

Barton Community College

Board Meeting

August 13, 2019

The College's Central Plant was equipped with two large steam boilers that were used to provide heat for the 8 main campus buildings. These boilers were originally installed in 1967 and would now be over 50 years old. Their typical life expectancy is about 25 years. As with most equipment of this age, efficiency is not what it could be, and is nowhere close to the efficiency of modern equipment. These boilers operate at a modulated load up to full load and are typically about 70-80% efficient depending on the load.

Boiler #1 developed a leak in the exterior steam jacket and the Board approved the replacement of this Boiler in 2017. This boiler was replaced with three small Lochinvar boilers. Efficiency ratings on these boilers approach 95% and the total cost was \$330,000 in 2017.

Boiler #2, and the associated steam system, serve as a backup heat source for the campus in the event we need additional heat, or if we have a mechanical problem with the Lochinvar boilers. The large steam heat exchangers are in need of replacement, however if the steam boiler is to be replaced, it would be better to put the money toward completely eliminating the steam system.

Only one heating system (Lochinvar / steam boiler) is typically necessary for heating. We cannot go into the heating season with only one heating source. If the single boiler was to fail, the entire campus would be without heat.

Pricing has been secured for the purchase of two additional Lochinvar boilers (and associated equipment) at a cost of \$136,764. Because the local contractor that installed the last boilers is not available for this installation, we would like to directly purchase the equipment from the manufacture and act as our own general contractor on the project. We would hire/contract with a welder and electrician as well as use our own staff for the various requirements of the installation. I am estimating that we will save approximately \$100,000 on the total installation by doing the design, engineering, and general contracting ourselves.

Recommendation: Approve the purchase of two Lochinvar boilers and associated equipment for a total of \$136,764.