE TOP-O-HOLLOW  
SUBSTATION**

**BACKGROUND:**

This project will convert the existing single underground 69kV transmission tap connection at the Top-O-Hollow substation to a more reliable dual-source transmission connection, including the necessary relaying and breakers for high-speed line and transformer protection. The scope of this project includes the replacement and expansion of the existing 13.8kV metalclad switchgear to provide the addition of a main breaker and replacement of obsolete airblast breakers and electromechanical relays with vacuum-interrupter breakers, microprocessor-based relaying equipment, the addition of 69kV line breakers and the addition of a 13.8kV Capacitor Bank for power factor correction.

**This portion of the project is to contract for furnishing and installing 69 kV power cable and terminations for the Top-O-Hollow Substation. The Engineer's estimated cost for this is \$350,000.**

The approved FY 2017/18 CIP for Electric Services includes \$1,950,000 for construction under the Top-O-Hollow Substation Expansion and Breaker Addition project. Iowa State University's (ISU) will also provide funding for this project. ISU's share of the project is based on a load-ratio-share of the 69kV portion of this project at the time of implementation. For budgetary purposes, staff is assuming the ISU load ratio share to be 7% of the total project cost.

Originally this project was budgeted to provide overhead transmission lines from the substation. After review of the location, discussions with neighboring residents, and for increased reliability, staff determined that the lines leaving the substation should be installed underground. Underground lines will allow the substation design to be more compact and eliminate the need to build a storm water retention pond on the site.

To cover the new engineer's estimate including the underground connection, unspent funds from three other current or recent CIP projects was moved to this project. These include \$800,000 from Transmission Reconstruction, \$331,652 from 69kV Switchyard Relay, and \$271,843 from Street Lights, for a total of \$1,404,495, bringing the total amount of funding available for the project to be \$3,353,495. These funding transfers were included in the FY 2017/18 final amendments presented to Council in May.

A breakdown of the budget as well as contracts awarded to date is attached at the end.

**ALTERNATIVES:**

1. Approve the plans and specifications for Installation Services for 69kV UG Power Cable Top-O-Hollow and set June 27, 2018, as the bid due date and July 10, 2018, as the date of hearing and award of contract.
2. Do not approve the plans and specifications at this time.

**CITY MANAGER'S RECOMMENDED ACTION:**

This project will improve reliability of the 69kV transmission system, improve service to the customers served by this substation, improve worker safety, and provide improved protection to electrical assets from fault damage.

Therefore, it is the recommendation of the City Manager that the City Council adopt Alternative No. 1 as stated above.

To date the Top-O-Hollow CIP project budget has the following items encumbered:

|                           |   |
|---------------------------|---|
| <b><u>\$1,950,000</u></b> | FY 2017/18 CIP amount budgeted for construction   |
| <b><u>\$1,403,495</u></b> | Additional funds transferred from budgeted CIP funds for 69kV   |
| <b><u>\$3,353,495</u></b> | Transmission Reconstruction (\$800,000), Street Light (\$271,843) and 69kV Switchyard Relay & Controls (\$331,652)      |
|                           | <u>H K Scholz</u>   |
| \$599,231                 | Switchgear and Control Panels   |
|                           | <u>RESCO</u>  |
| \$37,012.26               | 69kV Switches   |
| \$27,895.27               | Instrument Transformers   |
| \$10,884.30               | 69kV Lightning Arrestors  |
|                           | <u>Kriz-Davis Co. – BSE</u>   |
| \$42,003.18               | Steel Structures  |
|                           | <u>Siemens Industry, Inc</u>  |
| \$75,221                  | (2) 69kV Breakers   |
|                           | <u>Controllix Corporation</u>   |
| \$104,748.35              | (1) 13.8kV Cap Bank   |
|                           | <u>Primoris Aevenia, Inc.</u>   |
| \$1,511,291.16            | Construction  |
|                           | <u>L &amp; S Electric, Inc.</u>   |
| \$76,169                  | Equipment Commissioning (on this same agenda for award of contract)   |
|                           | <u>To Be Determined</u>   |
| <b><u>\$350,000</u></b>   | <b>*Estimated cost of Installation Services for 69kV UG Power Cable (pending Council approval of plans &amp; specs)</b> |
| \$2,834,455.52            | Costs committed to date for project   |
| <b>\$519,039.48</b>       | <b>Remaining Project Balance</b> for the CIP Project.   |