

ITEM#: 28
DATE: 05-23-23
DEPT: ELECTRIC

COUNCIL ACTION FORM

SUBJECT: POWER PLANT UNIT 8 BOILER REPAIR PROJECT - CONTRACT COMPLETION FOR TEiC CONSTRUCTION SERVICES, INC.

BACKGROUND

Unit 8 is one of two boilers at the City's Steam Electric Plant and is now 38+ years old. Due to age, a history of firing coal (and since 2016, natural gas), along with co-firing refuse derived fuel (RDF), the boiler was in critical need of repair, especially the tubes in the superheater portion of the boiler.

After switching from coal to natural gas in 2016, staff found that the boiler tubes in the superheater were deteriorating at an accelerated pace. Staff believes this is because water vapor created by the combustion of natural gas combines with chlorides from combusting RDF, causing the surfaces of the tubes in the superheater to corrode, with the higher temperature zones of the superheater suffering the greatest corrosive attack.

For many years, the power boiler and waste-to-energy industries have relied on coating or cladding boiler tubes with nickel-based alloys to act as a resistive barrier to the corrosive attack of boiler gases on the tubes. **For this project, the outer surfaces of the new replacement tubes for the superheater and the waterwall tubes at the bottom of the boiler (that connect to the lower headers), were clad with a nickel-based alloy to prevent or substantially mitigate the corrosive attack on the tubes.**

TEiC Construction Services, Inc. of Duncan, South Carolina was awarded a contract for the Unit 8 Boiler Repair Project in the amount of \$6,690,271. There were three change orders to the TEiC Construction Services, Inc. contract:

Change Order #1: On December 8, 2020, was done to increase the purchase order by \$369,324 to adjust the additional sales tax obligation that was not included in the original bid.

Change Order #2: On June 8, 2021, was done to increase the purchase order by \$44,488 for extra work to add extra work to straighten and repair the bow sag of the front and rear lower waterwall headers of Unit 8 boiler.

Change Order #3: On May 9, 2023, was done to deduct \$90,000 in order to remove installation of six new lower headers and eight riser tubes from the scope of work.

Final expenditures to TEiC Construction Services, Inc. of Duncan, South Carolina in the total amount of \$7,014,083 (inclusive of sales tax). Total Capital Improvement Plan funding for the Unit 8 Boiler Repair Project totaled \$7,521,162.

All of the requirements of the contract have been met by TEiC Construction Services, Inc. and the Engineer has provided a certificate of completion.

ALTERNATIVES:

1. Accept completion of the contract with TEiC Construction Services, Inc. of Duncan, South Carolina for the Unit 8 Boiler Repair Project and release retainage in the amount of \$265,278.81.
2. Delay acceptance of this project.

CITY MANAGER'S RECOMMENDED ACTION:

TEiC Construction Services, Inc. has supplied and installed all the parts required under the contract, and the City is now obligated to issue formal closure of the contract. Therefore, it is the recommendation of the City Manager that the City Council adopt Alternative No. 1 as stated above.

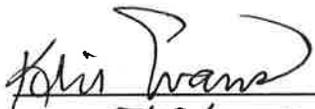
Engineer's Statement of Completion

Project: Unit #8 Boiler Repair	Date of Contract: November 24, 2020
Owner: City of Ames Power Plant	Contract No.: 2021-005
Engineer: City of Ames Electric Services	Contractor: TEI Construction Services

I hereby state that the **Unit #8 Boiler Repair** project has been satisfactorily completed in general compliance with the terms, specifications, and stipulations of said contract.

The work was completed on September 30, 2021.

I further state that the retainage may be released in accordance with the contract documents.



Date 5/18/2023

Kris Evans, PE

Power Plant Engineer

City of Ames Electric Services