



City of Grand Island

Tuesday, September 11, 2012

Council Session

Item G10

#2012-245 - Approving Change Order #1 - Low NOx Conversion Burners at PGS - Babcock Services, Inc.

Staff Contact: Tim Luchsinger, Jason Eley

Council Agenda Memo

From: Timothy G. Luchsinger, Utilities Director
Jason Eley, City Attorney

Meeting Date: September 11, 2012

Subject: Low NO_x Conversion Burners at Platte Generating Station - Change Order #1

Item #'s: G-10

Presenter(s): Timothy Luchsinger, Utilities Director

Background

The Environmental Protection Agency (EPA) published a new regulation for power plant air emissions on July 7, 2011, the Cross State Air Pollution Rule (CSAPR), which was to replace the current Clean Air Interstate Rule on January 1, 2012. The CSAPR lowered the annual amount of nitrous oxides (NO_x) emissions that can be released as a result of the combustion process in the plant boiler. This lower amount becomes the limiting constraint on the generating output of the Platte Generating Station, about 45% of its maximum capacity. This loss in generating capacity must be replaced by higher cost options of purchasing power from the regional market or using the gas-fueled facilities at Burdick Station.

To meet the requirements of the new rule, the plant engineering staff researched methods to reduce the amount of NO_x released from the boiler, including plant equipment modifications and chemical additions. Installing new low NO_x burners with separate over-fire air ducts to lower the NO_x emission rate from the unit was evaluated to be the long-term solution to allow full operating capacity for the plant. Specifications for the Low NO_x Conversion Burners with separate over-fire air ducts were developed by plant staff and issued for bids. These specifications include furnishing and installing all of the combustion system components necessary to lower the NO_x emissions from the Plant's boiler to a rate of 0.14 #/mmBtu, or about one-fourth of its current permitted rate. These specifications also include computer modeling for design of the new burners and final compliance testing and tuning. The system is planned to be installed during a plant maintenance outage starting September 27, 2012, through November 8, 2012. The contract for the project was awarded to Babcock Power Services, Inc., on December 6, 2011, in the amount of \$3,251,444.00. The project is in the manufacturing process, due to start installation on September 27, 2012. Although a federal court vacated the CSAPR on August 21, 2012, the Department has elected to proceed with the modifications, due in

part to the manufacturing being substantially completed, and also with the position that this type of emission control will be required by future regulations.

Discussion

Coal piping that carries coal from the pulverizers to the nozzles of the boiler can develop small leaks due to the abrasive nature of the coal. These piping leaks can be patched by plant maintenance personnel until the overall integrity of the pipe requires it to be replaced. With the Low NOx burner project, the coal piping is going to be taken apart and it is an excellent time to replace the sections of coal piping that have been patched. When the specification was written in fall of 2011, there were 20 sections that were evaluated to need replacement. In February 2012, two additional leaks developed in other sections of coal pipe. Plant engineers recommended that all the coal piping should have the wall thickness measured. Measuring the coal pipe thickness requires special instrumentation and was conducted by Baker Testing for \$6,205.00 and from Babcock Power Services for \$3,287.00.

From this testing, it was determined that eight additional sections of coal piping needed to be replaced. Plant engineers obtained bids to supply the coal piping from other vendors, the bids were as follows:

Alstom	\$35,091.00
Advanced Wear Resistant Equipment	\$62,897.00
Babcock Power	\$30,284.00

Babcock Power has subcontracted with TEIC to install the original 20 sections of coal piping that were included in the Low NOx Burner project scope. TEIC has proposed to install the eight additional sections of coal piping for \$57,150.00. As some of the newly determined sections of pipe are connected to others in the original scope of work, it would be impossible to delineate where one contractors work started and TEIC's ended. Platte Generating Staff compared the standard rates for TEIC with other on-site contractors to verify that the installation cost proposed by TEIC is competitive. It is recommended that the City of Grand Island accept TEIC's proposed cost of installation for additional work to be completed.

Additionally, last month, another section of pipe developed a leak. The delivery time from Alstom on this section of pipe would not be available for the outage. A change order for this additional section of coal pipe is \$5,788.00 with an installation charge of \$4,890.00.

