ITEM # ___14__
DATE: 06-11-13

COUNCIL ACTION FORM

SUBJECT: PURCHASE OF SUBSTATION ELECTRICAL MATERIALS

BACKGROUND:

The complete project is the replacement of 69kV switchyard relay and controls at the Ames Plant substation. The 69kV switchyard relaying and controls are currently located inside the Power Plant. This requires long runs of aged control cable between the Power Plant and the switchyard, which run beneath portions of the Water and Pollution Control Department's Technical Services building. Some of the control cables are no longer operational and some conduits have collapsed and are not accessible for repair. The existing relays are obsolete electro-mechanical devices which are becoming difficult to maintain and repair since replacement parts are no longer manufactured. Additionally, some of the existing relays at the Stange Road, Dayton Avenue and Haber Road substations are also obsolete electro-mechanical devices that need to be replaced. This can all be accomplished as part of this project to complete a coordinated 69kV looped scheme using the available fiber-optic communications previously installed. The relaying and controls for the 69kV switchyard and other listed substations are critical components that play a significant role in overall electric system reliability.

With the installation of the Ames Plant 161kV / 69kV substation, a relay and control enclosure was installed adjacent to the 69kV switchyard with sufficient room to house the relays and controls needed for the 69kV switchyard. By installing modern, programmable relays and updated controls in this location and using the previously-installed fiber-optic communications, long-term reliability can be improved by eliminating the obsolete and maintenance-intensive electro-mechanical relays and aged, lengthy control circuits that are no longer accessible for repair.

This portion of the project is for the purchase of electrical materials, consisting of high voltage switches, instrument transformers, lightning arresters, and steel supports. The Engineer's estimated cost of these materials is $175,000. It is necessary to specify and order these electrical materials ahead of the final design and construction bidding due to the long lead time for these materials. There is a separate Council Action Form being presented to Council for the approval of plans and specifications for the bidding of circuit breakers. Additionally, the construction phase approval of plans and specifications will be presented to Council in the near future.

Upon City Council approval and receipt of favorable bids, the electrical materials will be ordered.

The approved FY2013/14 CIP for Electric Services includes $1,700,000 for engineering, materials and construction of this project with Iowa State University contributing an estimated $319,600 to the cost. To date the project budget has the following items encumbered:

1.	$160,000	Estimated cost for 3 circuit breakers (see Circuit Breaker Council Action Form on this Council meeting agenda)
2.	**$175,000**	**Estimated cost for Electrical Materials — (pending Council approval of plans and specifications for this agenda item)**

This will leave $1,365,000 to cover engineering, additional materials purchases, and construction costs.

ALTERNATIVES:

1. Approve the plans and specifications for Substation Electrical Materials and set June 26, 2013, as the bid due date and July 9, 2013, as the date of hearing and award of contract.

2. Do not approve the plans and specifications at this time.

MANAGER'S RECOMMENDED ACTION:

This equipment is necessary to complete the projects at the various substations, including the substation adjacent to the Power Plant. This project will help move customer loads off the Power Plant bus and help to limit exposure of the Power Plant bus to distribution faults, thereby improving Power Plant reliability. By installing modern, programmable relays and updated controls in these locations, long-term reliability can be improved by eliminating the obsolete and maintenance-intensive electromechanical relays and aged, lengthy control circuits that are no longer accessible for repair.

These projects are necessary for Electric Services to continue providing safe, reliable, service to the customers in the City.

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