



City of Grand Island

Tuesday, December 17, 2002

Council Session

Item G17

#2002-385 - Approving Change Order #1 for Boiler Inspection & Repair with Moorhead Machinery & Boiler Company

Background:

Major inspection and overhaul outages are planned at Platte Generating Station (PGS) on a five year rotation. In between these outages, the plant sees nearly continuous operation. Short outages are scheduled when needed to fix what breaks. But because PGS is by far our lowest cost source of electric power, every effort is made to keep that plant on-line. A five year overhaul was done this fall. Prior to this fall's outage, plant staff compiled a list of known repair/replacement needs for the plant boiler. Specifications were prepared and bids taken for this work. Moorhead Machinery & Boiler Company of Minneapolis, Minnesota was awarded the contract for the boiler inspection and repair on July 23, 2002 in the amount of \$312,700.00. The next low bid was \$427,248.00.

Discussion:

The boiler is the device in which the coal is burned to produce the high temperature and pressure steam required to drive the turbine generator. It is 16 stories tall and many of its working components are exposed directly to the coal fire. During the five-year overhauls, time is taken to access, clean, and rig temporary lighting to closely inspect all boiler components exposed to severe temperatures and pressures. This thorough inspection often reveals hidden damage and wear.

During Moorhead Machinery & Boiler Company's inspection, additional repairs and replacement of various eroded piping were needed throughout the boiler. The attached spreadsheet details the additional work performed by Moorhead Machinery & Boiler Company. This work was not included in the original specifications and was required to complete the project. The total changes to the contract are \$98,512.57, for a final contract cost of \$411,212.57.

Each additional work item was reviewed, priced, and approved by plant supervisory staff.

Recommendation:

The Utilities Department recommends authorizing Change Order #1 to the Boiler Inspection and Repair Contract at the Platte Generating Station for an addition to the contract price of \$98,512.57.

Fiscal Effects:

An additional expenditure of \$98,512.57 from Electric Enterprise 520. There are sufficient funds available.

Alternatives:

None recommended. See attached RESOLUTION.

Staff Contact: Gary Mader; Dale Shotkoski

City of Grand Island
Utilities Department
Boiler Inspection and Repair Contract Change Order

(submitted with Memo 12/3/02)

<u>Item</u>	<u>Description</u>
1	Drip screens - The bid included replacing the drip screens at the top of the ash hopper. The screens were furnished by the City and it was found when the boxes were opened that the screens were the wrong size. This is a credit for the labor included in the bid.
2	Steam cooled spacer tube - The steam cooled spacer tube was ordered from Alstom Power and was delivered with more welding required than expected when the boiler work was bid.
3	Burner repairs - There was much more repair required to the 4 burner corners than was included in the bid. 12 of the 16 stationary coal nozzles were replaced, 4 stationary coal nozzles were relocated, 16 coal nozzle tips were replaced, and some linkage was replaced.
4	Replace straight coal pipe - The bid included replacing 13 coal pipe elbows furnished by the City. When the elbows were cut out some adjacent straight pipe was found to be eroded and needed replacement.
5	Replace coal pipe elbow - One additional coal pipe elbow was found to be eroded.
6	Install coal pipe gates - Three gates were installed in the coal pipes so the pipes can be quickly closed and the pulverizers isolated to allow safe repair work.
7	Crossover tubes - It was discovered that an additional 18 inches needed to be welded to each of the crossover tubes furnished by the City to replace all the eroded tubes.
8	Air heater baskets - The cold end air heater baskets were found to be eroded and it was recommended by the Air Preheater Co. serviceman that their life could be extended by turning them over.
9	Tube shields at sootblower IK-4 - It was necessary to install 107 tube shields to protect the tubes from erosion.
10	Tube shields at sootblower IK-14 - It was necessary to install 45 tube shields to protect the tubes from erosion.
11	Turbine studs - This contractor had the air arc equipment available so was assigned to remove broken studs from the turbine shell.
12	Tube shields at sootblowers IK-2 & IK-3 - It was necessary to install 30 tube shields to protect the tubes from erosion.
13	Install membrane - Install a peg fin membrane between the tubes on the upper slope of the boiler to prevent erosion of the refractory.
14	Pad weld tubes - It was discovered that sootblower IK-12 had caused tube erosion past the end of the tube shields in the horizontal superheat section of the boiler. The tubes were pad welded and additional tube shields were installed.
15	Tube shields at sootblowers IK-7, IK-9, & IK-10 - It was necessary to install tube shields to protect the tubes from erosion.
16	Boiler access door - Install a boiler access door furnished by the City on the south side of the boiler to allow inspection and repair to the area next to sootblower IK-12. Drawings were not available prior to the bidding.
17	Furnish ceramic rope - This is the only source that could deliver the material in time.
18	Sales tax - This is the difference between the sales tax on material included with the bid and the sales tax actually paid on material.
19	Additional bonding costs

Total

Amount

\$ (5,579.41)

\$ 527.28

\$ 39,308.63

\$ 3,510.91

\$ 2,767.19

\$ 3,494.51

\$ 2,227.85

\$ 8,031.08

\$ 2,541.21

\$ 5,619.23

\$ 1,330.37

\$ 4,525.72

\$ 4,742.84

\$ 8,164.26

\$ 2,936.89

\$ 12,677.00

\$ 2,350.00

\$ (1,012.39)

\$ 349.40

\$ 98,512.57



Working Together for a Better Tomorrow. Today.

CHANGE ORDER # 1

TO: Moorehead Machinery & Boiler Company
ATTN: Mr. James Knop
3477 University Avenue N.E.
Minneapolis, MN 55418

Project: BOILER INSPECTION AND REPAIR CONTRACT CHANGE ORDER - PLATTE GENERATING STATION

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

- 1. Additional payment per the attached spreadsheet.

ADD: \$98,512.57 and/or DELETE: _____

The original Contract Sum	\$ <u>312,700.00</u>
Previous Change Order Amounts	\$ <u>.00</u>
The Contract Sum is increased by this Change Order	\$ <u>98,512.57</u>
The total modified Contract Sum to date	\$ <u>411,212.57</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: **MOOREHEAD MACHINERY & BOILER COMPANY**

By: _____

Date _____

RESOLUTION 2002-385

WHEREAS, on July 23, 2002, by Resolution 2002-220, the City Council for the City of Grand Island awarded the bid for boiler inspection and repair at Platte Generating Station to Moorhead Machinery & Boiler Company of Minneapolis, Minnesota; and

WHEREAS, it has been determined that modifications to the work to be performed by Moorhead Machinery & Boiler Company are necessary; and

WHEREAS, such modifications have been incorporated into Change Order No. 1 and shown on Exhibit "A" attached hereto; and

WHEREAS, the result of such modifications will increase the contract amount by \$98,512.57.

NOW, THEREFORE, BE IT RESOLVED BY THE MAYOR AND COUNCIL OF THE CITY OF GRAND ISLAND, NEBRASKA, that the Mayor be, and hereby is, authorized and directed to execute Change Order No. 1, between the City of Grand Island and Moorhead Machinery & Boiler Company of Minneapolis, Minnesota to provide the modifications as identified on the list attached hereto as Exhibit "A".

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Adopted by the City Council of the City of Grand Island, Nebraska on December 17, 2002

RaNae Edwards, City Clerk

Approved as to Form	?
December 12, 2002	? City Attorney