During the Platte Generating Station 2012 spring outage, Babcock Power was onsite and performed a detailed inspection of the burner parts that are to be reused for the new Low NOx burners. During this inspection, they found that the linkage arms that attach the burner tips to the drive are bent and the adjustment nuts have been welded in place. There are 40 linkages that require replacement to allow for proper setup of the new burners. The change order for the new linkages is \$17,435.00.

Babcock Power has also recommended additional spare parts, that were not included in the original contract that were found to have long manufacturing lead times which, if not kept in inventory, would delay Platte Generating Station start up if a failure would occur. The additional cost for these spare parts is \$61,309.00, which are to be manufactured at the same time as the new Low NOx burner parts.

The total for this Change Order is \$186,348.00 and increases the contract by 5.7% to \$3,437,792.00.

Alternatives

It appears that the Council has the following alternatives concerning the issue at hand. The Council may:

1. Move to approve
2. Refer the issue to a Committee
3. Postpone the issue to future date
4. Take no action on the issue

Recommendation

City Administration recommends that Council award Change Order #1 to the Contract for Low NO_x Conversion Burners to Babcock Power Services, Inc., in the amount of \$186,348.00, for a final contract amount of \$3,437,792.00.

Sample Motion

Move to approve Change Order #1 for Low NO_x Conversion Burners to Babcock Power Service, Inc., in the amount of \$186,348.00, for a final contract amount of \$3,437,792.00.



*Working Together for a
Better Tomorrow. Today.*

TO: Babcock Power Services
P.O. Box 643476
Pittsburgh, PA 15264-3476

PROJECT: Contract for "Low Nox Conversion Burners"

You are hereby directed to make the following change in your contract:

1 Additional payment per the attached spreadsheet.

ADDITION \$186,348.00

The original Contract Sum	<u>\$3,251,444.00</u>
Previous Change Order Amounts	<u>\$ -</u>
The Contract Sum is increased by this Change Order	<u>\$ 186,348.00</u>
The Contract Sum is decreased by this Change Order	<u>\$</u>
The total modified Contract Sum to date	<u>\$ 3,437,792.00</u>

Approval and acceptance of this Change Order acknowledges understanding and agreement that the cost and time adjustments included represent the complete values arising out of and/or incidental to the work described therein.

APPROVED: CITY OF GRAND ISLAND

By: _____

Date _____

Attest: _____

Approved as to Form, City Attorney

ACCEPTED: BABCOCK POWER SERVICES, INC.

By: 

Date 9/04/12

RESOLUTION 2012-245

WHEREAS, Babcock Power Services, Inc., of Lees Summit, Missouri, was awarded the contract for Low NOx Conversion Burners, at the December 6, 2011 City Council meeting; and

WHEREAS, the coal piping is going to be taken apart during this process, and sections of this piping need to be replaced; and

WHEREAS, several other issues were discovered to be in need of repair or replacement during this process including:

Measuring coal pipe thickness – \$6,205.00
Field Engineering - \$3,287.00
Nine additional coal piping replacements - \$36,072.00
Installation of the additional piping replacements - \$62,040.00
40 linkage arms that are required for proper setup for the new burners -
\$17,435.00
Spare parts – recommended to have on hand - \$61,309.00

WHEAREAS, Change Order #1 was prepared for a contract adjustment of an additional \$186,348.00, resulting in a final contract amount of \$3,437,792.00.

NOW, THEREFORE, BE IT RESOLVED BY THE MAYOR AND COUNCIL OF THE CITY OF GRAND ISLAND, NEBRASKA, that Change Order #1 with Babcock Power Services, Inc., of Lees Summit, Missouri, resulting in an additional cost of \$186,348.00 for a final contract price of \$3,437,792.00, is hereby approved.

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Adopted by the City Council of the City of Grand Island, Nebraska, September 11, 2012.

Jay Vavricek, Mayor

Attest:

RaNae Edwards, City Clerk

Approved as to Form	☐ _____
September 7, 2012	☐ City Attorney