

COUNCIL ACTION FORM

SUBJECT: CONTROLS AND RELAYING PANELS FOR 69KV SUBSTATIONS – DAYTON AND STANGE ELECTRIC SUBSTATIONS

BACKGROUND:

There is a CIP project that was approved in FY 2013/14 to replace the 69kV switchyard relay and controls at Electric Services' Ames Plant switchyard, as well as to replace the relay panels at the Stange Road, Dayton Avenue, and Haber Road substations.

The existing relays at the four substations are obsolete electro-mechanical devices which are becoming difficult to maintain and repair since replacement parts are no longer manufactured. This relay work at the Dayton and Stange substations is being accomplished as part of the overall project to complete a coordinated 69kV looped scheme using the utility's fiber-optic communications loop.

This specific portion of the “Ames Plant 69KV Switchyard Relay & Control Replacement” CIP project is for the purchase of controls and relaying panels for the Dayton and Stange Substations.

Project 1: Dayton Avenue Substation Relay Panel Upgrades

Three existing panels with electromechanical relays are to be replaced at the Dayton Substation. These panels provide relay protection and controls for the transmission line terminal breaker, the circuit switcher that protects the distribution transformer, and the substation bus panel.

Project 2: Stange Road 69kV Substation Relay Panel and Circuit Breaker Upgrades

Four existing panels with electromechanical relays are to be replaced at the Stange Road 69kV Substation. These panels also provide relay protection and control for two transmission terminal breakers, a circuit switcher that protects the distribution transformer, and the substation bus panel.

The Engineer's estimate of the cost for this phase of the project is \$ 279,000.

To date, the overall project budget has the following items encumbered:

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| \$1,700,000.00 | Amount Budgeted for the Total Project |
| \$162,200.00 | Encumbered Engineering for Ames Plant Switchyard (includes change orders 1 and 2) |
| \$56,377.35 | Actual cost for SF6 circuit breakers |
| \$122,502.60* | Actual cost for electrical materials (*This amount includes applicable sales taxes to be paid directly by Ames to the State of Iowa) |
| \$198,469.55 | Actual cost for Ames Plant Substation control panels. |
| \$397,069.40 | Actual cost for materials installation phase for the Ames Plant Switchyard Project (includes change order 1 & 2) |
| \$98,755.20 | Actual cost for Control Panels for Haber Road Substation (includes change order 1) |
| \$160,435 | Actual cost of Ames Plant area commissioning |
| \$123,688.30 | Encumbered Engineering for Dayton Avenue and Stange Road Substation Relay and Control Panels (includes change order 1 and 2) |
| <u>\$1,319,497.40</u> | Total committed to Date |
| \$279,000 | Estimated cost for Controls and Relaying Panels for the Dayton and Stange Substations - this item (pending Council approval of plans and specifications for this agenda item) |
| \$101, 502.60 | Amount available to complete project. (There is no other known material or construction work to be contracted for on this project.) |

ALTERNATIVES:

1. Approve the plans and specifications for the Controls and Relaying Panels for Dayton and Stange Substations and set November 26, 2014, as the bid due date and December 9, 2014, as the date of hearing and award of contract.
2. Do not approve the plans and specifications at this time.

MANAGER'S RECOMMENDED ACTION:

These projects are necessary for Electric Services to continue providing safe, reliable service to the customers in the City. By installing modern, programmable relays, and updated controls in these locations, long-term reliability can be improved.

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