

COUNCIL ACTION FORM

**SUBJECT: POWER PLANT UNIT 8 WATERWALL INSTALLATION CHANGE
ORDERS**

BACKGROUND:

This project is addressing tube wastage in the Power Plant's Unit No. 8 boiler by replacing the waterwalls below the 165 feet and 150 feet elevations to the lower weld lines.

On April 27, 2010, City Council awarded a contract to AZCO Inc., for this project in the amount of \$2,417,106.13. The project was originally scheduled to be completed during the Power Plant's spring 2010 outage, but was delayed to the fall 2011 while awaiting a regulatory determination from the Iowa Department of Natural Resources (DNR). A determination was made and the project is now underway.

City Council authorization for the following four change orders is now being requested.



Change Order No. 11

Cost: Time & Materials not to exceed \$69,126.84

Description: When the new panels were installed, the existing front and rear wall boiler walls did not fit together with the new panels. See the photo above for an example of the misalignment. The new panels are correct dimensionally, but our existing boiler is not after 30 years of operations.

Scope: Due to the new front and rear wall panels not fitting up with the old existing boiler tubes, it is necessary to cut the existing walls down an additional 34", nearly to the header. In addition, some of the membrane on the new panels was split to allow for additional clearance to make the old and new fit together. This change order includes the labor, material and additional coating material to make the old boiler fit to the new panels.

Schedule Impact: Additional 2 days



Change Order No. 13

Cost: \$600, Firm Price

Description: During the waterwall installation, staff is taking the opportunity to inspect each of the lower waterwall headers with a remote camera. One header was found to have existing debris from previous repairs or events not related to AZCO's contract. The photo above is of the inspection camera screen showing the debris inside the waterwall header. It is not possible to clean the header from the same entry as the inspection camera so a "hand hole" plug will have to be cut-out from one of the 9 headers to allow for the cleaning.

Scope: AZCO will cut the welded plug out of the header, the City of Ames will clean the debris and AZCO will weld the new hand-hole plug.

Schedule Impact: None.



Change Order No. 15

Cost: Time & Materials not to exceed \$23,628

Description: Staff had the entire boiler inspected by the boiler manufacturer (Babcock & Wilcox) prior to AZCO commencing construction. The goal of the full boiler inspection was to identify areas outside the known boiler repair scope that will need repair. Additional repairs were found in the lower furnace adjacent to AZCO current workscope. Staff intends to have AZCO repair these areas in lieu of utilizing out current boiler maintenance contractor because of safety concerns and potential schedule days due to working different contracts literally on top of one another.

Scope: The picture above has an arrow pointing to one of the spray painted sections that needs pad welding. On the South and East boiler AZCO will replace twelve (12) tubes and complete 1,310 square inches of pad welding.

Schedule Impact: AZCO noted in the proposal that this may have undetermined schedule impacts. Any additional time granted on the installation contract will be determined after these additional repairs are completed to see if they have any schedule impacts.



Change Order No. 16

Cost: Time & Materials not to exceed \$37,172

Description: Staff had the entire boiler inspected by the boiler manufacturer (Babcock & Wilcox) prior to AZCO commencing construction. The goal of the full boiler inspection was to identify areas outside the known boiler repair scope that will need repair. Additional repairs were found in the lower furnace adjacent to AZCO current workscope. Staff intends to have AZCO repair these areas in lieu of utilizing our current boiler maintenance contractor because of safety concerns and potential schedule days due to working different contracts literally on top of one another.

Scope: The picture above has an arrow pointing to one of the spray painted sections that needs replacement. On the North boiler wall AZCO will replace twenty (20) tubes and complete 2,100 square inches of pad welding.

Schedule Impact: AZCO noted in the proposal that this may have undetermined schedule impacts. Any additional time granted on the installation contract will be determined after these additional repairs are completed to see if they have any schedule impacts.

CHANGE ORDER HISTORY:

Council should note that eight change orders have already been approved for this contract. Change Order No. 1 was for an extension of the contract expiration date from September 6, 2010, to October 6, 2010. That change order allowed staff additional time to receive a determination from the DNR and also for AZCO to propose its increase in cost to the City associated with a future extension of the contract expiration date by 180 days. There was no cost for Change Order No. 1.

