

COUNCIL ACTION FORM

SUBJECT: POWER PLANT NATURAL GAS CONVERSION EQUIPMENT, INCLUDING BURNERS, SCANNERS, THERMAL ANALYSIS, AND COMPUTER MODELING – CHANGE ORDER NO. 3

BACKGROUND:

In November of 2013 the City Council decided to convert the City's Power Plant from coal to natural gas. In May of 2014 the City Council selected Sargent & Lundy of Chicago, Illinois, to provide engineering and construction oversight services for the conversion project.

As staff has previously described, the major phases of work necessary to complete this conversion project are as follows:

1. Procure the natural gas burners, igniters, and scanners, plus boiler/furnace modeling to assess the necessity for boiler modifications.
2. Replace the Power Plant's Distributed Control System (DCS), including both hardware and software (current project).
 - 2a. Replace (upgrade) the Turbine Control Systems (TCS) on Unit 7 and Unit 8, plus the steam seal regulator on Unit 8 only.
3. Design the necessary modifications to the control room and DCS cabinet room.
4. Design the necessary modifications to source natural gas inside the power plant, and all necessary structural, mechanical, and electrical modifications for the power plant to burn natural gas as its primary fuel.
5. Select a contractor to construct a new control room/DCS room in the Power Plant.
6. Select a contractor to modify the Power Plant and install the materials and equipment necessary to operate the Power Plant on natural gas.
7. Select a contractor to install the electrical equipment, including the work associated with the DCS upgrade and the electrical modifications to the control room.

THIS CHANGE ORDER REQUEST:

This change order request relates to the procurement of the natural gas burners,

igniters and scanners, plus boiler/furnace modeling to assess the necessity for boiler modifications (Phase 1). On November 5, 2014, City Council awarded a contract for this work to Alstom Power Inc. of Windsor, CT in the amount of \$3,355,300. Alstom is the original equipment manufacturer (OEM) for Unit 7. **Since Alstom was awarded the burner contract, and Unit 7 was originally designed as a coal-gas fired boiler, City staff felt this unit specific modeling is not necessary to assist with burner design and/or location. Therefore, Change Order No. 3 is a reduction of \$51,000.**

CHANGE ORDER HISTORY:

Two change orders have previously been issued for this project.

Change Order No. 1 for \$29,869.00 was to increase funds to cover costs for Alstom to perform base line testing for Unit 8.

Change Order No. 2 for a reduction of \$321,600 was for: 1) Add two flame scanner frequency signal analyzers on Unit #7; 2) Reduce the number of natural gas burners (and associated burner equipment) from twelve to nine on Unit #8; and 3) Add six frequency signal analyzers on Unit #8.

The total cost of both change orders was a reduction of \$291,731.

PROJECT COST HISTORY:

The engineer’s cost estimate for procurement of the equipment covered by this contract was \$4,500,000. With this third change order, the total costs for the Alstom contract within the project will be reduced to \$3,012,569.

Overall, the total project dollar amount committed to date (inclusive of this Change order No. 3) is \$9,998,809. The approved FY 2015/16 Capital Improvements Plan includes \$26,000,000 for the Unit 7 and Unit 8 fuel conversion. This amount includes \$4,000,000 for engineering and \$22,000,000 for equipment and installation.

PROJECT BUDGET STATUS

\$26,000,000	FY 2015/16 CIP amount budgeted for project
\$1,995,000	Encumbered not-to-exceed amount for Engineering Services
\$2,395,000	Engineering Services Contract Change Order No. 1
\$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
\$1,595,000	Contract cost for DCS equipment
\$1,001,240	Contact cost for TCS equipment
<u>\$9,998,809</u>	Costs committed to date for conversion
\$16,001,191	Remaining Project Balance to cover the installation of natural gas burners, natural gas piping into the power plant from the gas gate, DCS installation, Control/DCS room, and other miscellaneous equipment and modifications to the power plant needed for the fuel conversion

ALTERNATIVES:

1. Approve contract Change Order No. 3 with Alstom Power Inc. of Windsor, CT for the Natural Gas Conversion Equipment Including Burners, Igniters, Scanners, Thermal Analysis and Computer Modeling, with a reduction in the contract amount of \$51,000.
2. Reject contract Change Order No. 3.

MANAGER'S RECOMMENDED ACTION:

Conversion of the City's power plant (Units 7 & 8) from coal to natural gas was previously approved by the City Council. This conversion is needed in order for the power plant to remain in compliance with state and federal air quality regulations.

The original bid requirement included the need to provide CFD modeling. This was necessary in the event non-OEM burners were chosen. Staff and the engineering consultant have determined that with the OEM providing the burners, modeling is no longer necessary.

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