

**COUNCIL ACTION FORM**

**SUBJECT: POWER PLANT FUEL CONVERSION – MECHANICAL INSTALLATION  
GENERAL WORK CONTRACT - CONTRACT COMPLETION**

**BACKGROUND**

In November 2013 the City Council voted to convert the City's Power Plant from coal to natural gas. Implementing this decision requires a significant amount of engineering, installation of equipment, and modification and construction in the Power Plant.

On September 22, 2015, City Council awarded a contract to TEI Construction Services, Inc., Duncan, SC for the Mechanical Installation General Work Contract in the amount of \$1,572,019.

There were eleven change orders to this contract.

**Change Order No. 1** for \$8,750 was for TEI to procure Nordstrom valves.

**Change Order No. 2** for \$156,131 was for TEI to supply natural gas control and on-off valves.

**Change Order No. 3** for \$187,984 was for TEI to provide and modify platforms, stairs, grating, toe plates, railings, etc. on four levels associated with the installation of natural gas burners and igniters on Unit 8 boiler and to provide Unit 7 & 8 Steam turbine front standard installation work including probe removal, worm gear removal, disconnecting linkages, and valve installation.

**Change Order No. 4** for \$9,785.37 was for TEI to provide material, equipment, and labor necessary to fabricate and install structural steel angle frames onto the outside of the burner windboxes on three burner levels of Unit 8 boiler to facilitate the mounting of nine burners.

**Change Order No. 5** for \$3,032.17 was for TEI to remove & reinstall operating cylinder pump at the direction of the GE representative.

**Change Order No. 6** for \$7,725.98 was for TEI to provide the necessary material, equipment, and labor to remove the existing burner support rings and replace them with rings at Elevation 127'-3" on Unit 8 boiler.

**Change Order No. 7** for \$3,032.16 was for TEI to provide equipment and labor to remove, inspect, adjust, and reinstall the pilot valve on Unit 8 turbine.

**Change Order No. 8** for \$21,673.58 was for TEI to cut the piping and weld flanges in each of the nine (9) natural gas igniter valve assemblies to facilitate the maintenance and removal (if necessary) of the gas control valves, plus install fittings along with

shutoff valves to be able to isolate pressure gauges for maintenance and removal without having to shut down the system to perform the work.

**Change Order No. 9** for \$175,496.89 was for TEI to supply and install the refractory that is required around the nine new natural gas burners for Unit 8.

**Change Order No. 10** for \$48,486.22 was for TEI to: 1) provide and set-up a stud welder for welding refractory horns onto the Unit 8 burner locations; 2) deduct the net price remaining in the base bid that had been allocated for the installation of refractory around the burners of Unit 8 boiler; 3) provide the necessary material, labor, and equipment to supply and weld install twelve new 3" to 2" reducers to accommodate the new 2" valves on the Ignitor Air System; 4) drill holes and align (shim) the linear actuators on the damper tube assemblies as requested by Alstom; 5) provide material, labor, and equipment necessary to modify the structural steel columns supporting the weather shelter (canopy) over the Power Plant's natural gas gate station; 6) provide labor to install additional horns around Unit 8's natural gas burners to securely hold in place the refractory necessary to shape the natural gas flames emanating from each burner; 7) provide material, labor, and equipment necessary to provide and install specialized equipment to support the piping and equipment of the new steam sealing system for Unit 8 turbine-generator; and 8) to be reimbursed for remobilization of labor and rental of equipment due to the delay in the completion of the gas conversion of Unit 8 requiring Unit 7 to stay online, which prevented TEI from being able to transition and work on Unit 7 after completing their work on Unit 8.

**Change Order No. 11** for \$12,539.88 was for reimbursing TEI for sales taxes paid on materials they purchased to fulfill their obligations of their contract with the City.

**The net contract amount including these eleven change orders is \$2,206,656.25.**

**Council should note that the actual project cost total is \$2,189,395.18, which is less than the total contract amount by \$17,261.07.** This is due to the time and material charges associated with the change orders being less than were anticipated.

**The Engineer's estimate of the cost for this phase of the project was \$5,115,000.** The current approved Capital Improvements Plan includes \$18,473,011 for the Unit 7 and Unit 8 fuel conversion. The complete project budget to date is shown on page 4.

All of the requirements of the contract have been met by TEI Construction Services, Inc., and the Engineer has provided a certificate of completion.

#### **ALTERNATIVES:**

- 1) Accept completion of the contract with TEI Construction Services, Inc., Duncan, SC for the Power Plant Fuel Conversion - Mechanical Installation General Work Contract at a total cost of \$2,189,395.18, and authorize final payment to the contractor.
- 2) Delay acceptance of this contract.

**MANAGER'S RECOMMENDED ACTION:**

The contractor for the Power Plant Fuel Conversion - Mechanical Installation General Work Contract has completed all of the work specified under the contract. The Engineer has issued a certificate of completion on the work, and the City is legally required to make final payment to the contractor.

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

## PROJECT BUDGET

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

<b>\$18,473,011</b>	<b>Current Project Budget</b>
	<u>Sargent &amp; 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
\$19,857	Equipment Contract Change Order No. 6
\$62,310	Equipment Contract Change Order No. 7
\$121,360	Equipment Contract Change Order No. 8
	<u>Emerson Process Management Power &amp; 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
\$326,067.31	DCS Contract Change Order No. 4
	<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
\$41,760	TCS Bid 1 Contract Change Order No. 5
	<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

Henkel Construction Co.

\$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

TEI Construction Services, Inc.

\$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
\$48,486.22	Mechanical Contract Change Order No. 10
\$12,539.88	Mechanical Contract Change Order No. 11

FPD Power Development, LLC

\$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
\$123,893.91	Electrical Contract Change Order No. 3
\$64,743.87	Electrical Contract Change Order No. 4

Graybar Electric

\$98,560	Contract cost for UPS System
(-\$1,010)	UPS System Contract Change Order No. 1

Hertz Equipment Rental Corporation

<u>\$166,835.50</u>	Contract cost for Portable Electric Space Heaters
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<b>\$18,272,504.69</b>	<b>Costs committed to date for conversion</b>
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<b>\$200,506.31</b>	<b>New Project Balance to cover miscellaneous equipment and modifications to the power plant needed for the fuel conversion</b>
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