

COUNCIL ACTION FORM

**SUBJECT: ENGINEERING SERVICES CONTRACT CHANGE ORDER NO. 3 –
CONVERSION OF POWER PLANT FROM COAL TO NATURAL GAS**

BACKGROUND:

In November 2013, the City Council voted to convert the City's Power Plant from coal to natural gas. On May 27, 2014, City Council awarded a contract to Sargent & Lundy, LLC, Chicago, IL, for Engineering Services for Converting the City of Ames Power Plant from Coal to Natural Gas. That contract was in the not-to-exceed amount of \$1,995,000.

The action being requested is to approve Change Order No. 3 to this contract in the amount of \$154,000.

Additional engineering services, especially pertaining to construction management, are required to complete the project due to the project schedule being extended by approximately three months. Three issues primarily and critically affected the schedule:

1. The control room/DCS equipment room had to be re-bid which caused a delay of about two months.
2. The systems requiring conversion from PLC control to DCS control were much more difficult to convert than anticipated. The checkout of this system alone required four technicians four weeks, when it was anticipated early on that it might only take one week.
3. The selection of a suitable refractory and the placement of the refractory around Unit 8's natural gas burners was very challenging and took at least a month longer than originally anticipated.

CHANGE ORDER HISTORY:

The following two change orders were previously issued for this project:

Change Order No. 1 for the not-to-exceed amount of \$2,395,000 for Sargent & Lundy to design the installation of the DCS, design the control room and DCS cabinet room, and integrate the main and auxiliary control boards into the DCS.

Change Order No. 2 for the not-to-exceed amount of \$174,000 for Sargent & Lundy to design both the 13.8 kV Switchgear Control and Relaying Modifications and HVAC Equipment and Controls Replacement for the Control Room.

Because the work described above was not included in the original specifications, change orders No. 1 and 2 were approved by the Council in the amount of \$2,569,000.

PROJECT COST HISTORY:

With this change order, the total costs for the Engineering Services for Converting the City of Ames Power Plant from Coal to Natural Gas within the project will be increased to \$4,718,000.

Overall, the total project dollar amount committed to date (inclusive of this Change Order No. 3) is \$17,546,475.14. The approved FY 2015/16 Capital Improvements Plan included \$26,000,000 for the fuel conversion project. However, some of the funding of the conversion project came from the sale of Electric Revenue bonds. Considering that the project came in much less than the budgeted amount, the size of the bonds issuance was reduced. The project budget to date is shown on page 3. In past Council Action Forms staff noted that if Change Orders caused the budget to exceed the remaining balance, the bond request cannot/will not be adjusted.

Approval of this Change Order will exceed the budget authorized for the conversion of the power plant. Therefore, unspent funds in the amount of \$637,011 will be utilized from the Cooling Tower Replacement project. Those savings are available to cover this Change Order, and future Changes Orders with other vendors that will likely result as this project is closed out. The project budget spreadsheet attached has been modified to reflect the addition of the unspent Cooling Tower funds.

ALTERNATIVES:

1. Approve contract Change Order Number 3 to Sargent & Lundy, LLC, Chicago, IL, in the amount not-to-exceed \$154,000 for the Engineering Services to convert the Power Plant from coal to natural gas and authorize the use of \$637,011 of unspent funds from the Cooling Tower Replacement Project to finance the Power Plant Conversion Project.
2. Reject contract Change Order Number 3. This option will risk the final completion of the critical conversion project.

MANAGER'S RECOMMENDED ACTION:

This conversion is needed in order for the Power Plant to remain in compliance with state and federal air quality regulations. Sargent & Lundy serves as the construction manager during the conversion of the plant. Their continued oversight of the project/contractors have extended longer than anticipated due to unforeseen events listed above.

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

PROJECT BUDGET

The overall project budget and commitments to date are summarized below. To date, the project budget has the following items encumbered:

\$17,475,000	FY 2015/16 CIP amount budgeted for project \$26,000,000 less reduced bonds issuance by \$8,525,000 based on a new project estimate
\$637,011	Unspent Funds from Power Plant Cooling Tower CIP
\$18,112,011	
	<u>Sargent & Lundy, LLC</u>
\$1,995,000	Encumbered not-to-exceed amount for Engineering Services
\$2,395,000	Engineering Services Contract Change Order No. 1
\$174,000	Engineering Services Contract Change Order No. 2
\$154,000	Engineering Services Contract Change Order No. 3
	<u>GE Power Inc.</u>
\$3,355,300	Contract cost for Natural Gas Conversion Equipment
\$29,869	Equipment Contract Change Order No. 1
(-\$321,600)	Equipment Contract Change Order No. 2
(-\$51,000)	Equipment Contract Change Order No. 3
\$1,620	Equipment Contract Change Order No. 4
\$0	Equipment Contract Change Order No. 5
\$32,679	Equipment Contract Change Order No. 6
\$62,310	Equipment Contract Change Order No. 7
	<u>Emerson Process Management Power & Water Solutions, Inc.</u>
\$1,595,000	Contract cost for DCS equipment
\$39,377	DCS Contract Change Order No. 1
\$12,611	DCS Contract Change Order No. 2
\$0	DCS Contract Change Order No. 3
	<u>GE Energy Control Solutions, Inc.</u>
\$814,920	Contract cost for TCS equipment Bid 1
\$244,731	TCS Bid 1 Contract Change Order No. 1
\$34,000	TCS Bid 1 Contract Change Order No. 2
\$0	TCS Bid 1 Contract Change Order No. 3
\$16,854	TCS Bid 1 Contract Change Order No. 4
	<u>General Electric International, Inc.</u>
\$186,320	Contract Cost for Turbine Steam Seal System - TCS Bid 2
\$24,536	TCS Bid 2 Contract Change Order No. 1

\$150,000	TCS Bid 2 Contract Change Order No. 2
\$0	TCS Bid 2 Contract Change Order No. 3
\$9,208.42	TCS Bid 2 Contract Change Order No. 4
<u>Henkel Construction Co.</u>	
\$898,800	Contract cost for Control Room Installation General Work Contract
\$66,782	Control Room Contract Change Order No. 1
\$17,683.54	Control Room Contract Change Order No. 2
<u>TEI Construction Services, Inc.</u>	
\$1,572,019	Contract cost for Mechanical Installation General Work Contract
\$8,750	Mechanical Contract Change Order No. 1
\$156,131	Mechanical Contract Change Order No. 2
\$187,984	Mechanical Contract Change Order No. 3
\$9,785.37	Mechanical Contract Change Order No. 4
\$3,032.17	Mechanical Contract Change Order No. 5
\$7,725.98	Mechanical Contract Change Order No. 6
\$3,032.16	Mechanical Contract Change Order No. 7
\$21,673.58	Mechanical Contract Change Order No. 8
\$175,496.89	Mechanical Contract Change Order No. 9
<u>FPD Power Development, LLC</u>	
\$3,145,149	Contract cost for Electrical Installation General Work Contract
\$12,044.24	Electrical Contract Change Order No. 1
\$41,265.65	Electrical Contract Change Order No. 2
<u>Graybar Electric</u>	
\$98,560	Contract cost for UPS System
(-\$1,010)	UPS System Contract Change Order No. 1
<u>Hertz Equipment Rental Corporation</u>	
<u>\$166,835.50</u>	Contract cost for Portable Electric Space Heaters
\$17,546,475.50	Costs committed to date for conversion
\$565,535.86	Remaining Project Balance to cover miscellaneous equipment and modifications to the power plant needed for the fuel conversion.