COUNCIL ACTION FORM

SUBJECT: ENGINEERING SERVICES FOR UNIT 7 AND UNIT 8 FLY ASH HANDLING SYSTEM MODIFICATIONS

BACKGROUND:

Currently, the Power Plant has a dry fly ash pneumatic conveyor system that serves the Unit 7 & Unit 8 precipitator hoppers. From these precipitator hoppers, fly ash is conveyed pneumatically to the fly ash storage silo via (2) vacuum exhausters (one 100% operational and one 100% spare), while a primary cyclone separator, a secondary cyclone separator and a bag filter separate the fly ash from the conveying air stream.

Previously, the Power Plant was burning coal, but the plant was converted to run on natural gas in April 2016. Currently, the Plant burns 90% natural gas and 10% RDF (Refuse-Derived Fuel), which is made from county-wide garbage. The combined fly ash generation rate for Unit 7 & Unit 8 is approx. 40 tons of fly ash per month. Since Plant was converted to run on natural gas, the levels of flue gas and condensation in the fly ash precipitator hoppers have increased significantly. As a result, the existing dry fly ash pneumatic conveyor system pulls large amounts of flue gas from the fly ash precipitator hoppers and, upon condensation, plugs the conveyor line halting the fly ash conveying operations. Before the fly ash conveying operations can resume, the plugged sections of the fly ash conveyor line is hydro-blasted and dried using a large heater installed at the air intake of one of the fly ash conveyor branchlines.

In order to increase the reliability of the existing fly ash handling system, the staff is first requesting a firm price proposal for the engineering design of a new fly ash handling system to convey all the fly ash from the Unit 7 & Unit 8 precipitator hoppers via a new HYDROVEYOR vacuum removal system.

City staff is seeking authorization to contract with United Conveyor Corporation (UCC) of Waukegan, Illinois, for this engineering work based on UCC's expertise in handling fly ash conveying systems. UCC also has experience and working knowledge of the City of Ames current flyash handling system (UCC designed and installed the current Unit 7 fly ash system in 2002). Babcock and Wilcox, who also provide similar expertise in fly ash conveying systems was also approached to provide a quote, but were non-responsive to City of Ames requests. Staff also is recommending that the City Council waive the City's purchasing policies requiring competitive proposals to provide for selection of this firm. Funding for this work will be charged to the Fly Ash Maintenance accounts, for Units 7 and 8, which have a current balance of \$102,000.

ALTERNATIVES:

- 1. Waive the City's purchasing policy requirement for competitive proposals and award a contract to United Conveyor Corporation of Waukegan, Illinois in the amount of \$65,250 for the engineering services for Unit 7 and Unit 8 fly ash handling system modifications.
- 2. Reject the waiver request and direct staff to issue a request for proposal.

MANAGER'S RECOMMENDED ACTION:

Without making improvements to the fly ash handling system, the plant will continue to experience excessive maintenance burdens caused by frequent fly ash plugs. These plugs have to be addressed by maintenance periodically and are burdensome in the winter months. These plugs have resulted in an increase of maintenance costs, loss of maintenance resources to deal with excessive plugs, and loss of fly ash system reliability.

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