

**COUNCIL ACTION FORM**

**SUBJECT: POWER PLANT FUEL CONVERSION – PRELIMINARY PLANS AND SPECIFICATIONS FOR UPS (UNINTERRUPTIBLE POWER SUPPLY) SYSTEM**

**BACKGROUND:**

In November of 2013 the City Council voted 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.

The major phases of work necessary to complete this conversion project are shown on page 2 of this report. **This specific action within the conversion project is to purchase a new Uninterruptible Power Supply (UPS) system. The UPS System provides steady state power to the plant's computer control system in the case of an interruption of the plants power due to a fault, lightning, or any loss of total system power. The existing UPS system is too small to meet the new systems power requirements. The engineer's estimate for the cost of this equipment is \$116,000.**

These costs will be covered from funding identified in the approved FY 2015/16 Capital Improvements Plan, which includes \$26,000,000 for the Unit 7 and Unit 8 fuel conversion. The overall project budget and commitments to date are summarized on page 3.

**ALTERNATIVES:**

1. Approve the preliminary plans and specifications for the Power Plant Fuel Conversion – UPS System, and set August 26, 2015, as the bid due date, and September 8, 2015, as the date of hearing and award of contract.
2. Do not approve plans and specifications for the UPS system at this time.

**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. The purchase of this UPS system will provide enough capacity to meet the new systems power requirements.

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

## **PROJECT PHASING**

The major phases of work necessary to complete this conversion project are outlined below.

1. Procure the natural gas burners, igniters, and scanners, plus boiler/furnace modeling to assess the necessity for boiler modifications.

On November 5, 2014 City Council awarded a Contract to Alstom Power Inc. of Windsor, CT, with delivery of this equipment in the fourth quarter of 2015.

2. Replace the Power Plant's Distributed Control System (DCS), including both hardware and software.

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.

## PROJECT BUDGET

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

\$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
\$174,000	Engineering Services Contract Change Order No. 2 (separate item on this agenda)
\$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
\$925,000	Estimated cost for Control Room Installation General Work Contract (separate item on this agenda)
\$5,115,000	Estimated cost for Mechanical Installation General Work Contract (separate item on this agenda)
\$3,272,793	Estimated cost for Electrical Installation General Work Contract (separate item on this agenda)
<b>\$116,000</b>	<b>Estimated cost for UPS System (this agenda item)</b>
<b><u>\$19,601,602</u></b>	<b>Costs committed to date for conversion</b>
<b>\$6,398,398</b>	<b>Remaining Project Balance</b> to cover miscellaneous equipment and modifications to the power plant needed for the fuel conversion