



# City of Grand Island

Tuesday, May 02, 2006

Council Session

## Item G8

**#2006-128 - Approving Bid Award - Horizontal Superheater  
Repair - Platte Generating Station, Utilities Department**

Staff Contact: Gary R. Mader; Dale Shotkoski

# Council Agenda Memo

**From:** Gary R. Mader, Utilities Director  
Dale Shotkoski, Interim City Attorney

**Meeting:** May 2, 2006

**Subject:** Bid Award – Boiler Superheater Replacement – Platte  
Generating Station, Utilities Department

**Item #'s:** G-8

**Presenter(s):** Gary R. Mader, Utilities Director

## Background

The boiler at the Platte Generating Station is the large structure that uses coal fired heat to produce high pressure, high temperature steam to drive the steam turbine to generate electricity. Internal to the boiler are several superheater tube banks that are used to elevate or “superheat” steam temperatures for higher plant efficiencies. Of these tube banks, the low temperature horizontal superheater has sustained severe tube erosion near the soot blowers between the upper and lower sections. The superheater consists of tube banks that are approximately 25 feet wide and 20 feet deep and are located in the hot gas path (1200 – 1400° F) prior to the fly ash removal system. Erosion of materials operating in this high temperature, highly abrasive condition is expected in coal fired boilers, and having experienced nearly 25 years operation from the original installation is a good operating record.

During the 1997 plant outage, tube shields were installed on the first three tubes on the upper and lower tube banks to extend their service life. There has also been soot blower erosion on the boiler wall tubes near the horizontal superheater and the wall tubes in this area were covered with sheeting.

The tubes, tube shields and sheeting are monitored at each semi-annual plant outage. Measurements at the last scheduled outage indicate that the tube walls have eroded to less than minimum design thicknesses. This can lead to tube leaks which would require an emergency plant shutdown to repair.

A specification was issued for bids to replace the eroded tubes in both the upper and lower superheater banks and to replace a 7 ft. high section of the boiler rear wall tubes. The specification included both furnishing and installing the tube material. The specification also asked for pricing for two options to extend the life of the new tubing.

Option #1: Install hardened steel weld overlay on all tubing.

Option #2: Install hardened steel weld overlay only on the boiler wall tubes and install factory tube shields on the superheater tubing.

### **Discussion**

The boiler superheater section is constructed of high alloy steel designed to withstand the severe operating environment, and lead time is extensive. Actual replacement is scheduled for fall, 2007.

The specifications for the Horizontal Superheater Repair were issued for bid and responses were received from the below listed bidders. The engineer's estimate for this project with Option #1 was \$2,150,000.

<u>Bidders</u>	<u>Bid Price</u>
<u>Moorhead Machinery &amp; Boiler Company</u> Minneapolis, MN	Base Bid: \$972,973.00 Option 1: \$259,890.00 Option 2: \$ 59,056.00
<u>Alstom Power</u> Rossville, KS	Base Bid: \$1,626,068.00 Option 1: \$1,050,525.00 Option 2: \$ 190,209.00

Both bids were compliant with the specifications. The price for the Option 1 weld overlay on the superheater tubes was considerably more expensive than anticipated. After review of the bids and options, and considering the life of the original equipment, the evaluation is to reject Option 1 for weld overlay on all tubes and instead use Option 2, which uses the factory installed tube shields and weld overlay protection only on the rear wall tubes.

The Department staff has reviewed the boiler superheater bids and recommends the award be made to the low bidder, Moorhead Machinery & Boiler Company in the amount of \$1,032,029.00. Moorhead has satisfactorily performed boiler work at PGS previously.

### **Alternatives**

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

1. Move to approve the Award Memo for the Horizontal Superheater Replacement.
2. Refer the issue to a Committee.
3. Postpone the issue to future date.
4. Take no action on the issue presented in this motion.

### **Recommendation**

City Administration recommends that the Council award the Contract to Moorhead Machinery & Boiler Co. from Minneapolis, MN, as the low responsive bidder, with the bid price of \$1,032,029.00, which includes acceptance of Option 2.

### **Sample Motion**

Motion to approve the bid of \$1,032,029.00 from Moorhead Machinery & Boiler Company for the Horizontal Superheater Replacement Platte Generating Station.



Dale M. Shotkoski, Assistant City Attorney

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Better Tomorrow, Today*

**BID OPENING**

**BID OPENING DATE:** March 28, 2006 at 11:00 a.m.  
**FOR:** Horizontal Superheater Repair  
**DEPARTMENT:** Utilities  
**ESTIMATE:** \$2,150,000.00  
**FUND/ACCOUNT:** 520  
**PUBLICATION DATE:** February 18, 2006  
**NO. POTENTIAL BIDDERS:** 10

**SUMMARY**

<b>Bidder:</b>	<b><u>Moorhead Machinery &amp; Boiler Company</u></b> Minneapolis, MN	<b><u>Alstom</u></b> Rossville, KS
<b>Bid Security:</b>	Westchester Fire Insurance Company	Westchester Fire Ins. Co.
<b>Exceptions:</b>	None	Noted
<b>Base Bid Price:</b>	\$972,973.00	\$1,626,068.00
<b>Option 1:</b>	\$259,890.00	\$1,050,525.00
<b>Option 2:</b>	\$ 59,056.00	\$ 190,209.00

cc: Gary Mader, Utilities Director  
Karen Nagel, PGS  
Dale Shotkoski, Purchasing Agent

Bob Smith, Assist. Utilities Director  
Gary Greer, City Administrator  
Laura Berthelsen, Legal Assistant

RESOLUTION 2006-128

WHEREAS, the City of Grand Island invited sealed bids for Horizontal Superheater Repair, according to plans and specifications on file with the City Clerk; and

WHEREAS, on March 28, 2006, bids were received, opened and reviewed; and

WHEREAS, Moorhead Machinery & Boiler Company of Minneapolis, Minnesota, submitted a bid in accordance with the terms of the advertisement of bids and plans and specifications and all other statutory requirements contained therein, such bid being in the amount of \$1,032,029 for the base bid and Option 2; and

WHEREAS, Moorhead Machinery & Boiler Company's bid is less than the estimate for such project.

NOW, THEREFORE, BE IT RESOLVED BY THE MAYOR AND COUNCIL OF THE CITY OF GRAND ISLAND, NEBRASKA, that the bid of Moorhead Machinery & Boiler Company of Minneapolis, Minnesota, in the amount of \$1,032,029 for the base bid and Option 2 for Horizontal Superheater Repair is hereby approved as the lowest responsible bid.

BE IT FURTHER RESOLVED, that the Mayor is hereby authorized and directed to execute a contract with such contractor for such project on behalf of the City of Grand Island.

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Adopted by the City Council of the City of Grand Island, Nebraska, May 2, 2006.

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Jay Vavricek, Mayor

Attest:

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RaNae Edwards, City Clerk

Approved as to Form	☐ _____
April 27, 2006	☐ City Attorney