Change Order No. 2 was for an extension of the contract expiration date from October 6, 2010, to October 21, 2010. That change order allowed staff and AZCO additional time to negotiate an agreement on AZCO's proposed cost increase for the 180 day extension, and allowed for time to present it to the City Council. Again, there was no charge for Change Order No. 2.

Change Order No. 3 for \$396,200 extended the contract expiration date by 180 days from the original contract expiration date of September 6, 2010 to March 5, 2011.

Change Order No 4 was for an extension of the contract expiration date from March 5, 2011, to March 25, 2011. This change order prevented the contract from expiring while Change Order No. 5 was prepared for City Council for consideration. There was no charge for Change Order No. 4.

Change Order No 5 was for an extension of the contract expiration date by 281 days to December 31, 2011 from the Change Order No. 4 date of March 25, 2011. Overall, the contract expiration date has been extended by 481 days from the original contract expiration date of September 6, 2010.

Change Order No. 6 for the not to exceed amount of \$45,000 was for AZCO to procure and install two additional bent tube panels.

Change Order No. 7 for the amount of \$5,650 and Change Order No. 8 for the amount of \$2,200 was for AZCO's additional labor costs arising from the additional work on the buckstay clips.

Change Orders No.'s 9, 10, 12 and 14 are not included in this Council Action Form because they are being approved administratively by staff since these currently have no scope or cost impact to the City of Ames. The waterwall panels fabricated by Boiler Tube of America (BTA) currently being installed have some shop fabrication errors that are being corrected by BTA. BTA will be contracting AZCO directly to make these corrections.

SUMMARY OF CHANGE ORDER COSTS:

The cost of the Change Orders before council are as follows:

Change Order No. 11 - Time & Materials not to exceed \$69,126.84

Change Order No. 13 - \$600

Change Order No. 15 - Time & Materials not to exceed \$23,628

Change Order No. 16 - Time & Materials not to exceed \$37,172

The basis of these change orders are the contractor's additional labor and material costs arising from the additional work. **The total project cost for the waterwall installation project including Change Order No.'s 11, 13, 15 and 16 will be \$3,078,974.97.** The Engineer's estimated cost for the installation was \$3,575,000, which included a contingency amount of \$260,000

Wall Tube Replacement Budget Summary:

\$4,876,106	Approved 2009/10 CIP Budget for wall tube material & installation:
<u>-1,683,433</u>	Material Cost for waterwall panels (Project 2009-102):
\$3,192,673	Remaining budgeted for installation
<u>-3,078,975</u>	Installation project cost including change orders before Council
\$ 113,698	Remaining budget

This installation budget has been carried over from 2009/10 and is included in the 2010/11 adjusted Electric budget.

ALTERNATIVES:

1. a. Approve contract Change Order No. 11 to AZCO. Inc., in the not to exceed amount of \$69,126.84 for Unit 8 Waterwall Installation Project and a 2 day extension to the installation contract.
- b. Approve contract Change Order No. 13 to AZCO. Inc., in the amount of \$600.00 for Unit 8 Waterwall Installation Project.
- c. Approve contract Change Order No. 15 to AZCO. Inc., in the not to exceed amount of \$23,628 for Unit 8 Waterwall Installation Project.
- d. Approve contract Change Order No. 16 to AZCO. Inc., in the not to exceed amount of \$37,172 for Unit 8 Waterwall Installation Project.

With these approvals, the total contract cost will increase to \$3,078,974.97.

2. Reject contract Change Order No.'s 11, 13, 15 and 16.

MANAGER'S RECOMMENDED ACTION:

This project is critical to address the Unit No. 8 tube problems by replacing the bottom 50 feet of tubing in the boiler. The change orders currently proposed will allow the installation of the waterwalls to proceed with no delays.

Therefore, it is the recommendation of the City Manager that the City Council adopt the Alternative #1 actions stated above.