

COUNCIL ACTION FORM

SUBJECT: UNIT 7 BOILER REPAIR PROJECT REPORT OF BIDS

BACKGROUND:

On October 23, 2018 the City Council approved plans and specifications for the Unit No. 7 Boiler Repair. This project, which has been planned for several years, is to repair the boiler through the following actions:

- Replacing the boiler tubes in the lower waterwall section of the boiler
- Replacing all the pendant tubes in the superheat section
- Reinsulating the steam and mud drums
- Replacing the insulation and lagging (the aluminum skin) that covers the boiler

Unit 7 is one of two primary boilers at the City's Power Plant and is now 50 years old. Due to a combination of age, firing coal, firing natural gas since 2016, and co-firing refuse derived fuel (RDF), the boiler is in critical need of tube repairs.

As a result of boiler tube failures, Unit 7 has been off-line since early this year. With Unit 8 also experiencing frequent boiler tube issues, it is critical that this Unit 7 project proceed as quickly as possible so that the Power Plant can continue to burn refuse derived fuel.

After switching from coal to natural gas two years ago, staff found that the boiler tubes, especially the superheater tubes, were deteriorating at an accelerated pace. The water vapor created during the combustion of natural gas combines with the chlorides and acid gases from combusting RDF, causing the tube surfaces to corrode very quickly, especially in the high temperature zones of the superheater.

For many years the power boiler and waste to energy (WTE) industries have relied on coating or cladding boiler tubes with nickel-based alloys to form a barrier to the corrosive attack of the boiler gases upon the tubes. For this project, the outer surfaces of the new replacement tubes for the waterwall and superheater sections of Unit 7 boiler will be clad with a nickel-based alloy to prevent or largely mitigate the corrosive attack upon the tubes.

Bid documents were issued to thirty-one firms and five plan rooms. The bid was advertised on the Current Bid Opportunities section of the Purchasing webpage and a Legal Notice was published on the websites of a contractor plan room service with statewide circulation and the Iowa League of Cities.

On January 16, 2019, four bids were received as shown on the attached report.

The specifications and bids are quite complex, and staff feels that additional time is needed to evaluate each bid in order to recommend an award that best meets the City's needs.

Based upon current engineering estimate of \$8,400,000 for this tube work, the Proposed FY 2019/20 Capital Improvements Plan (CIP) includes the following funding for the Unit No. 7 Boiler Repair:

2015/16 Engineering	\$5,150
2016/17 Engineering	\$125,796
2017/18 Engineering	\$50,000
2019/20 Materials/labor - superheat and waterwall	\$8,400,000
TOTAL	\$8,580,946

ALTERNATIVES:

1. Accept the report of bids and delay award for the Unit No. 7 Boiler Repair.
2. Award a contract to the apparent low bid.
3. Reject all bids and direct staff to rebid.

MANAGER'S RECOMMENDED ACTION:

Staff needs additional time to fully evaluate the bids before recommending action by the City Council. By choosing alternative No. 1, staff will have enough time to evaluate each bid to ensure the City receives these services at the best price. Therefore, it is the recommendation of the City Manager that the City Council adopt Alternative #1 as stated above.